

RĪGA STRADIŅŠ UNIVERSITY INTERNATIONAL STUDENT CONFERENCE 2026



Abstract Book

— HEALTH AND SOCIAL —
SCIENCES

RSU Riga
Stradins
University



Organising Committee

Luīze Monta Remese
Chair of Committee

Alens Silvestrs Aizupietis
Laura Čerpakovska
Matīss Pumpurs
Guna Skuja
Adēlija Mihejeva
Aksels Kozlovskis
Aleksandrs Oborins
Amanda Elizabete Dūrēja
Anastasija Auziņa
Anna Šiline
Arta Adrija Kerna
Beāte Tetere
Džiliana Heinrihsone
Eleonora Silkalne
Emīlija Pavlovskā
Ernests Zarembo

Estere Šica
Evita Gorenko
Karīna Romašenoka
Karolīna Rimša
Laura Jirgensone
Laura Sabīne Taurmane
Luīze Driķīte
Maria Atme
Patrīcija Pavļenko
Poļina Peļņika
Ričards Gudelis
Rihards Seržāns
Rinalds Kravainis
Sandis Bulduris
Tomass Krastiņš
Zenons Beļskis

Front cover:

Arta Adrija Kerna

Layout:

Ex Ordo Limited (Ireland, Company No. 503411)

Authors are responsible for their Abstracts.

Rīga Stradins University International Student Conference 2026
(Rīga, March 26th—27th, 2026): Abstract Book – Health and Social Sciences. – Rīga: RSU, 2026, 583 p.

© Rīga Stradins University Student Union, 2026
Rīga, Dzirciema Str. 16, LV-1007

ISBN: 978-9934-9325-3-3

Table of Contents

Internal Medicine

B CELL PROFILING IN PERIPHERAL BLOOD AND PEYER'S PATCHES IN IGA NEPHROPATHY	2
<u>Ms. Aysha Rafeeqe¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
CLINICAL SIGNIFICANCE OF SUDDEN CARDIAC DEATH IN YOUNG ATHLETES AND ANATOMICAL ASPECTS OF TOPOGRAPHY OF CORONARY ARTERIES	3
<u>Mr. Adrians Fomins¹, Ms. Elīza Škinča¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Internal Medicine I (Cardiology, Pulmonology)	
AUTOIMMUNE MYOCARDITIS SECONDARY TO INFECTION, COMPLICATED BY CARDIOGENIC SHOCK AND MULTIPLE ORGAN FAILURE: A CASE REPORT	5
<u>Ms. Meda Burdulytė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
CATHETER ABLATION OF CARDIAC GANGLIA FOR SYMPTOMATIC BRADYCARDIA	6
<u>Ms. Kristīne Belova¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
ETIOLOGY MATTERS: PROGNOSTIC PERFORMANCE OF PULMONARY EMBOLISM RISK SCORES IN UNPROVOKED VERSUS PROVOKED CASES	7
<u>Mr. Rolands Paluga¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
FIRST CLINICAL EXPERIENCE WITH DARATUMUMAB-BASED IMMUNOCHEMOTHERAPY IN SYSTEMIC AL AMYLOIDOSIS WITH HEART FAILURE IN LATVIA: A CASE REPORT	8
<u>Ms. Maira Kaša¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
FREQUENCY OF ANTIARRHYTHMIC DRUG PRESCRIPTIONS AND THEIR IMPACT ON REHOSPITALIZATION RATES FOLLOWING CARDIOVERSION FOR ATRIAL FIBRILLATION IN LATVIAN EMERGENCY DEPARTMENTS	9
<u>Mr. Ivans Mirzajans¹, Mr. Sergejs Čapulis¹, Ms. Julija Zabrodina¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
From MINOCA to Significant Diagonal Branch Stenosis: Unmasking a Flush Occlusion.	10
<u>Ms. Anna Stanaszek¹</u>	
<i>1. Jagiellonian University Medical College, Poland</i>	

Inclisiran: Alone or in Combination? Data From Latvia	11
<u>Ms. Katrīna Loceniece</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
INFILTRATIVE CARDIOMYOPATHY AS THE PRIMARY MANIFESTATION OF MULTIPLE MYELOMA AND SYSTEMIC AL AMYLOIDOSIS	12
<u>Mr. Karolis Vasiliauskis</u> ¹	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
LATE-ONSET PACEMAKER POCKET INFECTION IN THE SETTING OF RECURRENT STAPHYLOCOCCUS AUREUS SEPSIS	13
<u>Ms. Emilija Daugėlaitė</u> ¹ , <u>Ms. Milda Lekšaitė</u> ¹	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
LEFT VENTRICULAR EJECTION FRACTION RECOVERY AFTER TAKOTSUBO SYNDROME: A 3–6-MONTH ECHOCARDIOGRAPHIC COHORT STUDY	14
<u>Mr. Ivans Mirzajans</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
ORAL ANTICOAGULANT PRESCRIBING PATTERNS FOR ATRIAL FIBRILLATION PATIENTS AFTER CARDIOVERSION IN LATVIAN EMERGENCY DEPARTMENTS	15
<u>Mr. Sergejs Čapulis</u> ¹ , <u>Mr. Ivans Mirzajans</u> ¹ , <u>Ms. Julija Zabrodina</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
Progression of Atrial Fibrillation and Associated Complications in a Real-World Cohort	16
<u>Ms. Everita Kupriša</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
REM SLEEP-RELATED CATATHRENIA MIMICKING OBSTRUCTIVE SLEEP APNOEA: A CASE REPORT	17
<u>Ms. Elija Jankauskaitė</u> ¹ , <u>Ms. Žavinta Laikūnaitė</u> ¹	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
RISK SCORE ASSESSMENT IN PATIENTS WITH A PULMONARY EMBOLISM	18
<u>Mr. Kristaps Salmišķis</u> ¹ , <u>Mr. Rolands Paļuga</u> ¹ , <u>Mr. Aleksejs Karols</u> ¹ , <u>Mr. Artūrs Vecbaštiks</u> ¹ , <u>Mr. Niklāvs Nemme</u> ¹ , <u>Ms. Renāta Rimdjonoka</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
Spontaneous Reduction in Premature Ventricular Contraction Burden While Awaiting Catheter Ablation	19
<u>Ms. Beatrise Brikovska</u> ¹	
<i>1. University of Latvia, Latvia</i>	
THERAPEUTIC POSSIBILITIES OF VENTRICULAR ELECTRIC STORM TREATMENT IN LATVIA	20
<u>Ms. Katrina Verbovenko</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
TROMBEMBOLIC MYOCARDIAL INFARCTION CAUSED BY PATENT FORAMEN OVALE IN 31 YEARS OLD PATIENT	21
<u>Mr. Mikus Bernots</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	

Internal Medicine II (Gastroenterology, Nephrology, Endocrinology, Rheumatology)

A SINGLE-CENTER RETROSPECTIVE COHORT STUDY OF DENOSUMAB THERAPY IN MEN WITH OSTEOPOROSIS (OSTEOPROM PART 4)	23
<u>Ms. Anastasija Makarova¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
CASE REPORT ON HASHIMOTO ENCEPHALOPATHY	24
<u>Ms. Kotryna Vaicekauskaitė¹, Ms. Anastasija Nikitina¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
CHANGES IN BONE AND MINERAL METABOLISM BEFORE AND AFTER KIDNEY TRANSPLANTATION: A SINGLE-CENTER STUDY IN LATVIA	25
<u>Ms. Ilze Skrastiņa¹, Ms. Ksenija Bozunova¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
EFFICACY OF DIFFERENT PLASMA THERAPY METHODS IN PATIENTS WITH HYPERBILIRUBINAEMIA	26
<u>Ms. Lorīna Jesse¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
End-Stage Kidney Disease With Recurrent Access Thrombosis: A Case of Antiphospholipid Syndrome	27
<u>Mr. Rokas Žekonis¹, Mr. Matas Žekonis¹</u>	
<i>1. Vilnius University, Lithuania</i>	
EUS AND EN BLOC EMR CLARIFY BIOPSY–RESECTION DISCORDANCE AT THE DISTAL ESOPHAGUS/GEJ LESION: A CASE REPORT	28
<u>Ms. Kristīne Ričarda Muceniece¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
GLYCOGENIC HEPATOPATHY DUE TO POORLY MANAGED TYPE 1 DIABETES MELLITUS: A CASE REPORT.	29
<u>Mr. Niklāvs Nemme¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
MIXED MEAL TEST AS A NEW DIAGNOSTIC TOOL FOR DETECTING EARLY PREDIABETES AND TYPE 2 DIABETES	30
<u>Ms. Helēna Apele¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
PRIMARY HYPERPARATHYROIDISM CAUSED BY CYSTIC ECTOPIC PARATHYROID ADENOMA: A CASE REPORT	31
<u>Ms. Helēna Apele¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
PROSPECTIVE EVALUATION OF TESTOSTERONE LEVELS AFTER TESTICULAR CANCER TREATMENT	32
<u>Ms. Beata Krasovska¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
SHORT-TERM EFFECTS OF A POLYHERBAL FORMULATION ON THE GUT MICROBIOME IN METFORMIN-TREATED PATIENTS WITH TYPE 2 DIABETES	33
<u>Ms. Annija Zodāne¹</u>	
<i>1. University of Latvia, Latvia</i>	

Surgery

ANALYSIS OF AXILLARY LYMPH NODE SURGERY OUTCOMES IN BREAST CANCER	35
<u>Mr. Artūrs Vecbaštiks¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
C-Reactive Protein is a more reliable predictor than leukocytosis for assessing acute diverticulitis severity and mortality	36
<u>Ms. Jekaterina Jeņenkova¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
EARLY RESULTS OF AORTIC VALVE SPARING ROOT REPLACEMENT SURGERY IN COMPARISON WITH BENTALL PROCEDURE IN ELECTIVE PATIENTS	37
<u>Mr. Raivis Bricis¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
IMPACT OF PACEMAKER IMPLANTATION ON OUTCOMES AMONG INFECTIVE ENDOCARDITIS PATIENTS REQUIRING CARDIAC SURGERY	38
<u>Ms. Krista Aiga Bucika¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
LONG-TERM COMPLICATIONS AFTER SURGERY OF THYROID CANCER AT PAULS STRADIŅŠ CLINICAL UNIVERSITY HOSPITAL	39
<u>Ms. Uva Veja¹, Mr. Ralfs Roberts Zitāns¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
LONG-TERM ECHOCARDIOGRAPHIC COMPARISON OF AORTIC ROOT SURGICAL TECHNIQUES	40
<u>Ms. Viktorija Kvedaraitė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
RADIOACTIVE IODINE THERAPY IN PATIENTS WITH PAPILLARY THYROID CARCINOMA AFTER SURGERY AT PAULS STRADIŅŠ CLINICAL UNIVERSITY HOSPITAL	41
<u>Mr. Ralfs Roberts Zitāns¹, Ms. Uva Veja¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
RETROSPECTIVE COMPARISON OF THE MINIMALLY INVASIVE TRANSAXILLARY AND CONVENTIONAL STERNOTOMY APPROACHES IN AORTIC VALVE REPLACEMENT	42
<u>Mr. Oto Skrupskis¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
SURGICALLY TREATED GALLBLADDER CANCER PATIENTS: OUTCOMES OF A RETROSPECTIVE SINGLE CENTRE STUDY	43
<u>Ms. Beatrise Alise Sarkanābola¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Basic & Preclinical Science (Morphology, Pathology, Genetics)	
A COMPARATIVE ANALYSIS OF ANTHROPOMETRIC CHARACTERISTICS: PLACE OF BIRTH VS. RESIDENCE IN PIEBALGA	45
<u>Ms. Danija Svalba¹</u>	
<i>1. Riga Stradins University, Latvia</i>	

A Comprehensive literature review of Colorectal Cancer in Latvian Patients	46
<u>Ms. Fatma Sadiya¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
A RARE PRESENTATION OF ARTERIA OMENTALIS MAGNA WITH VENOUS SYSTEM CONNECTION	47
<u>Mr. Edvards Pogrebnaks¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
AGE-RELATED FEATURES OF THE CYTOARCHITECTONICS OF THE HUMAN ANTERIOR OLFACTORY NUCLEUS	48
<u>Mr. Roman Myroniuk¹</u>	
<i>1. Lesya Ukrainka Volyn National University, Ukraine</i>	
ANATOMICAL AND MORPHOMETRIC VARIATIONS OF THE HUMAN ACHILLES TENDON IN RELATION TO COMMON RUPTURE SITES	49
<u>Ms. Felicita Luīze Kozlovskā¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
ANATOMICAL EVALUATION OF RENAL VEINS AND THEIR CLINICAL IMPLICATIONS	50
<u>Ms. Rainita Āboliņa¹, Ms. Dana Šēra¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
ANATOMICAL MAPPING OF RADIAL NERVE BIFURCATION RELATIVE TO HUMERAL LENGTH: IMPLICATIONS FOR CLINICAL PROCEDURES	51
<u>Mr. Alekšis Kevins¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
ASSESSMENT OF HUMAN CLAVICULAR MORPHOLOGY AND PREDICTIVE DIMENSIONAL RELATIONSHIPS USING 3D SCANNING ANALYSIS	52
<u>Mr. Zigmārs Litavnieks¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
BMP 2/4, IL-10, NF-κB p105/p50, HSP 70, LL-37, Gal-10 and Caspase 3 in different cleft lip palate affected tissue	53
<u>Ms. Laura Ozola¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
BRUGSCH INDEX (CHEST CIRCUMFERENCE TO HEIGHT RATIO) BY AGE AND SEX IN KULDĪGA, LIEPĀJA AND VENTSPILS: A COMPARATIVE DATA ANALYSIS	54
<u>Ms. Lelde Balode¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
CHANGES IN ENDOMETRIAL G-CSF, BMP-2/4, HSP-70, TUNEL, PROGESTERONE AND ESTROGEN IN INFERTILE WOMEN	55
<u>Ms. Elizabete Brikune¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
CHARACTERIZATION OF INFLAMMATORY PROTEINS/FACTORS IN PALATAL TISSUE OF PATIENTS WITH BILATERAL CLEFT LIP PALATE	56
<u>Mr. Georgijs Kuļibaba¹</u>	
<i>1. Riga Stradins University, Latvia</i>	

CHARACTERIZATION OF TISSUE IMMUNITY IN ADULTS WITH CHRONIC PERIODONTITIS	57
<u>Mr. Mārtiņš Vārslavs¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
Comparative Anatomy of Supraorbital and Supratrochlear Arterial Exits	58
<u>Ms. Estere Gavare¹, Ms. Patrīcija Krastiņa¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
COMPREHENSIVE EXOME-BASED GENETIC ANALYSIS OF INHERITED PERIPHERAL NEUROPATHIES: DIAGNOSTIC YIELD, GENETIC SPECTRUM, AND RARE VARIANT BURDEN	59
<u>Elizabete Pantelejeva¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
CORRELATION BETWEEN ARM-SPAN AND STANDING HEIGHT AMONG POPULATIONS IN LATVIA; COMPARISON BETWEEN PIEBALGA, KULDĪGA, LIEPĀJA, VENTSPILS.	60
<u>Ms. Šarlote Ikstena¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
DISTRIBUTION OF DISEASE-ASSOCIATED HLA ALLELE GROUPS AMONG ORGAN TRANSPLANT RECIPIENTS AND DONORS IN LATVIA	61
<u>Mr. Jans Ameriks¹, Mr. Sandis Bulduris¹, Ms. Laura Bērziņa¹, Ms. Amanda Elizabete Dūrēja¹, Ms. Karlīna Emīlija Melberga¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
Facial aging changes of the orbicularis oculi muscle and their relevance to dermatological procedures	62
<u>Ms. Marija Lopireva¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
FACIAL AND LIP MORPHOLOGICAL PROPORTIONS IN INDIVIDUALS FROM LATVIA BASED ON HISTORICAL PHOTOGRAPHS FROM 1936	63
<u>Ms. Alise Peiča¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
From Tissue to Teaching Tool: Mastering Epoxy Resin for Educational Model Creation	64
<u>Ms. Ģertrūde Strance¹, Mr. Mārtiņš Bode¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
HEAD-TO-BODY RATIO IN LATVIAN CHILDREN AGED 1–5 YEARS: A LONGITUDINAL STUDY OF GROWTH PATTERNS AND LABOUR CHARACTERISTICS	65
<u>Mr. Mihails Antonovs¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
Inflammatory tissue factors IL8, NF-kB and genes PTX3, CXCL8, CCR2, and CCR4 in cleft lip palate tissues	66
<u>Ms. Laura Čerpakovska¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
INNERVATION, MOTILITY PEPTIDE AND EXTRACELLULAR MATRIX REMODELATION MARKERS IN PROXIMAL AND DISTAL OESOPHAGEAL TISSUE OF CHILDREN WITH OESOPHAGEAL ATRESIA (EA)	67
<u>Ms. Veronika Kulineca¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	

MORPHOLOGICAL VARIATIONS OF THE CRUCIFORM EMINENCE AND A RESULTING CLASSIFICATION OF SKULLS	68
<u>Mr. Ilans Birmans</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
MORPHOMETRIC CHARACTERIZATION OF MANDIBULAR LANDMARKS IN AN ADULT SKELETAL SAMPLE	69
<u>Ms. Manon Ghesquiere</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
MORPHOMETRIC VARIABILITY IN THE ORIGINS OF THE COMMON INTEROSSEOUS AND ULNAR RECURRENT ARTERIES	70
<u>Ms. Viola Ivanova</u> ¹ , <u>Mr. Maksimuss Koļencovs</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
SECULAR TRENDS IN BIZYGOMATIC AND BIGONIAL WIDTHS IN THE LATVIAN POPULATION	71
<u>Ms. Līva Vinklere</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
SIGNIFICANCE OF SCAPULAR MEASUREMENT IN SEX DETERMINATION AND ASSESSMENT OF STATURE ASYMMETRY IN PIEBALGA	72
<u>Ms. Linda Elva Andersone</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
THE CORRELATION BETWEEN MARSH I TYPE CHANGES IN THE DUODENUM AND H. PYLORI PRESENCE IN GASTRIC BIOPSY.	73
<u>Ms. Leticija Karele</u> ¹ , <u>Ms. Sofija Bella Ķeruze</u> ¹ , <u>Ms. Alina Vančuka</u> ¹ , <u>Ms. Paula Luīze Rātfeldere</u> ¹ , <u>Ms. Madara Ķeze</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
The Impact of Blood Ethyl Alcohol on Carboxyhemoglobin Concentration: A Post-mortem Analysis of Fire-related Fatalities	74
<u>Ms. Atene Znamenskaite</u> ¹ , <u>Ms. Karolina Michailovska</u> ¹	
<i>1. Vilnius University, Lithuania</i>	
Oncology & Hematology	
ASSESSMENT OF HEALTH-RELATED QUALITY OF LIFE WITH THE PEDSQL 3.0 CANCER MODULE IN LATVIAN PAEDIATRIC ONCOLOGY PATIENTS	76
<u>Ms. Dārta Valdovska</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
ASSESSMENT OF INDUCTION CHEMOTHERAPY RESPONSE IN PATIENTS WITH LOCALLY ADVANCED ORAL CAVITY SQUAMOUS CELL CARCINOMA	77
<u>Ms. Linda Kalnīte</u> ¹	
<i>1. University of Latvia, Latvia</i>	
CARDIAC FOLLOW-UP IN CHILDHOOD CANCER SURVIVORS: A RETROSPECTIVE ANALYSIS OF SINGLE CENTER LONG-TERM OBSERVATION	78
<u>Mr. Žygimantas Migauskas</u> ¹ , <u>Mr. Ernestas Iljin</u> ² , <u>Ms. Paulina Stočkūnaitė</u> ²	
<i>1. Lithuanian University of Health Sciences, Lithuania, 2. Hospital of Lithuanian University of Health Sciences Kaunas Clinics, Lithuania</i>	

CLINICAL AND EPIDEMIOLOGICAL CHARACTERISTICS OF NEWLY DIAGNOSED LUNG CANCER PATIENTS: A SINGLE-CENTER STUDY AT PAULS STRADIŅŠ CLINICAL UNIVERSITY HOSPITAL.	79
<u>Ms. Džiliāna Heinrihsone¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
CRITICAL CARE MANAGEMENT OF PATIENTS RECEIVING CAR T-CELL THERAPY	80
<u>Ms. Gerda Kisielytė¹, Ms. Benita Jonušaitė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
IMPACT OF FIRST-LINE PALLIATIVE CHEMOTHERAPY ON PROGRESSION-FREE SURVIVAL IN PATIENTS WITH METASTATIC GASTRIC CANCER AT PSKUS (2020-2024)	81
<u>Ms. Katrina Andrejeva¹</u>	
<i>1. University of Latvia, Latvia</i>	
PERIOPERATIVE ANESTHETIC CONSIDERATIONS IN PATIENTS RECEIVING MODERN CANCER THERAPIES: A SYSTEMATIC REVIEW	82
<u>Ms. Gerda Kisielytė¹, Ms. Benita Jonušaitė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
PRE-TREATMENT IMMUNE MEDIATORS PREDICT POST-TREATMENT CLINICAL BIOMARKERS IN BREAST CANCER SURVIVORS	83
<u>Ms. Deina Vilite¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
PROGNOSTIC FACTORS OF PROGRESSION-FREE SURVIVAL TIME OF NON-SMALL CELL BRONCHOPULMONARY CANCER PATIENTS UNDERGOING TARGETED THERAPY	84
<u>Mr. Sebastian Pintilie¹</u>	
<i>1. Iuliu Hațieganu University of Medicine and Pharmacy, Romania</i>	
PROLIFERATION OVER MUTATION: INDEPENDENT PROGNOSTIC VALUE OF MITOTIC INDEX IN MELANOMA	85
<u>Mr. Valters Vēgelis¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
RADIOLOGICAL AND CYTOLOGICAL CORRELATION OF LYMPH NODE ASSESSMENT IN BREAST CANCER PATIENTS	86
<u>Ms. Nameda Mancēviča¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
SEPSIS AND SEPTIC SHOCK IN PATIENTS WITH HEMATOLOGICAL MALIGNANCIES	87
<u>Ms. Gerda Kisielytė¹, Ms. Benita Jonušaitė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
SINGLE-CELL RNA-SEQUENCING REVEALS DYNAMIC AND DIVERGENT IMMUNE REMODELING IN RESPONSE TO THERAPY IN CHRONIC LYMPHOCYTIC LEUKEMIA	88
<u>Ms. Aysha Rafeeqe¹, Ms. Arta Adele Pore¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
TAXONOMIC DYNAMICS OF THE GUT MICROBIOME IN LATVIAN PEDIATRIC HEMATO-ONCOLOGY PATIENTS UNDERGOING CHEMOTHERAPY	89
<u>Mr. Valters Dumpis¹</u>	
<i>1. Riga Stradins University, Latvia</i>	

Ophthalmology

ARTIFICIAL INTELLIGENCE FOR EARLY DETECTION OF DIABETIC RETINOPATHY	91
<u>Mr. Kazimieras Kaušyla¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
ASSOCIATION BETWEEN PANRETINAL PHOTOCOAGULATION COVERAGE AND ANTI-VEGF INJECTION THERAPY RESULTS IN DIABETIC MACULOPATHY PATIENTS	92
<u>Mr. Jānis Tikmers¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
ASSOCIATION BETWEEN PANRETINAL PHOTOCOAGULATION COVERAGE AND ANTI-VEGF INJECTION THERAPY RESULTS IN DIABETIC MACULOPATHY PATIENTS.	93
<u>Mr. Janis Tikmers¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
AUTOIMMUNE RETINOPATHIES: DIAGNOSTIC CHALLENGES AND MISDIAGNOSIS	94
<u>Mr. Kazimieras Kaušyla¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
Changes in tear osmolarity in the treatment of Meibomian gland disease using eyelid massage.	95
<u>Ms. Laura Petersone¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
CORRELATION BETWEEN FILTRATION BLEB DIMENSIONS AND INTRAOCULAR PRESSURE IN PATIENTS AFTER GLAUCOMA SURGERY	96
<u>Ms. Polina Braževiča¹, Ms. Anna Braževiča¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
EFFICACY OF INTRAVITREAL ANTI-VEGF IN WET AGE-RELATED MACULAR DEGENERATION DEPENDING ON INITIAL CENTRAL RETINAL THICKNESS	97
<u>Mr. Sergejs Katinskis¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
INDICATIONS FOR CORNEAL TRANSPLANTATION AND POSTOPERATIVE OUTCOMES AT P. STRADIŅŠ CLINICAL UNIVERSITY HOSPITAL, 2021–2025	98
<u>Mr. Roberts Patriks Ausmanis¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
NEAR VISION IN PATIENTS AFTER MONOFOCAL INTRAOCULAR LENS IMPLANTATION	99
<u>Ms. Karina Antonova¹, Mrs. Agita Arbidāne-Rupaine¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Peripheral retinal changes in patients with geographic atrophy.	100
<u>Mrs. Agita Arbidāne-Rupaine¹, Ms. Karina Antonova¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Prevalence of Dry Eye Syndrome and Environmental Risk Factors Among Screen Users: Analysis of Subjective Symptoms and Schirmer Test Data	101
<u>Ms. Arta Irmīna Kučinska¹, Ms. Nanija Dzjadzina¹, Mr. Kristers Avotiņš¹</u>	
<i>1. Riga Stradins University, Latvia</i>	

RETINOBLASTOMA AND ENUCLEATION: A 20-YEAR RETROSPECTIVE STUDY FROM LATVIA	102
<u>Ms. Elina Radzina¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
SAFETY AND EFFECTIVENESS OF IMPLANTABLE COLLAMER LENS (ICL) IMPLANTATION FOR MYOPIA: A RETROSPECTIVE COHORT STUDY	103
<u>Ms. Uva Veja¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Surgical treatment outcomes and prognostic factors after retinal detachment surgery: Pauls Stradins Clinical University Hospital (2023-2025)	104
<u>Ms. Laura Petersone¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
TEAR FILM OSMOLARITY IN PATIENTS AFTER PENETRATING KERATOPLASTY WITH AND WITHOUT THERAPEUTIC CONTACT LENSES	105
<u>Ms. Liza Loce¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
TEAR OSMOLARITY CHANGES AFTER CATARACT SURGERY AND THEIR ASSOCIATION WITH SELF-REPORTED ARTIFICIAL TEAR USE	106
<u>Mr. Oļģerts Haralds Brūveris¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
USE OF THE IMMUNOMODULATORY PROPERTIES OF DOXYCYCLINE IN OPHTHALMOLOGY: A SYSTEMATIC REVIEW	107
<u>Ms. Agilė Kučinskaitė¹</u>	
<i>1. Vilnius University, Lithuania</i>	
Gynecology, Gynaecological surgery, Obstetrics, Perinatology	
Capturing Climate Impact: Advanced Statistical Modelling of Temperature Exposure and Preterm Birth in Latvia	109
<u>Ms. Julia Kottmann¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
CONTEMPORARY CHALLENGES IN THE DIAGNOSIS OF ENDOMETRIOSIS: A LITERATURE REVIEW	110
<u>Mrs. Ana Gorbunova¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
FERTILITY-SPARING TREATMENT IN EARLY-STAGE GYNECOLOGIC CANCERS: A SYSTEMATIC LITERATURE REVIEW	111
<u>Ms. Benita Jonušaitė¹, Ms. Gerda Kisielytė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
INTRAVENOUS LABOR AUGMENTATION AND PERINEAL TEAR SEVERITY: ASSOCIATIONS WITH OBSTETRIC RISK FACTORS	112
<u>Ms. Goda Kupraitytė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	

MANAGEMENT OF GENITOURINARY SYNDROME OF MENOPAUSE IN WOMEN WITH BREAST CANCER: A LITERATURE REVIEW	113
<u>Mrs. Ana Gorbunova</u> ¹	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
Menstrual hygiene practices, accessibility of menstrual products, and adolescent girls' attitudes towards menstrual products.	114
<u>Ms. Elina Butka</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
Missed Abortion in Latvia: Evaluation of Patients' Experience Following Outpatient Gynaecologist Consultations	115
<u>Mrs. Anna Drozdecka</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
PARP INHIBITORS IN BRCA-MUTATED OVARIAN CANCER: A SYSTEMATIC LITERATURE REVIEW	116
<u>Ms. Benita Jonušaitė</u> ¹ , <u>Ms. Gerda Kisielytė</u> ¹	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
PD-L1 EXPRESSION AS A PREDICTIVE BIOMARKER FOR IMMUNOTHERAPY RESPONSE IN CERVICAL CANCER	117
<u>Ms. Benita Jonušaitė</u> ¹ , <u>Ms. Gerda Kisielytė</u> ¹	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
PROGNOSING PERINEAL TRAUMA USING TRANSPERINEAL ULTRASOUND IN WOMEN WITH FULL TERM PREGNANCIES	118
<u>Ms. Vija Nazere</u> ¹ , <u>Ms. Marija Nikola Jansone</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
SELF-SAMPLING FOR HUMAN PAPILLOMAVIRUS AS AN ALTERNATIVE TO CONVENTIONAL CERVICAL CANCER SCREENING: A LITERATURE REVIEW	119
<u>Ms. Gabrielė Navakauskaitė</u> ¹ , <u>Mrs. Ana Gorbunova</u> ¹	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
THE PATH TO DIAGNOSIS FOR ENDOMETRIOSIS PATIENTS AND THE IMPACT OF ENDOMETRIOSIS ON PATIENTS' QUALITY OF LIFE	120
<u>Mrs. Katrīna Tomiņa</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
TRENDS IN OBSTETRIC LABOUR-ASSOCIATED TEARS OVER A 50-YEAR PERIOD	121
<u>Ms. Laima Borisovaite</u> ¹ , <u>Ms. Gabija Varkulevičiūtė</u> ¹	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
Paediatrics	
SEVERE CONGENITAL LIVER DISEASE ASSOCIATED WITH BIALLELIC FOCAD VARIANTS: A CASE REPORT	123
<u>Ms. Elija Jankauskaitė</u> ¹ , <u>Ms. Žavinta Laikūnaitė</u> ¹	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
Traumatology, Orthopedics, Trauma & Orthopedic Surgery, Radiology	

Application of cardiac magnetic resonance imaging in patients under one year of age	125
<u>Mr. Pauls Kristiāns Osipovs</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
ARTIFICIAL INTELLIGENCE (AI) IN RADIOLOGY: ASSISTANCE OR COMPETITION FOR A DOCTOR?	126
<u>Mr. Domantas Ivanauskas</u> ¹	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
ASSOCIATION BETWEEN PERIVASCULAR SPACE BURDEN AND COGNITIVE PERFORMANCE IN PARKINSON'S DISEASE	127
<u>Ms. Evelīna Stagiša</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
Early functional results in patients with unicondylar knee replacement	128
<u>Ms. Elisaveta Pisarenko</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
EFFICACY AND COMPLICATIONS OF ULTRASOUND-GUIDED PERCUTANEOUS CHOLECYSTOSTOMY: A RETROSPECTIVE ANALYSIS IN PATIENTS WITH ACUTE CHOLECYSTITIS	129
<u>Ms. Valerija Jablonska</u> ¹ , <u>Ms. Emīlija Ezeriņa</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
Glasgow Coma Scale, imaging biomarkers, and D-dimer in outcome prediction after spontaneous intracerebral haemorrhage	130
<u>Ms. Maruta Mazule</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
MID-TERM OUTCOMES AFTER OPEN REDUCTION AND INTERNAL FIXATION OF AO/OTA 44B3-44C POSTERIOR MALLEOLAR ANKLE FRACTURES	131
<u>Mrs. Elizabete Lauce</u> ¹ , <u>Ms. Laura Sabīne Taurmane</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
MORPHOLOGICAL VARIABILITY OF THE ACROMION AND ITS CLINICAL SIGNIFICANCE	132
<u>Mr. Artjoms Kalmašņikovs</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
PATIENT SATISFACTION WITH CARE FOUR WEEKS AFTER MAJOR JOINT ARTHROPLASTY USING A FAST-TRACK PROGRAM: A PILOT STUDY	133
<u>Ms. Letīcija Aelita Ločmele</u> ¹ , <u>Ms. Ilze Vindele</u> ²	
<i>1. Riga Stradins University, Latvia, 2. Hospital of Traumatology and Orthopaedics, Latvia</i>	
PERCUTANEOUS CRYOABLATION FOR SMALL RENAL MASSES: FIRST PATIENT GROUP EFFICACY AND SAFETY ANALYSIS FROM LATVIAN REGISTRY	134
<u>Ms. Evelīna Rama</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
RADIOLOGICAL FEATURES OF RENAL TRANSPLANT	135
<u>Ms. Emīlija Ezeriņa</u> ¹ , <u>Ms. Valerija Jablonska</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	

The Role of CT-Derived Hounsfield Units in Assessing the Risk of Lumbar Vertebral Fractures	136
<u>Ms. Jekaterina Stepanova¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
UTERINE FIBROID EMBOLIZATION AS AN ALTERNATIVE TO SURGERY TREATMENT	137
<u>Mr. Domantas Ivanauskas¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
White matter hyperintensity burden and age-matched whole brain volume in patients with cognitive impairment	138
<u>Mr. Arturs Titovs¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Public & Global Health, Occupational Medicine, Nutrition, Digital Medicine	
ANALYSIS OF GUT MICROBIOTA CONFIRMS DIFFERENCES IN ALPHA-DIVERSITY AND ABUNDANCE OF AKKERMANSIA MUCINIPHILA IN GISTAR STUDY PARTICIPANTS WITH OBESITY.	140
<u>Ms. Laura Balode¹</u>	
<i>1. University of Latvia, Latvia</i>	
ASSOCIATION BETWEEN UPPER TRAPEZIUS MUSCLE MECHANICAL PROPERTIES MEASURED BY MYOTONOMY AND PAIN PRESSURE THRESHOLD	141
<u>Mr. Ričards Gudelis¹, Ms. Guna Skuja¹, Mr. Ričards Ļevčiks¹, Ms. Darja Allemane¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
CARPAL TUNNEL SYNDROME AND UPPER-EXTREMITY WORK-RELATED MUSCULOSKELETAL DISORDERS IN LATVIAN DENTAL STUDENTS AND DENTAL HEALTHCARE WORKERS: A CROSS-SECTIONAL STUDY	142
<u>Mr. Georgs Alberts Pimanovs¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
CHANGES IN WORK-RELATED HEALTH PROBLEMS AND PSYCHOSOCIAL RISKS IN LATVIA, 2005–2015 (EWCS DATA)	143
<u>Ms. Nadīna Judeika¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
COMPARATIVE ANALYSIS OF SEXUAL AND REPRODUCTIVE HEALTH OF WOMEN IN ESTONIA AND LATVIA	144
<u>Mrs. Marta Luiza Ziverte¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
DYNAMICS OF MEDICATION REPACKAGING FOR F30-39 DIAGNOSES (MOOD DISORDERS): BEFORE AND AFTER THE COVID-19 PANDEMIC	145
<u>Ms. Patrīcija Kaņepāja¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
EPIDEMIOLOGICAL CHARACTERISTICS AND SEASONAL TRENDS OF LEPTOSPIROSIS IN LATVIA	146
<u>Ms. Eva Lāce-Stalidzāne¹</u>	
<i>1. Riga Stradins University, Latvia</i>	

Ergonomic Conditions and Gender Differences in Technical Equipment Use Among Remote and Hybrid Workers	147
<u>Ms. Ance Eimane¹, Ms. Jekaterina Jeņenkova¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
EXPLORATORY ASSESSMENT OF A LATVIAN TRANSLATION OF THE NORDIC MUSCULOSKELETAL QUESTIONNAIRE	148
<u>Ms. Madara Kivleniece¹, Ms. Jaroslava Govorova¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
FACTORS INFLUENCING ACCESS TO SEXUAL HEALTH SERVICES IN LATVIA.	149
<u>Ms. Anna Niedra¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
FACTORS INFLUENCING THE CHOICE OF ORTHODONTIC TREATMENT IN POLAND AMONG RESIDENTS OF ALYTUS COUNTY, LITHUANIA	150
<u>Ms. Ugnė Dulskaitė¹</u>	
<i>1. Vilnius University, Lithuania</i>	
FACTORS INFLUENCING UPTAKE IN COLORECTAL CANCER SCREENING PROGRAMME ACROSS EUROPE: A SYSTEMIC REVIEW.	151
<u>Ms. Rojin Farasat¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
FEV1, FVC AND FEV1/FVC IN THE KURZEME POPULATION: A COMPARISON OF THREE CITIES	152
<u>Ms. Beatrise Gulbe¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Further studies on the medical and epidemiological importance of ticks in the selected urban areas of Central Poland	153
<u>Mrs. Kamila Tokarczyk¹, Mr. Damian Zieliński¹, Mrs. Karolina Sas¹</u>	
<i>1. Medical University of Silesia, Poland</i>	
IMPACT OF INDOOR AIR QUALITY ON VITAL SIGNS IN LUNG DISEASE AND THORACIC SURGERY PATIENTS	154
<u>Ms. Kristīne Belova¹, Ms. Angela Eleena Mathews¹, Mr. Juris Breidaks¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Mental Health – Related Stigma in Acute Care Settings in Latvia: A Survey of Healthcare professionals' Beliefs and Awareness	155
<u>Mrs. Paula Birzniece¹</u>	
<i>1. University of Latvia, Latvia</i>	
Occupational health and behavior in remote and hybrid work settings	156
<u>Ms. Jekaterina Jeņenkova¹, Ms. Ance Eimane¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
PREVALENCE OF GASTROESOPHAGEAL REFLUX DISEASE SYMPTOMS AND RISK FACTORS AMONG MEDICAL STUDENTS IN LATVIA	157
<u>Mr. Andrejs Pāvils Šēnbergs¹</u>	
<i>1. Riga Stradins University, Latvia</i>	

PREVALENCE OF PELVIC FLOOR DYSFUNCTION SYMPTOMS IN LATVIA: URINARY, BOWEL, PELVIC ORGAN PROLAPSE, AND SEXUAL SYMPTOMS	158
<u>Mr. Ralfs Roberts Zitāns¹</u> , <u>Mrs. Marta Luiza Ziverte¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
PSYCHOLOGICAL RESILIENCE AS A PROTECTIVE FACTOR FOR PUBLIC HEALTH AND ITS CONNECTION TO ALTRUISM	159
<u>Ms. Rusnė Šulniūtė¹</u> , <u>Ms. Miglė Stankevičiūtė¹</u>	
<i>1. Vilnius University, Lithuania</i>	
QUANTITATIVE ASSESSMENT OF VOLATILE ORGANIC COMPOUND EMISSIONS FROM FIREARM MAINTENANCE: OCCUPATIONAL HEALTH RISKS	160
<u>Mr. Sergejs Katinskijs¹</u> , <u>Ms. Anastasija Ivančukova¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
SATISFACTION EVALUATION FOR PATIENTS AFTER HEART OR MAJOR VASCULAR SURGERY AFTER THE FIRST NIGHT IN INTENSIVE CARE	161
<u>Mr. Oto Skrupskis¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
The potential Risk of Exposure of Residents and Tourists to Ticks and Selected Zoonosis in the Rabka Basin	162
<u>Mr. Damian Zieliński¹</u> , <u>Mrs. Kamila Tokarczyk¹</u> , <u>Mrs. Karolina Sas¹</u>	
<i>1. Medical University of Silesia, Poland</i>	
Workplace Impact on Body Metrics: A Study of Public vs. Private Sector Residents in Piebalga.	163
<u>Ms. Samanta Ozola¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Emergency Medicine, Anaesthesiology, Reanimatology	
CAUSES OF READMISSION AMONG INTENSIVE CARE UNIT PATIENTS FOLLOWING CARDIAC SURGERY	165
<u>Mr. Arturs Kļeščevņikovs¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
COGNITIVE FUNCTION CHANGES BEFORE AND AFTER ELECTIVE MAJOR CARDIAC SURGERY	166
<u>Ms. Ilze Rudoviča¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
CRITICAL CARE CONSIDERATIONS IN CHEMOTHERAPY-INDUCED NEUTROPENIA: INFECTION MANAGEMENT AND OUTCOME OPTIMIZATION IN HEMATOLOGIC MALIGNANCIES	167
<u>Ms. Gerda Kisielytė¹</u> , <u>Mr. Kazimieras Kaušyla¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
INCIDENCE OF POSTOPERATIVE DELIRIUM AFTER MINIMALLY INVASIVE CARDIAC SURGERY	168
<u>Mr. Krišjānis Upenieks¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
INCIDENCE, DIAGNOSIS, AND TREATMENT OF ANEMIA IN PATIENTS BEFORE ELECTIVE SURGERY AT THE HOSPITAL OF TRAUMATOLOGY AND ORTHOPAEDICS IN LATVIA	169
<u>Ms. Ance Dudarenoka¹</u>	
<i>1. University of Latvia, Latvia</i>	

SEPSIS AND SEPTIC SHOCK IN PATIENTS WITH HEMATOLOGICAL MALIGNANCIES	170
Ms. Gerda Kisielytė ¹ , Ms. Benita Jonušaitė ¹	
1. Lithuanian University of Health Sciences, Lithuania	
SKIN TEMPERATURE CHANGES FOLLOWING FEMORAL NERVE AND ADDUCTOR CANAL BLOCKS IN PATIENTS UNDERGOING TOTAL KNEE ARTHROPLASTY	171
Ms. Nikola Kligina ¹ , Ms. Elva Eglīte ² , Mr. Rūdolfs Spilva ² , Ms. Elza Romane ²	
1. Rīga Stradiņš University, Latvia, 2. University of Latvia, Latvia	
STRESS AND CORTISOL LEVELS IN MEDICAL STUDENTS PERFORMING AN EMERGENCY FRONT-OF-NECK AIRWAY PROCEDURE USING LOW- AND HIGH-FIDELITY MANIKINS	172
Ms. Everita Binde ¹ , Ms. Marta Aukone ²	
1. Rīga Stradiņš University, Latvia, 2. University of Latvia, Latvia	
The Effectiveness and Influencing Factors of Prehospital Stage Resuscitation	173
Mr. Pēteris Blūms ¹	
1. Rīga Stradiņš University, Latvia	
THE IMPACT OF DIFFERENT EXTUBATION STRATEGIES ON THE DEVELOPMENT OF LUNG ATELECTASIS IN PATIENTS AFTER CARDIAC SURGERY	174
Mr. Krišjānis Upenieks ¹	
1. Rīga Stradiņš University, Latvia	
VANCOMYCIN PENETRATION INTO INTERVERTEBRAL DISCS DURING SPINE SURGERY: A POPULATION PHARMACOKINETIC ANALYSIS	175
Ms. Sofija Grundane ¹	
1. University of Latvia, Latvia	
VEXUS PROTOCOL ON SEPTIC PATIENTS: A PILOT STUDY	176
Ms. Agnese Pridāne ¹	
1. Rīga Stradiņš University, Latvia	
Biochemistry, Pharmacology, Pharmacy, Physiology	
“VALORIZATION OF BLACKCURRANT (R. NIGRUM) BERRY BY-PRODUCTS: POLYPHENOL COMPOSITION, BIOLOGICAL ACTIVITIES AND ENCAPSULATION STRATEGIE IN ALGINATE-INULIN GEL”	178
Ms. Diāna Brūvere ¹ , Ms. Ance Bārzdīna ¹ , Mr. Renārs Broks ¹	
1. Rīga Stradiņš University, Latvia	
Acute exercise induced changes in metabolomic profile of breast cancer patients	179
Mrs. Līva Vita Kaufmane ¹	
1. Rīga Stradiņš University, Latvia	
ASSESSMENT OF L-NAME DOSE EFFECTS IN A TWO-HIT HFpEF MOUSE MODEL	180
Ms. Elīza Ķibilda ¹	
1. Rīga Stradiņš University, Latvia	
BEYOND THE DISSOLUTION CURVE: VISUALIZING TABLET EROSION IN 3D	181
Ms. Una Lote Vītoliņa ¹	
1. Rīga Stradiņš University, Latvia	

DEVELOPMENT AND CHARACTERIZATION OF ALGINATE HYDROGEL BEADS CONTAINING TANACETUM VULGARE EXTRACT	182
<u>Ms. Paula Kristiāna Harpere¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
DEVELOPMENT OF PYRUVATE KINASE M2 INHIBITORS	183
<u>Mr. Kristofers Rudzitis¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
EXERCISE INDUCED CARDIOVASCULAR AND AUTONOMIC RESPONSES IN RELATION TO AEROBIC CAPACITY AND PHYSICAL ACTIVITY LEVEL IN HEALTHY YOUNG MEN.	184
<u>Mr. Gustavs Lukstiņš¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
FROM SYNTHESIS TO FINAL FORMULATION: DESIGN OF EXPERIMENTS GUIDED OPTIMIZATION OF GAL-LIC ACID-LOADED TRANSETHOSOMAL CHITOSAN GEL	185
<u>Ms. Daniela Paula Prudņikova¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
NEPHROTOXICITY INDUCED BY POLYMYXIN B AND COLISTIN IS MEDIATED BY MITOCHONDRIAL COMPLEX I INHIBITION	186
<u>Ms. Valērija Meinardte¹, Mr. Kristaps Krims-Dāvis¹, Mrs. Stanislava Korzh²</u>	
<i>1. Rīga Stradins University, Latvia, 2. Latvian Institute of Organic Synthesis, Latvia</i>	
REGIONAL AND HEMISPHERIC DISTRIBUTION OF PERIVASCULAR SPACES IN PARKINSON'S DISEASE	187
<u>Ms. Evelīna Stagiša¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
Infectious diseases, Microbiology, Immunology, Allergology, Dermatology & Dermatovenerology	
ARTIFICIAL INTELLIGENCE IN DERMATOLOGY: DIAGNOSTIC ACCURACY, LIMITATIONS, AND FUTURE PERSPECTIVES	189
<u>Ms. Mikeila Jazbutytė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
Assessment of comorbidities in patients with suspected hypersensitivity to local anesthetics	190
<u>Ms. Klinta Roķe¹, Ms. Unda Lomanovska¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
ASSOCIATION BETWEEN EXAM-INDUCED PSYCHOLOGICAL STRESS AND SELF-REPORTED DERMATOLOGICAL SYMPTOMS AMONG MEDICAL STUDENTS IN EUROPE	191
<u>Ms. Pooja Nagarkoti¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
ASSOCIATION OF CONTACT DERMATITIS PHENOTYPES WITH IMMUNOLOGICAL MARKERS: TOTAL IgE AND EOSINOPHILIA IN PATCH-TESTED PATIENTS	192
<u>Mr. Kristofers Šepte¹, Ms. Luīze Šepte¹, Ms. Madara Gobīņa²</u>	
<i>1. University of Latvia, Latvia, 2. Rīga Stradins University, Latvia</i>	

Biologic Therapy with Adalimumab, Ustekinumab, Secukinumab and Risankizumab in Moderate-to-Severe Psoriasis Vulgaris	193
<u>Ms. Luīze Šepte¹</u>	
<i>1. University of Latvia, Latvia</i>	
Correlation of breastfeeding with atopic dermatitis in early childhood	194
<u>Mrs. Roksana Magdisjuka¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Drug provocation test positivity in patients with suspected hypersensitivity to local anesthetic	195
<u>Ms. Unda Lomanovska¹</u> , <u>Ms. Klinta Roķe¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
EFFECTIVENESS, SAFETY, AND CONSISTENCY OF RESULTS OF SHEET MASKS FOR FACIAL SKIN: EVALUATING USER EXPERIENCES	196
<u>Ms. Valērija Bernatoviča¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Examination of air bacteriological pollution in different clinic premises, acceptable norms for the presence of bacteria, presence of pathogenic microbes	197
<u>Ms. Maria Kuusmetso¹</u> , <u>Ms. Arta Adele Pore¹</u> , <u>Mr. Ben Wiese¹</u> , <u>Ms. Caroline Truong¹</u> , <u>Ms. Veera Vierula¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Frequency and Severity of Adverse Effects of Isotretinoin in Acne Therapy and Their Impact on Quality of Life	198
<u>Ms. Diāna Nīkiforova¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
HORMONAL ACNE IN WOMEN: DIAGNOSTIC CONSIDERATIONS AND EVIDENCE-BASED TREATMENT STRATEGIES	199
<u>Ms. Mikeila Jazbutytė¹</u> , <u>Ms. Emilija Urbonaitė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
HYPERPIGMENTATION DISORDERS: ETIOLOGY, DERMATOSCOPIC FEATURES, AND EVIDENCE-BASED TREATMENT OPTIONS	200
<u>Ms. Mikeila Jazbutytė¹</u> , <u>Ms. Emilija Urbonaitė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
JAK INHIBITORS IN THE TREATMENT OF ALOPECIA AREATA: EFFICACY, SAFETY, AND LONG-TERM OUTCOMES	201
<u>Ms. Mikeila Jazbutytė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
THE EFFECTS OF ANTHYLLIS VULNERARIA EXTRACT AS AN ADJUVANT IN WOUND HEALING	202
<u>Mrs. Olga Maria Iova¹</u> , <u>Mr. Antoniu Flavius Pop²</u>	
<i>1. University of Medicine and Pharmacy "Iuliu Hatieganu", Cluj-Napoca, Romania, 2. University Professor, Filip Adriana Gabriela MD PhD, Department of Anatomy and Embryology, University of Medicine and Pharmacy "Iuliu Hatieganu", Cluj-Napoca, Romania</i>	

Neurology, Neurosurgery

A Comparative Evaluation of Artificial Intelligence and Physician Based Approaches in the Early Diagnosis of Cognitive Aging in Patients with Subjective Cognitive Decline and Risk of Alzheimer's Disease

204

Mr. Dāvis Kannenieks¹

1. Riga Stradins University, Latvia

C-REACTIVE PROTEIN LEVELS AND THEIR PROGNOSTIC ASSOCIATION WITH STROKE SEVERITY AND OUTCOME IN CEREBRAL INFARCTION

205

Ms. Elīza Dubicka¹

1. Riga Stradins University, Latvia

Central Sleep Apnea in Children: Etiology, Diagnosis and Clinical Characteristics in Patients at the Children's Clinical University Hospital from December 2023 to September 2025

206

Ms. Estere Freimane¹

1. Riga Stradins University, Latvia

Cervical Dystonia as a Novel Clinical Feature of RFC1-Related CANVAS: Insights from the Latvian Cerebellar Ataxia Cohort

207

Mrs. Evita Saluvēra¹

1. Riga Stradins University, Latvia

CLINICAL CHARACTERISTICS AND OUTCOMES OF STROKE IN PATIENTS WITH CANCER: A SINGLE-CENTER STUDY

208

Ms. Elīza Jeruma¹

1. Riga Stradins University, Latvia

CYTOKINE AND T-CELL ALTERATIONS IN CIDP AND MMN COMPARED TO HEALTHY CONTROLS: INSIGHTS INTO DISEASE-SPECIFIC IMMUNE ACTIVATION

209

Ms. Džiliāna Heinrihsone¹

1. Riga Stradins University, Latvia

PLASMA NEUROFILAMENT LIGHT CHAIN AND DISEASE INSTABILITY IN CHRONIC AUTOIMMUNE NEUROPATHIES

210

Ms. Arta Adele Pore¹

1. Riga Stradins University, Latvia

POSTERIOR FOSSA DECOMPRESSION FOR PEDIATRIC CHIARI I MALFORMATION: A 10-YEAR EXPERIENCE IN LATVIA

211

Mr. Zenons Beļskis¹

1. Riga Stradins University, Latvia

THYMECTOMY ASSOCIATED REDUCTION IN INTERFERON-GAMMA RESPONSES IN ACETYLCHOLINE RECEPTOR-POSITIVE MYASTHENIA GRAVIS PATIENTS

212

Mrs. Evita Saluvēra¹

1. Riga Stradins University, Latvia

Psychology

ADAPTATION OF THE ANXIETY ABOUT AGEING SCALE (AAS) IN LATVIAN

214

Ms. Anna Avotiņa¹

1. Riga Stradins University, Latvia

Adaptation of the D2-R Test of Attention into Latvian language	215
<u>Ms. Anna Šneidere</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
Associations between resilience, perceived social support, and fear of war	216
<u>Ms. Rebeka Paula Žakaite</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
Construct validity of the short version of the Riga Cognitive Screening Test: Internal consistency and item analysis of RiTa-s	218
<u>Mr. Kristaps Stinka</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
DEVELOPING SELECTIVE ATTENTION AND ATTENTION PERSISTENCE IN ADOLESCENT BASKETBALL PLAYERS USING MIXED REALITY: INTERVENTION DEVELOPMENT	219
<u>Ms. Austra Dute</u> ¹ , <u>Ms. Solvita Plenica</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
EATING BEHAVIOR, SHAME, GUILT, AND DIETARY MOTIVATION IN VEGETARIANS: ASSOCIATIONS AND PATTERNS	220
<u>Ms. Brigita Sāra Rodina</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
EFFECTIVENESS OF A MIXED REALITY INTERVENTION IN DEVELOPING SUSTAINED SELECTIVE ATTENTION IN ADOLESCENT BASKETBALL PLAYERS: A RANDOMIZED CONTROLLED PILOT STUDY	221
<u>Ms. Estere Promberga</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
RELATIONSHIP BETWEEN SLEEP QUALITY, EMOTION REGULATION AND ROMANTIC RELATIONSHIP SATISFACTION IN A SAMPLE OF HETEROSEXUAL ADULTS	222
<u>Mrs. Svetlana Mandrikova</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
STAKEHOLDER ENGAGEMENT IN NATURE-BASED INTERVENTIONS IN ADULT HEALTHCARE: A SCOPING REVIEW	223
<u>Mrs. Aivija Knīse-Repša</u> ¹ , <u>Mrs. Agnese Ozoliņa-Tilgase</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
Dentistry, Maxillofacial Surgery & Otorhinolaryngology, Otorhinolaryngologic surgery	
A Multidisciplinary Approach to Health: The Knowledge of Students of the Faculties of Medicine of Riga Stradiņš University and the University of Latvia Regarding the Association of Periodontitis With Diabetes Mellitus and Cardiovascular Diseases	225
<u>Ms. Undīne Una Heidemane</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
APPLICATION OF CUSTOMIZED HEALING ABUTMENTS IN DENTAL IMPLANTATION	226
<u>Mr. Benas Ilekis</u> ¹	
<i>1. Vilnius University, Lithuania</i>	

ATTITUDES TOWARD VIRTUAL SIMULATORS IN PRECLINICAL DENTAL EDUCATION AMONG STUDENTS AND LECTURERS AT RĪGA STRADIŅŠ UNIVERSITY	227
<u>Mr. Maksims Germanovičs¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Clinical and Epidemiological Characteristics of Patients with Inverted Papilloma: A 10-Year Retrospective Study at a Single Clinical Center – preliminary raport	228
<u>Ms. Magdalena Sulasz¹, Ms. Anna Kożuch¹</u>	
<i>1. Medical University of Silesia in Katowice, Poland</i>	
COMPARISON OF FULLY AUTOMATED AND MANUAL INTEGRATION OF CBCT AND DIGITAL DENTAL MODELS IN PATIENTS WITH AND WITHOUT METAL ARTIFACTS	229
<u>Ms. Julija Zabrodina¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Comparison of Oral Health-Related Quality of Life After Rehabilitation with Fixed Implant-Supported and Complete Removable Dental Prostheses in Elderly Patients	230
<u>Mr. Faustas Gabrilavičius¹, Ms. Ineta Budrikaitė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
Conventional vs. 3D-Printed Temporary Dental Crowns: A Micro-CT Porosity and Fracture Resistance Analysis	231
<u>Mr. Matīss Šalms¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
EVALUATION OF DENTAL PANORAMIC TOMOGRAPHY IMAGES CONDUCTED AT RSU INSTITUTE OF STOMATOLOGY, ASSESSMENT OF RADIOLOGICAL STATUS FOR PATIENTS BORN IN 1987 - 1988	232
<u>Ms. Patricija Peica¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Evaluation of the maxillary sinus volume and linear measurements in individuals aged 9 – 91 years using cone-beam computed tomography	233
<u>Ms. Paula Skalberga¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Impact of Complete Removable Prostheses Rehabilitation on Self-Esteem in Elderly Edentulous Patients	234
<u>Mr. Faustas Gabrilavičius¹, Ms. Ineta Budrikaitė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
INCIDENCE AND CLINICAL CHARACTERISTICS OF PAEDIATRIC ORBITOCELLULITIS IN THE CHILDREN'S CLINICAL UNIVERSITY HOSPITAL, LATVIA	235
<u>Ms. Arina Verzbicka¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Oral health-related quality of life in patients with Stage III and IV generalized periodontitis	236
<u>Ms. Nikola Aleksāne¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
PATIENTS ATTITUDE TO SKELETAL ANCHORAGE IN ORTHODONTICS	237
<u>Mrs. Elizabete Korule-Cerina¹</u>	
<i>1. Riga Stradins University, Latvia</i>	

PERCEPTION OF SMILE AESTHETICS AMONG DENTISTRY AND NON-DENTISTRY STUDENTS	238
<u>Ms. Ugnė Dulskaitė¹</u>	
<i>1. Vilnius University, Lithuania</i>	
THE INFLUENCE OF AN IMMEDIATE TISSUE LEVEL ABUTMENT ON PERI-IMPLANT TISSUE STABILITY OF SUBCRESTALLY PLACED IMPLANTS: A 6-YEAR FOLLOW-UP	239
<u>Mrs. Ula Linkeviciute¹</u>	
<i>1. Vilnius University, Lithuania</i>	
TREATMENT OUTCOME OF IMPACTED MANDIBULAR CANINES	240
<u>Mrs. Vasilisa Jemeljanova¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
 Psychiatry, Psychotherapy, Psychosomatics	
“When Anxiety Masks ADHD: Diagnostic Challenges for Women in Primary Care – A Systematic Literature Review”	242
<u>Ms. Rola Juma¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
ADOLESCENT EATING DISORDER COURSE IN RELATION TO PSYCHIATRIC COMORBIDITY AND FAMILY RELATIONSHIPS: MIXED-METHODS STUDY AT CHILDREN’S CLINICAL UNIVERSITY HOSPITAL	243
<u>Ms. Madara Druvaskalna¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
ALCOHOL CONSUMPTION AS A POTENTIAL RISK FACTOR FOR POSTPARTUM DEPRESSION: A SYSTEM-ATIC REVIEW	244
<u>Ms. Serena Ozveren¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
CHATBOTS IN MENTAL HEALTHCARE: HELP OR JUST A QUICK FIX?	245
<u>Ms. Domantė Purtokaitė¹, Mr. Danilas Pavilionis¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
EARLY IDENTIFICATION OF THE FIRST PSYCHOTIC EPISODE: CLINICAL SIGNIFICANCE AND PROGNOSIS	246
<u>Mr. Danilas Pavilionis¹, Ms. Domantė Purtokaitė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
GENDER IDENTITY DISORDER – PREVALENCE TRENDS IN HELP-SEEKING ADOLESCENT POPULATION IN CHILDREN’S CLINICAL UNIVERSITY HOSPITAL, RIGA, LATVIA, 2021-2025	247
<u>Ms. Sofija Liskova¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
INNOVATIONS IN TREATING TREATMENT-RESISTANT DEPRESSION: KETAMINE AND PSILOCYBIN THER-APY — MYTHS AND REALITIES	248
<u>Ms. Domantė Purtokaitė¹, Mr. Danilas Pavilionis¹</u>	
<i>1. Lithuanian University of Health Sciences</i>	
MENTAL HEALTH DISORDERS AND PSYCHOTROPIC MEDICATION USE IN PATIENTS WITH CHRONIC OB-STRUCTIVE PULMONARY DISEASE IN LITHUANIA (2020–2024)	249
<u>Mr. Tadas Valiulis¹</u>	
<i>1. Vilnius University, Lithuania</i>	

PROJECT'S "INTEGRATED APPROACH - IMPROVING REHABILITATION ACCESS FOR MINORS WHO ABUSE ADDICTIVE SUBSTANCES" IMPACT ON HOSPITALISATIONS IN MINORS WITH SUBSTANCE ABUSE. 250

Ms. Anna Bumbiere¹

1. Riga Stradins University, Latvia

THE FIRST TELEMENTORING PROJECT "ECHO SCHOOL OF PSYCHIATRY" FOR GENERAL PRACTITIONERS IN LATVIA: A QUALITATIVE STUDY 251

Ms. Marija Burceva¹

1. Riga Stradins University, Latvia

TREATING PTSD WITH VIRTUAL REALITY 252

Mr. Danilas Pavilionis¹, Ms. Domantė Purtokaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Sports Medicine, Sports Science, Rehabilitology, Medical Simulations

ASSESSMENT OF FUNCTIONAL MOVEMENT INDICATORS OF THE LOWER EXTREMITIES IN FEMALE RHYTHMIC GYMNASTS AGED 12–18 YEARS 254

Ms. Diāna Kļaviņa¹

1. Riga Stradins University, Latvia

SQUAMOUS CELL CARCINOMA OF THE EYELID RESULTING IN ORBITAL EXENTERATION 254 a

Ms. Agilė Kučinskaitė

1. Vilnius University, Lithuania

BLOOD PRESSURE VARIABILITY CORRELATION WITH MAXIMAL OXYGEN CONSUMPTION IN LATVIAN MASTER BASKETBALL PLAYERS 255

Ms. Paula Luīze Rātfeldere¹, Mr. Mikus Bernots¹

1. Riga Stradins University, Latvia

Correlation of Heart Rate Recovery and Maximum Oxygen Consumption in master basketball players 256

Mr. Mikus Bernots¹, Ms. Paula Luīze Rātfeldere¹

1. Riga Stradins University, Latvia

EFFECTS OF ADVANCED FOOTWEAR TECHNOLOGY ON RUNNING ECONOMY, BIOMECHANICS AND PERFORMANCE DURING A HALF-HOUR TREADMILL RUN 257

Ms. Daido Dagne Brūvere¹

1. Riga Stradins University, Latvia

MODERATING ROLE OF FUNCTIONAL DOMAINS IN WEEKLY SLEEP AND FATIGUE DURING BREAST CANCER CHEMOTHERAPY 258

Mrs. Madara Ketlīna Štarka-Rantiņa¹

1. Riga Stradins University, Latvia

USE OF 3D-PRINTED HAND ORTHOSES IN ACUTE AND SUBACUTE STROKE REHABILITATION TO REDUCE FLEXION–EXTENSION-RELATED COMPLICATIONS 260

Mr. Māris Lācis¹

1. Riga Stradins University, Latvia

Social Sciences

CONSTRUCTION OF KAZAKHSTAN'S NATIONAL IDENTITY IN THE PERIOD FROM 2022 TO 2025 262

Mr. Aleksandrs Škiļs¹

1. Riga Stradins University, Latvia

CONSTRUCTION OF THE “FRONTLINE STATE” IDENTITY IN BENJAMIN NETANYAHU’S SPEECHES IN THE CONTEXT OF THE GAZA WAR (2023–2025)	263
<u>Ms. Alise Filipova¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
CORPORATE FINANCIAL DECISIONS AND JUDICIAL OVERSIGHT: LEGAL BOUNDARIES OF MARKET RISK	264
<u>Mr. Francesco Primiceri¹</u>	
<i>1. University of Salento</i>	
ECONOMIC DIPLOMACY OF THE UAE IN THE UNITED KINGDOM SINCE 2015	265
<u>Mrs. Anastasija Jemeljanenko¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
EVALUATION OF ARTIFICIAL INTELLIGENCE POLICY IMPLEMENTATION IN PUBLIC ADMINISTRATION OF LATVIA AND ESTONIA (COMPARATIVE ANALYSIS)	266
<u>Mr. Eduards Liepiņš¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
GEOPOLITICS AND LINGUISTIC IDENTITY: EVOLVING ATTITUDES TOWARDS THE RUSSIAN LANGUAGE IN LATVIA AFTER 2022	267
<u>Mr. Jingsong Lin¹</u>	
<i>1. Lund University, Sweden</i>	
LANGUAGE AS SECURITY: SECURITIZING THE INFORMATION ENVIRONMENT IN LATVIA THROUGH THE EXCLUSION OF RUSSIAN-LANGUAGE CONTENT	268
<u>Ms. Anastasija Tetarenko-Supe¹</u>	
<i>1. University of Latvia, Latvia</i>	
MASCULINITY IN US FOREIGN POLICY NARRATIVES: THE CASE OF THE BALTIC STATES (2016-2020)	269
<u>Ms. Patrīcija Kreislere¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Populism among parties and party alliances represented in the 14th Saeima of the Republic of Latvia in the process of ratifying and denouncing the Istanbul Convention.	270
<u>Mr. Maksims Lodins¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Public lobbying of sports federations within the framework of the 14th Saeima	271
<u>Mr. Gustavs Stinka¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
THE BALTIC BREAKAWAY - NORM CONTRADICTIONS & LEGITIMACY CONSTRUCTION IN THE WITHDRAWAL FROM THE OTTAWA PERSONNEL MINE BAN TREATY	272
<u>Mr. Reinaert Demey¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
The impact of oil sanctions on Russia’s relations with China in the Arctic region in the period from 2022 to 2024	273
<u>Ms. Kate Cela¹</u>	
<i>1. Riga Stradins University, Latvia</i>	

**THE ROLE OF MEDIA LITERACY IN DISTINGUISHING BETWEEN FACT-BASED INFORMATION AND MIS-
INFORMATION – AN EXAMPLE OF ARTIFICIAL INTELLIGENCE IN THE ANALYSIS OF YOUNG AUDIENCES**
274

Ms. Oļesja Garjutkina¹

1. Riga Stradins University, Latvia

**VATICAN'S COMMUNICATIVE DIPLOMACY DURING POPE FRANCIS' PONTIFICATE IN THE CONTEXT OF
THE RUSSIA–UKRAINE WAR (2022–2025)** 275

Mr. Gustavs Pagrabs¹

1. Riga Stradins University, Latvia

Internal Medicine I (Cardiology, Pulmonology)

**ABORTED SUDDEN CARDIAC DEATH AS THE FIRST MANIFESTATION OF FHL1-ASSOCIATED EMERY-
DREIFUSS MUSCLE DYSTROPHY: A CASE REPORT** 277

Mr. Naglis Kalvaitis¹, Mr. Vilius Medvedevas¹

1. Lithuanian University of Health Sciences, Lithuania

Cardiovascular Evaluation Revealing an Unsuspected Pulmonary Embolism: A Case Report 278

Ms. Austyna Miežinytė¹, Ms. Fausta Simanauskaitė¹

1. Lithuanian University of Health Sciences, Lithuania

**CHALLENGES IN DISTINGUISHING TAKOTSUBO CARDIOMYOPATHY FROM ACUTE MYOCARDIAL IN-
FARCTION** 279

Mr. Ignas Jusis¹, Ms. Lina Gastilavičiūtė¹

1. Lithuanian University of Health Sciences, Lithuania

CHRONIC ATRIAL FIBRILLATION COMPLICATED BY ATRIOVENTRICULAR BLOCK: A CASE REPORT 280

Ms. Dominyka Rudžinskaitė¹, Ms. Meda Burdulytė¹

1. Lithuanian University of Health Sciences, Lithuania

DIAGNOSTIC DILEMMA BETWEEN HEALING AND INFLAMMATION 281

Ms. Karolina Ciakaite¹, Ms. Lina Gastilavičiūtė¹

1. Lithuanian University of Health Sciences, Lithuania

LEFT ANTERIOR DESCENDING ARTERY ANEURYSM COMPLICATED BY THROMBOSIS: A CASE REPORT 282

Ms. Gytė Gužauskaitė¹

1. Vilnius University, Lithuania

LONG TERM OUTCOMES ON FIRST PULMONARY ENDARTERECTOMY PERFORMED IN LATVIA 283

Mr. Haralds Cēsnieks¹, Mr. Matīss Zicāns², Mr. Mārtiņš Bode²

1. University of Latvia, Latvia, 2. Riga Stradins University, Latvia

**MULTIFACTORIAL CHRONIC COUGH: FROM SEVERE REFLUX ESOPHAGITIS TO PROTRACTED BACTERIAL
BRONCHITIS AND SEVERE ASTHMA** 284

Ms. Jaroslava Govorova¹, Mr. Vitālijs Zaharovs¹

1. Riga Stradins University, Latvia

OBSTRUCTIVE SLEEP APNEA MIMICKING ACUTE CORONARY SYNDROME: A CASE REPORT 285

Ms. Edita Družaitė¹, Mr. Matas Šimkus¹

1. Lithuanian University of Health Sciences, Lithuania

Pacemaker Atrial Oversensing Due to Lead Damage in Severe Anorexia Nervosa: A Management Challenge	286
<u>Ms. Everita Kupriša¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
Recurrent vasovagal syncope with a cardioinhibitory response in a young woman: a case report	287
<u>Mrs. Valērija Isakoviča¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
RVOT VENTRICULAR TACHYCARDIA: DIAGNOSTIC CHALLENGES AND RADIOFREQUENCY CATHETER ABLATION — A CLINICAL CASE ILLUSTRATING DIFFICULTIES IN DIFFERENTIATING VENTRICULAR AND SUPRAVENTRICULAR TACHYCARDIAS	288
<u>Mr. Daniels Silconoks¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
SEVERE OBSTRUCTIVE SLEEP APNOEA COMPLICATED BY OBESITY HYPOVENTILATION AND ATRIOVENTRICULAR BLOCK: A CASE REPORT	289
<u>Ms. Žavinta Laikūnaitė¹, Ms. Elija Jankauskaitė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
SYNCOPE AS THE INITIAL MANIFESTATION OF ACUTE AORTIC DISSECTION	291
<u>Ms. Lina Gastilavičiūtė¹, Mr. Ignas Jusis¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
Weil Syndrome: A Case of Severe Leptospirosis with Multiorgan Dysfunction	292
<u>Ms. Eva Kočāne¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
Internal Medicine II (Gastroenterology, Nephrology, Endocrinology, Rheumatology)	
A Case report of serpiginous chorioretinitis	295
<u>Ms. Raminta Liubinaite¹, Ms. Lina Grybauskaite¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
A LONG ROAD TO REMISSION: INDIVIDUALIZED IMMUNOSUPPRESSIVE THERAPY IN REFRACTORY LUPUS NEPHRITIS	296
<u>Ms. Luīze Driķe¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
ACUTE SYSTEMIC INFLAMMATORY REACTION FOLLOWING INTRAVENOUS CALCIUM GLUCONATE IN A PATIENT WITH SEVERE PSORIASIS	297
<u>Mrs. Nataļja Guiska¹</u>	
<i>1. University of Latvia, Latvia</i>	
ACUTE TUBULOINTERSTITIAL NEPHRITIS CAUSED BY HANTAVIRUS INFECTION: A CASE REPORT	298
<u>Ms. Kristīne Locika¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	
ATYPICAL PRESENTATION OF SYSTEMIC HERPES INFECTION MIMICKING HEPATOBILIARY PATHOLOGY: A CASE REPORT	299
<u>Ms. Nadīna Judeika¹</u>	
<i>1. Rīga Stradins University, Latvia</i>	

CAN HEMATURIA PERSIST FROM CHILDHOOD THROUGH TRANSPLANTATION?	300
<u>Ms. Anna Dobeļe</u> ¹	
<i>1. Rīga Stradiņš University, Latvia</i>	
COMPLICATED SIGMOID DIVERTICULITIS WITH FISTULAS TO BLADDER, FALLOPIAN TUBE, AND ILEUM IN A HEALTHY 69-YEAR-OLD WOMAN WITH NO RISK FACTORS FOR FISTULATION	301
<u>Ms. Lorīna Jesse</u> ¹	
<i>1. Rīga Stradiņš University, Latvia</i>	
DIAGNOSIS AND MANAGEMENT OF IMMUNE THROMBOCYTOPENIA IN ALCOHOLIC LIVER CIRRHOSIS - A CASE REPORT	302
<u>Ms. Maria Curean</u> ¹	
<i>1. Iuliu Hațieganu University of Medicine and Pharmacy Cluj-Napoca</i>	
DISCORDANCE BETWEEN LONG-TERM GLUCOCORTICOID THERAPY AND BONE MINERAL DENSITY: DUAL-ENERGY X-RAY ABSORPTIOMETRY-BASED ASSESSMENT	303
<u>Ms. Elīza Marta Budava</u> ¹	
<i>1. Rīga Stradiņš University, Latvia</i>	
ENDOGENOUS HYPERCORTISOLISM IN A PATIENT WITH ADDISON'S DISEASE: AN UNUSUAL CASE OF ADRENAL CORTICAL ADENOMA	304
<u>Ms. Kotryna Simkunaite</u> ¹ , <u>Mr. Norbertas Snapkauskas</u> ¹	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
FEVER PERSISTING DESPITE STANDARD THERAPY IN AN ADULT PATIENT: A CLINICAL CASE REPORT	305
<u>Mr. Huberts Zimackis</u> ¹	
<i>1. Rīga Stradiņš University, Latvia</i>	
METABOLIC AND ENDOCRINE FAILURE IN SEVERE ANOREXIA NERVOSA	306
<u>Ms. Elīna Priede</u> ¹	
<i>1. Rīga Stradiņš University, Latvia</i>	
ONSET OF SARCOIDOSIS AFTER RIGHT ADRENALECTOMY FOR A CORTISOL-PRODUCING TUMOR	307
<u>Ms. Jelizaveta Kasterova</u> ¹	
<i>1. Rīga Stradiņš University, Latvia</i>	
PALOPEGTERIPARATIDE ACHIEVES IMMEDIATE METABOLIC STABILITY IN LIFE-THREATENING POST-SURGICAL HYPOCALCEMIA: FIRST EXPERIENCE IN LATVIA	308
<u>Ms. Marta Štromberga</u> ¹	
<i>1. Rīga Stradiņš University, Latvia</i>	
PANCREATIC NEUROENDOCRINE TUMOR. CLINICAL CASE.	309
<u>Ms. Agne Talackaite</u> ¹ , <u>Ms. Gabija Dadurkaite</u> ¹	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
PERIPHERAL ULCERATIVE KERATITIS IN PATIENT WITH RHEUMATOID ARTHRITIS	310
<u>Ms. Ryte Liutkauskaite</u> ¹	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
PLASMA EXCHANGE THERAPY IN A PATIENT WITH SEVERE HYPERTRIGLYCERIDEMIA - A CASE REPORT	311
<u>Ms. Linda Podniece</u> ¹	
<i>1. Rīga Stradiņš University, Latvia</i>	

POST-THYROIDECTOMY HYPOPARATHYROIDISM AND THYROTOXICOSIS: A RARE CASE REPORT AND IMPORTANCE OF ADHERENCE TO TREATMENT	312
<u>Ms. Dana Šēra</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
RECURRENT CENTRAL VENOUS CATHETER MALPOSITION INTO THE AXILLARY VEINS: CASE REPORT	313
<u>Ms. Elena Lukoševičiūtė</u> ¹	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
Recurrent Primary Focal Segmental Glomerulosclerosis After Kidney Transplantation: Diagnostic Challenges and Therapeutic Implications	314
<u>Mx. Līga Pūsepa</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
RENAL FUNCTION RECOVERY IN A PATIENT WITH ATYPICAL HEMOLYTIC UREMIC SYNDROME ON RENAL REPLACEMENT THERAPY AFTER PATHOGENETIC C5 INHIBITOR TREATMENT	315
<u>Mr. Martins Izmailovs</u> ¹	
<i>1. University of Latvia, Latvia</i>	
SEVERE HEADACHE AS A MANIFESTATION OF POST-TRANSPLANT LYMPHOPROLIFERATIVE DISORDER IN A YOUNG WOMAN AFTER KIDNEY TRANSPLANTATION: A CASE REPORT	316
<u>Mr. Ernestas Gulbickis</u> ¹	
<i>1. Vilnius University, Lithuania</i>	
SIMULTANEOUS LIVER TRANSPLANTATION AND SLEEVE GASTRECTOMY FOR MASLD CIRRHOSIS: A CASE REPORT	317
<u>Ms. Žavinta Laikūnaitė</u> ¹ , <u>Ms. Elija Jankauskaitė</u> ¹	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
THE (UN)USUAL SUSPECT: CANCER AS A CULPRIT OF ATYPICAL AUTOIMMUNE RHEUMATIC DISEASE - A CASE REPORT	318
<u>Ms. Goda Ivaškevičiūtė</u> ¹ , <u>Ms. Ugnė Brazauskaitė</u> ¹	
<i>1. Vilnius University, Lithuania</i>	
TREATMENT OF ANTI-HMGR IMMUNE-MEDIATED NECROTISING MYOPATHY WITH A COMBINATION OF RITUXIMAB AND INTRAVENOUS IMMUNOGLOBULIN: A CASE REPORT	319
<u>Ms. Krista Kļaviņa</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
WHEN A RARE PATHOGEN PERSISTS – RELAPSING BREVI BACTERIUM CASEI PERITONITIS IN A FARMER ON A PERITONEAL DIALYSIS	320
<u>Ms. Izabelė Gervelytė</u> ¹ , <u>Mr. Ernestas Gulbickis</u> ¹	
<i>1. Vilnius University, Lithuania</i>	
WHEN RENAL FINDINGS MASK CARDIAC DISEASE: A CASE OF CARDIORENAL SYNDROME	321
<u>Ms. Milda Lekšaitė</u> ¹ , <u>Ms. Emilija Daugėlaitė</u> ¹	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
WHEN RHEUMATOID ARTHRITIS MASKS LUPUS: A RARE CASE OF RHUPUS SYNDROME	322
<u>Ms. Anita Stepena</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	

Surgery (traumatology, urology, gynaecology, otorhinolaryngology etc.)

- A CASE OF LAPAROSCOPIC REVERSAL OF ROUX-EN-Y GASTRIC BYPASS FOR REFRACTORY POSTOPERATIVE NAUSEA** 324
Ms. Una Gadzāne¹
1. Riga Stradins University, Latvia
- ASSESSMENT OF LOWER EXTREMITY INJURY RISKS IN ADOLESCENT MALE BASKETBALL PLAYERS AGED 15 TO 18** 324a
Mr. Kārlis Kristiāns Dundurs¹
1. Riga Stradins University, Latvia
- A challenging management course of a cranial gunshot injury in a 6-year-old.** 325
Ms. Marija Kairāne¹
1. Riga Stradins University, Latvia
- A COMPLEX COURSE OF BENIGN PROSTATIC HYPERPLASIA COMPLICATED BY CORYNEBACTERIUM UREALYTICUM INFECTION** 326
Mr. Maksimilians Rate¹, Ms. Jeļizaveta Ponomarjova¹, Mr. Gustavs Viļums¹
1. University of Latvia, Latvia
- ADULT PRESENTATION OF DUPLICATED COLLECTING SYSTEM WITH URETEROCELE AND MULTIPLE URETERIC CALCULI** 327
Ms. Arathi Nair¹
1. Riga Stradins University, Latvia
- AN EXTENSIVE NETWORK OF VASCULAR COLLATERALS IN MALE WITH ABDOMINAL AORTA OCCLUSION** 328
Ms. Anete Labalaika¹
1. Riga Stradins University, Latvia
- An Unidentified Mobile Abdominal Mass in a Newborn of Gynecologic Origin** 329
Ms. Viktorija Lovniece¹
1. Riga Stradins University, Latvia
- ANTEPARTUM PREECLAMPSIA WITH DEVELOPMENT OF ECLAMPSIA AT 34 WEEKS GESTATION - CASE REPORT** 330
Ms. Linda Podniece¹
1. Riga Stradins University, Latvia
- ANTERIOR-INFERIOR DISLOCATION OF THE FEMORAL COMPONENT OF A TOTAL HIP JOINT ENDOPROTHESIS** 331
Ms. Liza Panicuka¹
1. Riga Stradins University, Latvia
- Aseptic loosening of glenohumeral joint reverse arthroplasty case report.** 332
Mr. Oskars Otaņķis¹
1. Riga Stradins University, Latvia
- BEYOND GLIOMAS: 5-ALA-GUIDED RADICAL RESECTION OF EN PLAQUE MENINGIOMA WITH EXTENSIVE HYPEROSTOSIS** 333
Mr. Zenons Beļskis¹
1. Riga Stradins University, Latvia
- BIOLOGIC MODULATION OF A CHRONIC POST-SURGICAL WOUND IN A HIGH-RISK GERIATRIC PATIENT: A CASE REPORT** 334
Ms. Mikeila Jazbutytė¹
1. Lithuanian University of Health Sciences, Lithuania

BIOPROSTHETIC AORTIC VALVE REPLACEMENT FOR RADIATION-INDUCED SEVERE SYMPTOMATIC AORTIC STENOSIS IN A 38-YEAR-OLD HODGKIN LYMPHOMA SURVIVOR: CASE REPORT	335
<u>Mr. Reinis Rudzītis</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
BIPHENOTYPIC SINONASAL SARCOMA: CASE REPORT	336
<u>Mr. Emīls Zandersons</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
BRANCHIAL CLEFT CYST AS A CAUSE OF CERVICAL MASS IN A YOUNG WOMAN: DIFFERENTIATION FROM OROPHARYNGEAL MALIGNANCY	337
<u>Ms. Elizabete Gitendorfa</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
CASE OF FRONTAL SINUS MUCOPYOCELE WITH ORBITAL INVOLVEMENT SECONDARY TO CHRONIC FRONTITIS	338
<u>Ms. Elizabete Gitendorfa</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
CAVERNOUS MALFORMATION OF THE MEDULLA OBLONGATA MIMICKING A GLIOMA	339
<u>Mr. Artūrs Laganovskis</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
Chordoma beyond the usual course: widespread metastases and an unexpected rib localization.	340
<u>Ms. Anna Sawina</u> ¹	
<i>1. Medical University of Lodz, Poland</i>	
CHRONIC IMPLANT-ASSOCIATED INFECTION CAUSED BY A MULTIDRUG-RESISTANT GRAM-NEGATIVE ORGANISMS IN A PATIENT WITH BLAST-RELATED PELVIC TRAUMA: CASE REPORT	341
<u>Mrs. Elizabete Lauce</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
CLINICAL CHALLENGES IN A PATIENT WITH THREE-VESSEL CORONARY ARTERY DISEASE, RUPTURED MITRAL CHORDAE AND A LARGE INFRARENAL ABDOMINAL AORTIC ANEURYSM	343
<u>Mr. Ernests Ritvars Grava</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
Cochlear implantation in a patient with Treacher Collins Syndrome	344
<u>Ms. Marta Borzucka</u> ¹ , <u>Ms. Julianna Stachaczyk</u> ¹	
<i>1. Medical University of Silesia</i>	
COMPLETE CORAL STONE CLEARANCE IN A SOLITARY KIDNEY: THE EFFICIENCY OF MODERN ECIRS	345
<u>Ms. Paula Vanaga</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
COMPLEX MANAGEMENT OF SEVERE COMPLICATIONS AFTER SUBTOTAL GASTRECTOMY LEADING TO COLONIC INTERPOSITION FOR ESOPHAGEAL RECONSTRUCTION	346
<u>Ms. Beatrise Alise Sarkanābola</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	

COMPREHENSIVE SURGICAL MANAGEMENT OF A HIGH-LOCALIZATION INTERNAL CAROTID ARTERY PSEUDOANEURYSM IN A PATIENT WITH FIBROMUSCULAR DYSPLASIA: A CASE REPORT	347
<u>Ms. Anna Knipše¹</u>	
<i>1. University of Latvia, Latvia</i>	
Conservative Treatment for Firework-Related Eye Trauma: a Case Report	348
<u>Ms. Jurgita Karčauskaitė¹, Ms. Gabrielė Juodžentytė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
CRYPTIC PREGNANCY PRESENTING WITH UNEXPECTED LABOR: A CASE REPORT	349
<u>Ms. Dominyka Rudžinskaitė¹, Ms. Benita Jonušaitė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
Differential diagnosis of frontal sinus lesions with bone thinning: A series of two cases	350
<u>Ms. Anna Kozuch¹, Mrs. Maria Marcak¹</u>	
<i>1. Medical University of Silesia in Katowice, Poland</i>	
DIVERTICULITIS WITH PERFORATION IN YOUNG ADULTS: A CASE REPORT	351
<u>Mr. Joris Ribikauskas¹, Mrs. Gerda Ražauskienė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
EARLY CT AND CT ANGIOGRAPHY AS A DECISION-MAKING TOOL IN SEVERE POLYTRAUMA	352
<u>Ms. Reičēla Santana Dījeva¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
EMERGENCY ASCENDING AORTIC REPLACEMENT FOR ACUTE TYPE A AORTIC DISSECTION IN A 31-WEEK PREGNANT PATIENT WITH MARFAN SYNDROME	353
<u>Mr. Krišjānis Upenieks¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
EMPHYSEMATOUS PSOAS ABSCESS SECONDARY TO A RETROPERITONEAL SHORT BOWEL FISTULA: A RARE PRESENTATION—A CASE REPORT	354
<u>Ms. Priscila Pozzoco¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
FEMUR PERIPROSTHETIC FRACTURE OSTEOSYNTHESIS WITH INTRAMEDULLARY RETROGRADE NAIL WITH SUBSEQUENT HIP ARTHROPLASTY	355
<u>Mr. Ricards Levčiks¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
FUNCTIONAL CLITORAL RECONSTRUCTION FOLLOWING RESECTION OF VULVAR SQUAMOUS CELL CARCINOMA	356
<u>Mr. Kristiāns Vištarts¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
GALLSTONE ILEUS OF THE DESCENDING DUODENUM COMPLICATED BY PROLONGED POSTOPERATIVE GASTRIC STASIS	357
<u>Ms. Sāra Krustiņa¹</u>	
<i>1. Riga Stradins University, Latvia</i>	

Hemodynamically significant spontaneous splenorenal shunt closure after liver transplantation: case report	358
<u>Mr. Kārlis Stāks</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
HIDDEN IN PLAIN SIGHT: URETHRAL DIVERTICULUM WITH CALCULUS IN AN ADULT FEMALE	359
<u>Ms. Beata Krasovska</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
HIDING IN PLAIN SIGHT: LAPAROSCOPIC MANAGEMENT OF A GIANT HIGH-GRADE ADULT GRANULOSA CELL TUMOR	360
<u>Ms. Arina-Ilinca Gheorghe</u> ¹	
<i>1. "Carol Davila" University of Medicine and Pharmacy, Romania</i>	
INTERVENTIONAL RADIOLOGY-GUIDED MANAGEMENT OF OLIGOMETASTATIC COLORECTAL CANCER IN A FRAIL PATIENT WITH ATYPICAL HEPATIC IMAGING FINDINGS: A CASE REPORT	361
<u>Ms. R Charu</u> - ¹	
<i>1. Riga Stradins University, Latvia</i>	
Intralobar Pulmonary Sequestration in an Adult Patient: A Case Report	362
<u>Ms. Elzė Keburytė</u> ¹ , <u>Ms. Lina Martyna Stankevičiūtė</u> ¹	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
ISOLATED MOTOR TICS AS THE SOLE MANIFESTATION OF MASKED MASTOIDITIS IN A CHILD: A CASE REPORT	363
<u>Ms. Weronika Nowicka</u> ¹ , <u>Ms. Paulina Włodarczyk</u> ¹ , <u>Ms. Barbara Ziaja</u> ¹	
<i>1. Medical University of Silesia, Poland</i>	
LARYNGOTRACHEAL RECONSTRUCTION USING A COSTAL CARTILAGE GRAFT: A CASE REPORT	364
<u>Ms. Goda Ivaškevičiūtė</u> ¹	
<i>1. Vilnius University, Lithuania</i>	
LONG AND COMPLICATED POSTOPERATIVE COURSE AFTER LIPOSUCTION	365
<u>Ms. Polina Podolako</u> ¹ , <u>Ms. Katrīna Terehova</u> ¹	
<i>1. University of Latvia, Latvia</i>	
Low Rectal Adenocarcinoma in a Young Patient: A Case Report	366
<u>Ms. Elzė Keburytė</u> ¹ , <u>Ms. Lina Martyna Stankevičiūtė</u> ¹	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
Management of Multiple, Large Bladder Stones in Patient with Complicated Benign Prostatic Hyperplasia and Chronic Urinary Retention: Case Report	367
<u>Ms. Laura Bērziņa</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
MANAGEMENT OF PEDIATRIC CRANIOSPINAL TUMOR PRESENTING ONLY WITH AN EYELID TICK: A CASE REPORT	368
<u>Mr. Raivis Bricis</u> ¹ , <u>Ms. Laura Sabīne Taurmane</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	

MANAGEMENT OF POSTOPERATIVE ARTHROFIBROSIS AFTER ACL RECONSTRUCTION AND MENISCUS REPAIR: A CASE REPORT.	369
<u>Mrs. Patrīcija Paula Mūrniece¹</u>	
<i>1. Children's Clinical University Hospital, Latvia</i>	
Neglected Pediatric Quadriceps Tendon Rupture with Patellar Avulsion	370
<u>Ms. Paulina Kriauzaite¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
ORTNER'S SYNDROME SECONDARY TO A THORACIC AORTIC ANEURYSM: HOARSENESS AS THE INITIAL PRESENTATION	371
<u>Mr. Nils Zīle¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Pars Plana Vitrectomy for Firework-Related Ocular Injury: a Case Report	372
<u>Ms. Gabrielė Juodžentytė¹, Ms. Jurgita Karčauskaitė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
PERCUTANEOUS SCREW FIXATION OF TRAUMATIC PUBIC SYMPHYSIS DISRUPTION: A CASES SERIES	373
<u>Ms. Vladislava Dikalova¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
PETERSEN'S HERNIA AFTER GASTRIC BYPASS SURGERY: A CASE REPORT	374
<u>Ms. Emīlija Ezeriņa¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
POSTOPERATIVE POSITIONAL NEUROPATHY IN LAPAROSCOPIC SURGERY: A CASE REPORT	375
<u>Ms. Elena Lukoševičiūtė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
PRE-OPERATIVE AIRWAY ASSESSMENT AND PERI-OPERATIVE MANAGEMENT IN A PATIENT WITH A MONTGOMERY VOCAL FOLD IMPLANT UNDERGOING LUMBAR SPINE SURGERY	376
<u>Ms. Ance Dudarenoka¹, Mr. Kārlis Alekšis Upenieks¹, Ms. Linda Kalnīte¹</u>	
<i>1. University of Latvia, Latvia</i>	
RECOGNITION AND MANAGEMENT OF COMPLEX REGIONAL PAIN SYNDROME FOLLOWING TOTAL KNEE ARTHROPLASTY: A CASE REPORT	377
<u>Ms. Letīcija Aelita Ločmele¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
RECONSTRUCTION OF BLADDER EXSTROPHY IN A CHILD – A COMPLEX PATH FROM BIRTH TO ADULTHOOD	378
<u>Ms. Aleksandra Guzowska¹, Mr. Olivier Połec¹</u>	
<i>1. Medical University of Silesia, Poland</i>	
RECURRENCE OF SECONDARY HYPERPARATHYROIDISM AFTER TOTAL PARATHYROIDECTOMY WITH AUTOTRANSPLANTATION NECESSITATING REPEATED ABLATIVE THERAPY: A CASE REPORT	379
<u>Ms. Gytė Gužauskaitė¹</u>	
<i>1. Vilnius University, Lithuania</i>	

Revision case analyses in patients with unicondylar knee replacement	380
<u>Ms. Elisaveta Pisarenko</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
Seconds Away from Cardiac Arrest: Rapid Recognition and Decompression of Bilateral Pneumothorax during Airway Surgery	381
<u>Ms. Anita Megija Miķelsone</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
SEVERE FETAL ANEMIA DUE TO NON-RHD ALLOIMMUNIZATION SUCCESSFULLY MANAGED WITH SERIAL INTRAUTERINE FETAL BLOOD TRANSFUSIONS: A CASE REPORT	382
<u>Mrs. Ana Gorbunova</u> ¹ , <u>Mrs. Gerda Ražauskienė</u> ¹	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
SEVERE VASCULAR PHENOTYPE IN A FAMILY CARRYING AN ACTA2 GENE VARIANT OF UNCERTAIN SIGNIFICANCE	383
<u>Ms. Viktorija Kvedaraitė</u> ¹	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
Slow-Growing Benign Tumor of the Parotid Gland - Not Always Innocent: A Case Study	384
<u>Ms. Kristīne Berķe</u> ¹ , <u>Ms. Sonora Darbote</u> ²	
<i>1. Riga Stradins University, Latvia, 2. University of Latvia, Latvia</i>	
Successful pregnancy after cervical cancer surgery : a case report	385
<u>Ms. Nikola Tupuriņa</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
THE DOMINO EFFECT: SEALING A TYPE IA ENDOLEAK OF A NELLIX STENT-GRAFT ARISING AFTER BRANCHED STENT-GRAFT IMPLANTATION IN THE AORTIC ARCH	386
<u>Mr. Krzysztof Kania</u> ¹ , <u>Mr. Mateusz Stępień</u> ¹ , <u>Ms. Marta Strauchman</u> ¹	
<i>1. Medical University of Silesia, Poland</i>	
THE FIRST IMMEDIATE LYMPHATIC RECONSTRUCTION IN LATVIA DURING BREAST CANCER SURGERY: CASE REPORT	387
<u>Mr. Michal Grucki</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
UNI-PORTAL VATS SLEEVE LEFT UPPER LOBECTOMY FOR CENTRAL TYPICAL CARCINOID	388
<u>Ms. Beatriz Coelho</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
UNILATERAL BIDIRECTIONAL GLENN SHUNT IN HETEROTAXY SYNDROME	389
<u>Mr. Aadi Sunil</u> ¹	
<i>1. Riga Stradins University, Latvia</i>	
Unilateral mandibular fracture with dislocation of preschool aged child	390
<u>Ms. Nikola Gavriļenko</u> ¹	
<i>1. Pauls Stradiņš Clinical University Hospital, Latvia</i>	

USE OF AMNIOTIC MEMBRANE SKIN SUBSTITUTES IN THE MANAGEMENT OF DIFFUSE CHRONIC CUTANEOUS WOUNDS: A CASE REPORT 391

Ms. Emilija Urbonaitė¹, Ms. Mikeila Jazbutytė¹

1. Lithuanian University of Health Sciences, Lithuania

Valve-sparing aortic root replacement with reimplantation of a malignant course right coronary artery in a patient with bicuspid aortic valve 392

Ms. Sirke Anna Pētersone¹

1. Riga Stradins University, Latvia

Paediatrics

A NOVEL PUF60 GENE VARIANT AND ITS ASSOCIATED PHENOTYPE 394

Ms. Gytė Gužauskaitė¹

1. Vilnius University, Lithuania

A RARE AND LIFE-THREATENING X-LINKED LYMPHOPROLIFERATIVE DISEASE TYPE 2 PRESENTING WITH EARLY HLH 395

Mr. Armands Sīlis¹

1. Riga Stradins University, Latvia

ADVERSE NEONATAL OUTCOMES ASSOCIATED WITH MATERNAL INSULIN- TREATED TYPE 2 DIABETES: A CASE REPORT 396

Ms. Lelde Samoviča¹

1. Riga Stradins University, Latvia

ANSWER FOR A SHORT DYSPROPORTIONATE STATURE: X- LINKED SPONDYLOEPIPHYSEAL DYSPLASIA TARDA DIAGNOSIS IN ADOLESCENCE 397

Ms. Gabrielė Neverauskaitė¹

1. Lithuanian University of Health Sciences, Lithuania

CASE REPORT: ACTIVATED PI3K-DELTA SYNDROME AND DIFFUSE LARGE B-CELL LYMPHOMA OF THE ROOT OF THE TONGUE IN AN ADOLESCENT PATIENT 398

Ms. Dārta Valdovska¹

1. Riga Stradins University, Latvia

Chronic pulmonary aspergillosis (*Aspergillus fumigatus*) in a 15-year-old patient: a case report 400

Ms. Elīna Stage¹

1. Riga Stradins University, Latvia

DE NOVO KCNA1 MISSENSE VARIANT ASSOCIATED WITH EPISODIC ATAXIA AND EPILEPSY IN A 17-YEAR-OLD GIRL: CASE REPORT 401

Ms. Kamilė Kulytė¹, Mrs. Meda Maliorė¹

1. Lithuanian University of Health Sciences, Lithuania

ECMO AS A LIFE-SAVING THERAPY IN A NEONATE WITH CONGENITAL CHYLOTHORAX AND NOONAN SYNDROME. A CASE REPORT. 402

Ms. Anastasija Dementjeva¹

1. Riga Stradins University, Latvia

ECMO SUPPORT AND DYNAMIC LUNG REMODELING IN SEVERE LEFT-SIDED CONGENITAL DIAPHRAGMATIC HERNIA: A CASE REPORT	403
<u>Mrs. Annija Grantina¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Epstein–Barr Virus–Associated Hemophagocytic Lymphohistiocytosis in a 2-Year-Old Latvian Child: A Case Report	404
<u>Ms. Līva Annija Vītola¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
GASTRIC INFLAMMATORY MYOFIBROBLASTIC TUMOR IN A 3-YEAR-OLD CHILD: A CASE REPORT	405
<u>Ms. Krista Eliza Cekule¹</u>	
<i>1. University of Latvia, Latvia</i>	
GIANT CONGENITAL EPULIS DETECTED PRENATALLY: A CASE REPORT	406
<u>Ms. Greta Miškinaitė¹, Ms. Gabija Asipauskaitė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
LATE DIAGNOSIS OF MOSAIC TURNER SYNDROME	407
<u>Ms. Laura Dragu¹</u>	
<i>1. Iuliu Hațieganu University of Medicine and Pharmacy, Romania</i>	
MASTOIDITIS AND CEREBRAL VENOUS SINUS THROMBOSIS AS A COMPLICATION OF CHRONIC OTITIS MEDIA IN A PEDIATRIC PATIENT: A CASE REPORT	408
<u>Ms. Goda Ivaškevičiūtė¹</u>	
<i>1. Vilnius University, Lithuania</i>	
MISLEADING ELEVATION OF TROPONIN I IN PAEDIATRIC CARDIOLOGY	409
<u>Mr. Žygimantas Migauskas¹, Mr. Arminas Sveboda¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
Myelodysplastic Syndrome with Monosomy 7 in a 14-Year-Old Patient	410
<u>Ms. Ilze Rudoviča¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
NEONATAL MYELOMENINGOCELE WITH HYDROCEPHALUS AND COEXISTING CONGENITAL ANOMALIES: A CASE REPORT	411
<u>Ms. Greta Miškinaitė¹, Ms. Gabija Asipauskaitė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
PEDIATRIC HYPERSENSITIVITY PNEUMONITIS: A DIAGNOSTIC CHALLENGE	412
<u>Ms. Justina Rečiūnaitė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
PROGRESSIVE FAMILIAL INTRAHEPATIC CHOLESTASIS TYPE 3 COMPLICATED BY HEPATOPULMONARY SYNDROME IN AN ADOLESCENT: SUCCESSFUL MANAGEMENT WITH LIVER TRANSPLANTATION	413
<u>Ms. Anna Braževiča¹, Ms. Polina Braževiča¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Sinonasal alveolar rhabdomyosarcoma in a 4-year-old patient: a case report	414
<u>Mrs. Madara Ketlīna Štarka-Rantiņa¹</u>	
<i>1. Riga Stradins University, Latvia</i>	

SYSTOLIC MURMUR AS FIRST MANIFESTATION OF PRIMARY CARDIAC FIBROMA IN 5 MONTHS OLD BOY: A CASE STUDY	415
<u>Ms. Taisija Domraceva¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
THE IMPORTANCE OF COCHLEAR IMPLANTATION TIMING FOR SPOKEN LANGUAGE DEVELOPMENT IN USHER SYNDROME: A COMPARATIVE CASE REPORT	416
<u>Ms. Anita Stepena¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
WHEN A BENIGN LESION BECOMES CRITICAL: MIDGUT VOLVULUS FROM MESENTERIC LYMPHANGIOMA IN AN INFANT	417
<u>Ms. Kotryna Simkunaite¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
WHEN BLOOD GLUCOSE DROPS: A CASE REPORT OF GENETICALLY CONFIRMED CONGENITAL HYPERINSULINISM IN A NEWBORN	418
<u>Mr. Mateusz Okonek¹, Ms. Anna Paczkowska¹, Ms. Kinga Drzewińska¹</u>	
<i>1. Medical University of Gdańsk, Poland</i>	
Oncology & Hematology	
A Lung Tumor with Endocrine Power: Typical Pulmonary Carcinoid as a Cause of Ectopic Acromegaly	420
<u>Mr. Olivier Połec¹, Ms. Aleksandra Guzowska¹</u>	
<i>1. Medical University of Silesia in Katowice, Poland</i>	
A PATIENT WITH HIGH-RISK EARLY TRIPLE-NEGATIVE BREAST CANCER AND A CONFIRMED BRCA1 MUTATION WHO IS BEING TREATED WITH OLAPARIB.	421
<u>Ms. Rasa Rasuma¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
A rare case of intramedullary diffuse leptomeningeal glioneural tumor in a 12-year-old.	422
<u>Ms. Marija Kairāne¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
A RARE CASE OF VAGINAL MELANOMA WITH SUCCESSFUL TREATMENT AND LONG-TERM SURVIVAL: A CASE REPORT	423
<u>Ms. Laura Jonāne¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
A RARE COMPLICATION ASSOCIATED WITH EPIDURAL ANALGESIA IN CHILDBIRTH	424
<u>Ms. Agnese Pridāne¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
ATYPICAL PRESENTATION OF MULTIPLE MYELOMA PATIENT WITH A LARGE PARIETAL BONE SOFT TISSUE MASS AND UPPER ARM INVOLVEMENT- CASE REPORT	425
<u>Ms. Jeļizaveta Ponomarjova¹</u>	
<i>1. University of Latvia, Latvia</i>	

CARDIAC MANIFESTATIONS AS THE PREDOMINANT PRESENTATION OF UNDIAGNOSED CARCINOID SYNDROME IN METASTATIC SMALL INTESTINAL NEUROENDOCRINE TUMOR	426
<u>Ms. Anastasija Makarova¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
CHALLENGES OF A MULTIDISCIPLINARY APPROACH IN DIFFUSE LARGE B-CELL NON-HODGKIN LYMPHOMA WITH MECHANICAL ILEUS: A CLINICAL CASE REPORT	428
<u>Ms. Polina Braževiča¹</u> , <u>Ms. Anna Braževiča¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
CHEMOTHERAPY-INDUCED INTERSTITIAL PNEUMONITIS IN A CHILD WITH ACUTE LYMPHOBLASTIC LEUKEMIA	429
<u>Ms. Ance Zeidaka¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
CLEAR CELL RENAL CELL CARCINOMA WITH INFERIOR VENA CAVA AND RIGHT ATRIAL TUMOR THROMBUS IN A POLYTRAUMA PATIENT	430
<u>Mr. Maksimilians Rate¹</u> , <u>Ms. Jeļizaveta Ponomarjova¹</u> , <u>Mr. Gustavs Viļums¹</u>	
<i>1. University of Latvia, Latvia</i>	
CLINICAL DUALITY OF HAIRY CELL LEUKEMIA VARIANT: A TWO-PATIENT CASE SERIES	431
<u>Ms. Viktorija Bankoviča¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
DESMOID-TYPE FIBROMATOSIS IN A YOUNG ADULT: A DECADE OF REFRACTORY DISEASE AND EMERGING RESPONSE TO PAZOPANIB	432
<u>Ms. Marta Ločmele¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Diffuse large B-cell lymphoma of the temporalis muscle with infiltration of the temporal lobe	433
<u>Mrs. Maria Marcak¹</u> , <u>Ms. Anna Kożuch²</u>	
<i>1. Medical University of Silesia, Poland, 2. Medical University of Silesia/ Poland</i>	
DISSEMINATED MUCORMYCOSIS MIMICKING BACTERIAL ABSCESES: A RADIOLOGICAL DIAGNOSTIC CHALLENGE: A CASE REPORT	434
<u>Mr. Matas Šimkus¹</u> , <u>Mr. Vaidas Pijadin¹</u> , <u>Ms. Edita Družaitė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
EXPLORING THROMBOTIC THROMBOCYTOPENIC PURPURA: CLINICAL COMPLEXITY, DIAGNOSTIC HURDLES, AND TREATMENT SUCCESSES	435
<u>Mr. Antoniu Flavius Pop¹</u> , <u>Mr. Matei Labo¹</u> , <u>Mrs. Olga Maria Iova¹</u> , <u>Ms. Maria Curean¹</u>	
<i>1. University of Medicine and Pharmacy "Iuliu Hatieganu" Cluj-Napoca, Romania</i>	
FROM POLYDIPSIA TO PRECISION THERAPY: A CASE OF ERDHEIM-CHESTER DISEASE	436
<u>Mr. Arturs Titovs¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
GASTROINTESTINAL STROMAL TUMOR OF THE STOMACH	437
<u>Ms. Gabija Dadurkaite¹</u> , <u>Ms. Agne Talackaite¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	

Juvenile xanthogranuloma in a 13-year-old girl - a rare base-of-tongue tumor	438
<u>Ms. Agnieszka Sawina¹</u>	
<i>1. Medical University of Silesia in Katowice</i>	
KRUKENBERG TUMOR MIMICKING PRIMARY OVARIAN MASS WITH NORMAL TUMOR MARKERS LEADING TO FATAL OUTCOME: A CASE REPORT	439
<u>Mr. Vilius Medvedevas¹, Mr. Naglis Kalvaitis¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
LYMPHOCYTE-DEPLETED HODGKIN LYMPHOMA COMPLICATED BY SECONDARY HEMOPHAGOCYTIC LYMPHOHISTIOCYTOSIS: A CASE REPORT	440
<u>Ms. Kristina Rakūnaitė¹, Ms. Viktorija Staseliūnaitė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
MULTIDISCIPLINARY MANAGEMENT OF HEPATOCELLULAR CARCINOMA WITH DISCORDANT BONE METASTASIS OF UNKNOWN PRIMARY : AN INTERVENTIONAL ONCOLOGY CASE REPORT	441
<u>Ms. Pooja Nagarkoti¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Multifocal Non-Melanoma Skin Cancer Associated with Chronic Sun Exposure in an Elderly Patient A Case Report	442
<u>Mrs. Jekaterina Varena¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Mycosis Fungoides Mimicking Psoriasis: A Clinical Case with Delayed Diagnosis	443
<u>Ms. Sanija Agnese Amoliņa¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Neuroepithelial tumor with PATZ1 fusion: A two-patient case series and a literature review	444
<u>Ms. Anna Kosinkina¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
PEMBROLIZUMAB-INDUCED COMPLETE RESPONSE IN SOLITARY ADRENAL METASTASIS OF LUNG ADENOCARCINOMA	445
<u>Ms. Karolina Ciakaite¹, Ms. Kotryna Simkunaite¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
Perirenal Marginal Zone Lymphoma in a Patient with Long-Standing Myasthenia Gravis: A Rare Association of Autoimmunity and Lymphoproliferative Disease	446
<u>Ms. Eva Kočāne¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Recurrent Borderline Phyllodes Tumour of the Right Breast: A Case Report	447
<u>Mrs. Valērija Isakoviča¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
RETINOBLASTOMA IN IVF PREGNANCY: RB1 PATHOGENIC VARIANT, TREATMENT AND ENUCLEATION IN A PEDIATRIC CASE	448
<u>Ms. Elina Radzina¹</u>	
<i>1. Riga Stradins University, Latvia</i>	

STEREOTACTIC RADIOTHERAPY FOR LOCAL CONTROL OF A RARE UNRESECTABLE PANCREATIC TUMOR	449
Mr. Norbertas Snapkauskas ¹ , Mr. Robertas Kazakevičius ¹	
1. Lithuanian University of Health Sciences, Lithuania	
SYNCHRONOUS BREAST AND OVARIAN MALIGNANCIES WITHOUT BRCA MUTATIONS: A CASE REPORT OF HER2-POSITIVE DISEASE AND NEAR- COMPLETE METABOLIC REMISSION	450
Ms. Ance Sprōģe ¹	
1. Riga Stradins University, Latvia	
The Role of Targeted Therapy with Alectinib in Metastatic ALK-positive Lung Adenocarcinoma: Case Report	451
Ms. Laura Bērziņa ¹	
1. Riga Stradins University, Latvia	
UNUSUAL METASTATIC PATTERN OF MELANOMA: A CASE REPORT	452
Ms. Margarita Anna Rudzīte ¹	
1. Riga Stradins University, Latvia	
WHEN A KIDNEY MASS IS NOT CLEAR CELL CARCINOMA: MOLECULARLY CONFIRMED RENAL EWING SARCOMA IN AN ADULT	453
Mr. Valters Vēģelis ¹	
1. Riga Stradins University, Latvia	
Neurology, Psychiatry, Psychotherapy, Psychosomatics	
A challenging management course of a cranial gunshot injury in a 6-year-old.	455
Ms. Marija Kairāne ¹	
1. Riga Stradins University, Latvia	
A Rare Diagnostic Dilemma: Overlapping Features of Mixed Personality Disorder and Dissociative Identity Disorder	456
Mr. Krišjānis Leja ¹	
1. Riga Stradins University, Latvia	
ACUTE ISCHEMIC STROKE FOLLOWING HORMONAL STIMULATION FOR IN VITRO FERTILIZATION	457
Ms. Ilona Kostadinova ¹ , Ms. Katrīna Terehova ¹	
1. University of Latvia, Latvia	
ACUTE POLYRADICULONEURITIS WITH SEVERE RAPIDLY PROGRESSIVE TETRAPARESIS AND RESPIRATORY FAILURE. A CLINICAL CASE STUDY.	458
Mr. Marks Roberts Ragže ¹	
1. Riga Stradins University, Latvia	
AMYOTROPHIC LATERAL SCLEROSIS WITH PROMINENT PSYCHIATRIC AND COGNITIVE BEHAVIOURAL IMPAIRMENT	459
Ms. Lelde Sternberga ¹ , Ms. Ance Zeidaka ¹	
1. Riga Stradins University, Latvia	
Cannabis Withdrawal Syndrome with Delirium in a 17-Year-Old Patient: A Case Report.	460
Mrs. Ieva Balaisiene ¹ , Ms. Kamilē Kačinskaitē ¹	
1. Lithuanian University of Health Sciences, Lithuania	

CASE REPORT ON PATHOLOGICAL GAMBLING IN PARANOID SCHIZOPHRENIA: INTEGRATED PHARMACOLOGICAL TREATMENT AND THE MINNESOTA MODEL	461
<u>Ms. Anastasija Nikitina¹, Ms. Kotryna Vaicekauskaitė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
CASE REPORT: AUTOIMMUNE ENCEPHALITIS OF UNKNOWN ETIOLOGY DIAGNOSTICS AND THERAPY METHODS IN CHILDREN'S CLINICAL UNIVERSITY HOSPITAL IN LATVIA	462
<u>Ms. Lote Urtāne¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
CHRONIC PAIN PARTIALLY RESPONSIVE TO KETAMINE AND INTERVENTIONAL THERAPY: THE IMPACT OF PSYCHOLOGICAL AND SYSTEMIC COMORBIDITIES	463
<u>Ms. Elena Lukoševičiūtė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
EARLY-ONSET HEREDITARY SPASTIC PARAPLEGIA: A CASE REPORT	464
<u>Ms. Ieva Češūnaitė¹</u>	
<i>1. Vilnius University, Lithuania</i>	
FACIAL COLLICULUS SYNDROME FROM VERTEBRAL ARTERY DISSECTION: A CASE REPORT	465
<u>Ms. Elīza Jeruma¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
First-Episode Psychosis in a Young Adult with Recent Psychoactive Substance Use	466
<u>Mr. Marius Janušauskas¹, Ms. Agnė Radavičiūtė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
MANAGEMENT OF TREATMENT-RESISTANT SCHIZOPHRENIA IN THE CONTEXT OF ANTIPSYCHOTIC MEDICATION INTOLERANCE: CASE REPORT	467
<u>Ms. Viltė Bijanskytė¹, Ms. Kamilė Kulytė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
MIRROR THERAPY FOR RESOLUTION OF PHANTOM ITCH FOLLOWING ONCOLOGIC BELOW-ELBOW AMPUTATION IN AN ADOLESCENT	468
<u>Mr. Rod Kheiri¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
MISTAKEN IDENTITY: A PRESUMED AMPHETAMINE USE UNMASKING A LIFE-THREATENING OPIOID OVERDOSE	469
<u>Mr. Dins Mironovs¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
NEUROLOGICAL DEFICITS WITHOUT STRUCTURAL DAMAGE: TRANSIENT SPINAL CORD INJURY WITH FUNCTIONAL PARAPARESIS	470
<u>Ms. Anna Bumbiere¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
RARE CASE OF GUILLAIN-BARRÉ SYNDROME WITH FACIAL DIPLEGIA AND DISTAL PARESTHESIAS	471
<u>Ms. Karina Antonova¹, Mr. Arturs Kļeščevņikovs¹</u>	
<i>1. Riga Stradins University, Latvia</i>	

Recognizing neuroborreliosis in clinical practise: a case report	472
<u>Mrs. Kristiāna Maskava-Pudāne¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
REHABILITATION OUTCOME AFTER ANTI-HMGCR ANTIBODY ASSOCIATED NECROTISING MYOPATHY: A CASE REPORT	473
<u>Ms. Alise Gaiķe¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Sinogenic Subdural Empyema Mimicking Acute Stroke in an Adolescent Patient	474
<u>Ms. Emīlija Arsentjeva¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
The relationship between cognitive reserve and long-term and short-term memory indicators and evoked potential P300 wave amplitude in older adults	475
<u>Ms. Marija Sprugevica¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
TUBERCULOUS MENINGOENCEPHALITIS WITH RECURRENT CEREBROSPINAL FLUID FLOW OBSTRUCTION AND PROLONGED INTENSIVE CARE TREATMENT	476
<u>Ms. Jana Iljina¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
UNEXPLAINED COMA POST-CARFILZOMIB: ITTP IN MULTIPLE MYELOMA	477
<u>Ms. Ieva Naravaitė¹</u>	
<i>1. Lithuanian University of Health Sciences, Lithuania</i>	
Gynaecology, Gynaecological surgery, Obstetrics, Perinatology	
A benign ovarian cyst mimicking borderline ovarian tumor during pregnancy: case report	479
<u>Ms. Olga Junina¹, Ms. Anna Ābola¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
APPENDIX EPILOICA INCARCERATION IN THE UTERINE WALL AFTER SURGICAL EVACUATION OF PLACENTAL TISSUE IN THE LATE POSTPARTUM PERIOD	480
<u>Ms. Luīze Emīlija Laveniece¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Fetal macrosomia with birth weight 5,2 kg : a case report	481
<u>Mrs. Anna Drozdecka¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
Pyometra with Uterine Wall Perforation Complicated by Purulent Peritonitis and Sepsis	482
<u>Ms. Melanie Zaytseva¹</u>	
<i>1. Riga Stradins University, Latvia</i>	
RECURRENT PREGNANCY LOSS ASSOCIATED WITH SERPINE1 4G/4G POLYMORPHISM: SUCCESSFUL PREGNANCY FOLLOWING ANTITHROMBOTIC AND HORMONAL PROPHYLAXIS	483
<u>Mrs. Marta Luiza Ziverte¹</u>	
<i>1. Riga Stradins University, Latvia</i>	

Dentistry, Maxillofacial Surgery & Otorhinolaryngology, Otorhinolaryngologic surgery

Cochlear implant magnet displacement during lumbar spine MRI: a case report

485

Ms. Ewelina Porzycka¹

1. Medical University of Silesia in Katowice, Poland

Invasive Cervical Resorption as a Late Complication of Dental Trauma: A Case Report

486

Mrs. Elizabete Korule-Ceriņa¹

1. Riga Stradins University, Latvia

Myorelaxing splint therapy effect on patient with Class III malocclusion and temporomandibular disorder: A case report

487

Ms. Elizabete Aira Magone¹

1. Riga Stradins University, Latvia

Internal Medicine

B CELL PROFILING IN PERIPHERAL BLOOD AND PEYER'S PATCHES IN IGA NEPHROPATHY

Ms. Aysha Rafeeqe¹

1. Riga Stradins University, Latvia

Keywords

IgA nephropathy; B cells; Peyer's patches; GdIgA1; spectral flow cytometry

Objectives

IgA nephropathy (IgAN) is driven by the production of galactose-deficient IgA1 (GdIgA1) and the formation of immune complexes that mediate kidney injury. Although B cells are the source of pathogenic antibodies, the tissue niches and activation pathways that give rise to GdIgA1-producing cells remain incompletely understood. We recently identified an expanded population of GdIgA1⁺ B cells in the peripheral blood of IgAN patients, consistent with precursors of GdIgA1 antibody-secreting cells. Here, we developed a tissue-compatible mononuclear cell isolation protocol and a unified spectral flow cytometry B cell panel to enable matched profiling of Peyer's patches and peripheral blood from IgAN patients and healthy controls (HCs).

Methods

The study was approved by the Central Medical Ethics Committee (No.01-29.1.2/3696). Intestinal biopsies containing Peyer's patches from IgAN patients and HCs underwent sequential epithelial stripping, enzymatic digestion, filtration, and Percoll density-gradient enrichment. Paired peripheral blood mononuclear cells were isolated using BD Vacutainer CPT tubes. Mononuclear cells were stained with a unified spectral flow cytometry panel and acquired on a BD FACSDiscover S8.

Results

We established a standardized workflow that enables parallel preparation and spectral flow cytometric analysis of B cells from Peyer's patch-derived mononuclear cells and peripheral blood. The unified panel permits consistent identification of major B cell populations, including antigen-experienced B cells, CD27⁻CD21⁺Ig⁺ cells, and GdIgA1⁺ antibody-secreting cells, supporting matched cross-compartment profiling.

Conclusions

These tools provide the foundation for future mechanistic studies aimed at dissecting B cell activation pathways and mucosal niche contributions to pathogenic IgA responses in IgAN. Funding: Latvian Council of Science (No.lzp-2024/1-0487).

CLINICAL SIGNIFICANCE OF SUDDEN CARDIAC DEATH IN YOUNG ATHLETES AND ANATOMICAL ASPECTS OF TOPOGRAPHY OF CORONARY ARTERIES

Mr. Adrians Fomins¹, Ms. Elīza Škinča¹

1. Rīga Stradiņš University, Latvia

Keywords

Sudden cardiac death, coronary artery pathologies, athletes.

Objectives

Sudden cardiac death (SCD) is the leading medical cause of death in young professional athletes (aged 18–25), defined as a natural, unexpected cardiac death within an hour of symptom onset, with or without underlying structural cardiac abnormalities. In young athletes, the cardiac morphological alterations, like coronary artery-related causes, are predominant, as structural pathologies are harder to diagnose and not included in mandatory screenings (Kim *et al.*, 2024). Thus, the aim is to review contemporary literature on SCD in young athletes, identify main risk groups, analyze clinical significance of underlying pathologies, examine coronary artery topography through dissection.

Methods

Literature analysis was conducted using PubMed and ScienceDirect, reviewing studies published between 2021 and 2025. A human cadaver provided by the Anatomy Laboratory of the Department of Morphology, Rīga Stradiņš University, was dissected, and its coronary artery origins and branches were analyzed.

Results

Male SCA/D incidence is 1/35,000, 3.5 times greater than in females. High-risk sports include basketball, football, and ice hockey (up to 10 times greater risk) (Harmon *et al.*, 2022). Dissection showcased normal origins - a.coronaria dextra from sinus aorticus dextra, branching into a.interventricularis posterior, a.coronaria sinistra from sinus aorticus sinistra, branching into a.interventricularis anterior and a.circumflexa (Kesieme *et al.*, 2024). Coronary-related SCD causes (anomalous origin, bridging, spasm, vasculitides, infarction, ischemia) can cause exercise-induced ischemia and fatal arrhythmias (Yow *et al.*, 2024). Current preparticipation screening relies on physical examination, with ECG rarely included. In high-risk groups, routine echocardiography, cardiac MRI and CT, coronary angiography are crucial to identify abnormalities, particularly coronary artery anomalies. Emergency action plans and automated external defibrillators improve survival to 70% (Iroulart *et al.*, 2024).

Conclusions

Young athlete SCD incidence is volatile yet reducible. Targeted pre-participation screening for athletes is essential to mitigate risk. Emergency equipment and education are necessary to improve survival rates.

Internal Medicine I

(Cardiology, Pulmonology)

AUTOIMMUNE MYOCARDITIS SECONDARY TO INFECTION, COMPLICATED BY CARDIOGENIC SHOCK AND MULTIPLE ORGAN FAILURE: A CASE REPORT

Ms. Meda Burdulytė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Keywords: autoimmune myocarditis, cardiogenic shock, multiple organ failure, pericardiocentesis, immunosuppressive therapy.

Introduction

Autoimmune myocarditis involves myocardial inflammation driven by inappropriate immune response. It may present with a wide spectrum of clinical manifestations, from mild symptoms to severe heart or multiple organ failure.

Case Description

A 60-year-old female treated for complicated tonsillitis developed acute clinical deterioration with severe dyspnea and chest pain, indicated rehospitalization. Initial ultrasound revealed poor left ventricular (LV) systolic function (EF 25-30%), fluid in the pericardium above the right ventricle and collapsing left ventricle. Chest CT-pulmonary embolism excluded, signs of congestion. The patient was transferred to Cardiac Intensive Care Unit, and due to cardiogenic shock treatment with dobutamine and norepinephrine was initiated, as well as empirical antibiotic therapy with ampicillin/sulbactam and clindamycin. Echocardiographic evidence of progressive cardiac tamponade prompted pericardiocentesis. Cytological analysis revealed inflammatory changes, and myocardial biopsy supported the diagnosis of autoimmune myocarditis. High-dose methylprednisolone therapy was initiated, leading to hemodynamic stabilization, tapering vasopressors and glucocorticoids, normalization of LV systolic function (EF 55%), and initiation of physiotherapy. The treatment course was complicated with acute renal injury, condition resolved with conservative management.

Summary

This case demonstrates significance of a multidisciplinary team approach and potential critical complications of autoimmune myocarditis triggered by an infectious process: severe cardiogenic shock accompanied by multi-organ dysfunction.

Conclusions

Key measures in diagnosing autoimmune myocarditis and its complications include early echocardiographic assessment, timely pericardiocentesis, targeted antibiotic therapy, and immunosuppressive treatment.

CATHETER ABLATION OF CARDIAC GANGLIA FOR SYMPTOMATIC BRADYCARDIA

Ms. Kristīne Belova¹

1. Riga Stradins University, Latvia

Keywords

Catheter Ablation, Ganglionated Plexi, Bradycardia, Presyncope, Autonomic Nervous System.

Introduction

Symptomatic bradycardia due to excessive vagal influence can cause syncope and significantly reduce quality of life, particularly in young patients without structural heart disease. Although permanent pacemaker implantation is the standard treatment, catheter ablation of cardiac ganglia has emerged as a novel approach to restore physiological heart rate and prevent bradycardic episodes.

Case Description

A 35-year-old woman presented with progressively worsening dizziness over the past year and recurrent presyncopal episodes. Since 2022, resting ECGs have documented second-degree type II sinoatrial block. Over three years, five Holter monitor recordings were performed, each revealing more than 1000 sinus pauses exceeding 2000 ms, with the longest pause lasting 4278 ms. Given the symptomatic bradyarrhythmia, catheter ablation of the cardiac ganglionated plexi guided by a 3D mapping system was performed. Following the procedure, no significant sinus pauses were recorded on follow-up monitoring, and the patient experienced complete resolution of clinical symptoms, thereby avoiding the need for permanent pacemaker implantation.

Summary

A young woman with long-standing sinoatrial conduction disease presented with recurrent presyncope and frequent prolonged sinus pauses. Despite multiple Holter recordings confirming significant bradyarrhythmia, pacemaker implantation was deferred. She underwent 3D mapping-guided catheter ablation of cardiac ganglionated plexi, after which sinus pauses were abolished and symptoms resolved completely. This case demonstrates that cardioneuroablation can serve as an effective alternative to permanent pacing in selected patients with functional sinus node dysfunction.

Conclusions

Cardioneuroablation effectively eliminated prolonged sinus pauses and resolved symptoms in a patient with functional sinoatrial dysfunction. This intervention provided a safe and effective alternative to permanent pacemaker implantation in selected patients.

ETIOLOGY MATTERS: PROGNOSTIC PERFORMANCE OF PULMONARY EMBOLISM RISK SCORES IN UNPROVOKED VERSUS PROVOKED CASES

Mr. Rolands Paluga¹

1. Riga Stradins University, Latvia

Keywords

Pulmonary embolism, unprovoked pulmonary embolism, sPESI, PESI.

Objectives

Acute pulmonary embolism (PE) is a clinically heterogeneous condition with variable short-term outcomes. Although prognostic risk stratification tools are routinely applied across all PE patients, their performance has been insufficiently evaluated in etiologically distinct subgroups. This study aims to assess the prognostic performance of established risk stratification tools in provoked versus unprovoked PE.

Methods

This retrospective cohort study included 825 consecutive patients with objectively confirmed acute PE treated between 2018 and 2025. PE was classified as provoked or unprovoked according to established clinical criteria. Prognostic tools evaluated were the Pulmonary Embolism Severity Index (PESI) and simplified PESI (sPESI). The primary endpoint was 30-day all-cause mortality. Prognostic performance was assessed in the overall cohort and in etiological subgroups using logistic regression and receiver operating characteristic (ROC) analysis. Exploratory analyses evaluated the incremental prognostic value of right ventricular dysfunction and cardiac biomarkers.

Results

In the overall cohort, both PESI and sPESI were associated with 30-day mortality. PESI demonstrated good discrimination ($AUC \approx 0.74$) and remained an independent predictor of mortality ($OR \approx 1.02$ per point, $p < 0.001$). sPESI showed moderate discrimination ($AUC \approx 0.68$) when analyzed as a binary variable. In provoked PE, PESI retained prognostic significance, whereas sPESI demonstrated reduced performance. In unprovoked PE, PESI showed attenuated but statistically significant prognostic value ($AUC \approx 0.70$), while sPESI did not demonstrate a significant association with mortality. Across etiological subgroups, the addition of right ventricular dysfunction ($p > 0.20$) or cardiac biomarker positivity (all $p > 0.10$) did not result in meaningful improvement in discrimination or model fit.

Conclusions

The prognostic performance of PE risk stratification tools is etiology-dependent. While PESI remains robust across etiological subgroups, sPESI shows reduced prognostic utility in unprovoked PE. These findings highlight limitations of uniform risk stratification and suggest that PE etiology should be considered when applying prognostic tools.

FIRST CLINICAL EXPERIENCE WITH DARATUMUMAB-BASED IMMUNOCHEMOTHERAPY IN SYSTEMIC AL AMYLOIDOSIS WITH HEART FAILURE IN LATVIA: A CASE REPORT

Ms. Maira Kaša¹

1. Riga Stradins University, Latvia

Keywords

AL amyloidosis, amyloid cardiomyopathy, heart failure, NT-proBNP, kappa free light chains

Introduction

Systemic light chain (AL) amyloidosis with amyloid cardiomyopathy remains a significant therapeutic challenge, as heart failure is the main predictor of prognosis and often limits treatment options. This case illustrates the feasibility and clinical benefit of daratumumab - based immunochemotherapy as an alternative treatment option in advanced cardiac amyloidosis when conventional chemotherapy is ineffective or associated with significant adverse effects.

Case Description

A 63-year-old woman patient presented with progressive dyspnea and fatigue. Initial evaluation revealed moderate left ventricular hypertrophy with restrictive diastolic dysfunction and preserved ejection fraction (57%). NT-proBNP was markedly elevated at 22128.0 pg/mL. Laboratory evaluation demonstrated elevated serum kappa free light chains (121.7 mg/L), and bone marrow biopsy confirmed clonal plasma cell proliferation. Endomyocardial biopsy confirmed AL-type amyloid cardiomyopathy. Initial treatment with cyclophosphamide-bortezomib-dexamethasone was discontinued due to acute transaminase elevation, and the clinical course was further complicated by a left renal infarction. Treatment was later resumed with daratumumab-based therapy, which was well tolerated. Following treatment, kappa free light chains normalized, suggesting a hematologic response. Two years after completion of therapy NT-proBNP has decreased to 856.8 pg/mL, and the patient remained clinically stable with good functional status.

Summary

This case highlights that daratumumab - based therapy can be an effective and well-tolerated in advanced amyloid cardiomyopathy.

Conclusions

Patient achieved a marked and sustained reduction in NT-proBNP along with significant clinical improvement, emphasizing the importance of flexible, individualized therapy in the management of complex AL amyloidosis.

FREQUENCY OF ANTIARRHYTHMIC DRUG PRESCRIPTIONS AND THEIR IMPACT ON REHOSPITALIZATION RATES FOLLOWING CARDIOVERSION FOR ATRIAL FIBRILLATION IN LATVIAN EMERGENCY DEPARTMENTS

Mr. Ivans Mirzozans¹, Mr. Sergejs Čapulis¹, Ms. Julija Zabrodina¹

1. Riga Stradins University, Latvia

Keywords

antiarrhythmic drugs, beta-blockers, rehospitalization, atrial fibrillation, emergency department

Objectives

To describe discharge pharmacotherapy after cardioversion for atrial fibrillation (AF) in emergency departments (EDs) and to assess associations between rehospitalization, age, and arterial hypertension (AH).

Methods

A retrospective study of 522 AF-related hospitalizations managed in the EDs of Pauls Stradiņš Clinical University Hospital and Riga East University Hospital (2022–2025). Data on diagnostic evaluation, treatment strategy, and discharge pharmacotherapy were collected. SPSS was used for descriptive and inferential statistics. The study is ongoing.

Results

Of 522 hospitalizations, 351 (67.2%) had no AAD therapy at presentation, whereas 171 (32.8%) occurred under ongoing AAD treatment. In the no-prior-AAD group, a new AAD was initiated in 8.5% (30/351), most commonly amiodarone (n=14) and etacizine (n=10), followed by sotalol (n=4) and propafenone (n=2). Among hospitalizations with newly prescribed AADs, 33.3% (10/30) were followed by rehospitalization, with 8 events occurring within one year.

At admission, BB therapy was recorded in 55.4% (289/522), while 44.6% (233/522) had no BB use. Among those not receiving BBs at admission, BBs were newly prescribed in 33.9% (79/233); of these, 22.8% (18/79) were followed by rehospitalization. Combined therapy (AAD+BB) was recommended in 5 hospitalizations, with one rehospitalization >1 year later.

Age was associated with rehospitalization (Kendall's $\tau_b = -0.166$, $p < 0.001$), consistent with older age linked to shorter time to rehospitalization. Arterial hypertension (AH) was also associated: rehospitalization occurred in 43.0% with AH (182/423) vs 23.2% without AH (23/99), $\chi^2(1) = 13.179$, $p < 0.001$, with adjusted residuals (± 3.6) indicating excess rehospitalizations in AH.

Conclusions

AADs were newly initiated infrequently, whereas BBs were more commonly prescribed after AF-related ED management. Rehospitalization rates among patients started on new AADs or BBs remained considerable. Older age and AH were strongly associated with increased rehospitalization, underscoring the need for targeted post-discharge follow-up and aggressive risk factor control in high-risk patients.

From MINOCA to Significant Diagonal Branch Stenosis: Unmasking a Flush Occlusion.

Ms. Anna Stanaszek¹

1. Jagiellonian University Medical College, Poland

Keywords

MINOCA; Flush coronary occlusion; Coronary angiography

Introduction

Myocardial infarction with non-obstructive coronary arteries (MINOCA) is a heterogeneous clinical syndrome defined by myocardial injury without significant angiographic stenosis. According to guidelines, MINOCA should be considered a working diagnosis rather than a final entity. Increasing evidence suggests that many MINOCA cases represent type 1 myocardial infarction due to plaque disruption or thrombosis, including acute ostial (flush) occlusions that may remain undetected on angiography.

Case Description

An 59-year-old male with hypertension, hypercholesterolemia, and HFmrEF was admitted with suspected acute myocardial infarction and typical anginal chest pain. Electrocardiography (ECG) showed sinus rhythm with ST-segment elevations in lateral leads and markedly elevated troponin I (35,881 pg/mL). Echocardiography revealed regional wall motion abnormalities. Emergency coronary angiography detected non-obstructive coronary artery disease, with up to 30% stenosis in the LAD and left marginal branch. Despite strong clinical, ECG, and biochemical evidence of STEMI, no culprit lesion was identified. After comprehensive evaluation and failure to localize the lesion, the search was concluded, and the patient was managed conservatively with optimal medical therapy. He was discharged in stable condition with a plan for follow-up. Repeat coronary angiography month later revealed a previously undetected critical 90% stenosis in the proximal diagonal branch (DG), suggesting this lesion represents the initially missed flush occluded artery. The lesion was successfully treated with implantation of a drug-eluting stent (DES, 2.25 × 23 mm), and the patient remained hemodynamically stable and asymptomatic post-procedure.

Summary

This case highlights that MINOCA may conceal an underlying significant coronary lesion, such as a flush diagonal branch occlusion, emphasizing the need for careful follow-up.

Conclusions

In the presence of strong clinical suspicion, reliance on angiography alone may be insufficient, as subtle or concealed lesions can be easily overlooked. In these situations, repeat angiography combined with IVUS or OCT becomes essential.

Inclisiran: Alone or in Combination? Data From Latvia

***Ms. Katrīna Loceniece**¹*

1. Riga Stradins University, Latvia

Keywords

inclisiran, monotherapy, combination therapy, lipid profile

Objectives

Hypercholesterolemia is associated with coronary artery disease development and progression. Aggressive treatment with statins and ezetimibe has been the standard for years, but despite that, some patients are unable to lower lipid profiles. Our study included the effects of inclisiran in patients receiving monotherapy compared to dual or triple therapy.

Methods

A retrospective observational study was conducted, which collected data through a patient laboratory result portal analysing patients' who started inclisiran therapy. Lipid profiles (total cholesterol, LDL-C, HDL-C, and triglycerides) were measured at baseline and at three, six, and twelve months. Then, statistical analysis and result comparison were performed to understand how monotherapy differs from combination therapy in this patient population.

Results

The study included 86 participants, with 15 patients in the monotherapy group, 25 in the dual therapy, and 46 in the triple therapy. The lowest LDL levels found were in the triple therapy group, with a reduction in levels by 59% (3.39 mmol/l to 1.38 mmol/l) by nine months to one year after initiation of inclisiran therapy ($p = 0.015$). In comparison, the dual therapy group had a 36.2% reduction (from 3.48 mmol/l to 2.13 mmol/l) and in the monotherapy group by 45.1% (from 3.95 mmol/l to 2.17 mmol/l). For total cholesterol and TAG levels, the best results were seen in dual and triple combination therapy groups. There were no significant distinctions between the three groups for any of the comorbidities.

Conclusions

Overall, the study provides insightful information regarding the use of inclisiran in combination with other medication groups to help lower LDL, total cholesterol, and TAG levels. Our research further streamlines opportunities to decrease high lipid markers for patients, giving clinicians another tool to help fight cardiovascular disease.

INFILTRATIVE CARDIOMYOPATHY AS THE PRIMARY MANIFESTATION OF MULTIPLE MYELOMA AND SYSTEMIC AL AMYLOIDOSIS

***Mr. Karolis Vasiliauskis**¹*

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Multiple myeloma; AL amyloidosis; Infiltrative cardiomyopathy

Introduction

Multiple myeloma a clonal plasma cell pathology can be complicated by systemic AL amyloidosis. Amyloid fibrils frequently accumulate in the heart causing infiltrative cardiomyopathy with diastolic dysfunction and fibrosis. This report discusses a case where cardiac symptoms were the primary presentation of malignancy.

Case Description

A 61-year-old male presented with tachycardia, persistent hypotension, significant weight loss and diffuse bone pain. Diagnostic imaging via CT confirmed multiple osteolytic foci, while a rib lesion biopsy confirmed plasmacytoma with amyloidogenic protein deposits. Although bone marrow aspiration showed no massive invasion a cardiac MRI revealed left ventricular hypertrophy (~17 mm) and diffuse fibrosis confirming infiltrative cardiomyopathy consistent with AL amyloidosis. The patient was initiated on first-line therapy with the Dara-VTD regimen. At the four-week follow-up patient remained stable with future plans for autologous stem cell transplantation pending hematological response.

Summary

Approximately 10–15% of multiple myeloma patients have AL amyloidosis with cardiac involvement in over 75% of cases. This case highlights that unexplained hypertrophy and hypotension warrant immediate monoclonal protein screening. Rapid eradication of the plasma cell clone using daratumumab-based combinations is critical for survival.

Conclusions

Clinicians must maintain high suspicion for oncohematological malignancies in patients with new-onset heart failure and infiltrative cardiomyopathy. Interdisciplinary management is essential for diagnosis and determining candidacy for stem cell transplantation.

LATE-ONSET PACEMAKER POCKET INFECTION IN THE SETTING OF RECURRENT STAPHYLOCOCCUS AUREUS SEPSIS

Ms. Emilija Daugėlaitė¹, Ms. Milda Lekšaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Cardiac implantable electronic device (CIED); Sepsis; Late-onset device infection

Introduction

Permanent CIEDs act as foreign bodies, predisposing patients to infection and serving as a source of *Staphylococcus aureus* bacteremia (SAB). SAB can compromise the device, increase morbidity, and often require explanation, underscoring the need for early recognition and management of CIED-related infections.

Case Description

December 2025 an 84-year-old man with sick sinus syndrome and a permanent pacemaker implanted in 2017 presented to the emergency department with a three-week history of progressive swelling at the pacemaker pocket site accompanied by nocturnal chest pain. Physical examination revealed a painful hematoma with overlying erythema at the device pocket. Patient's medical history included ischemic heart disease, paroxysmal atrial fibrillation, arterial hypertension, dyslipidemia, and chronic heart failure. Since 2024, he had experienced six episodes of SABs treated with antibiotics. Moreover, during these episodes, intermittent pain and erythema at the pacemaker pocket were reported, while ultrasound demonstrated mildly infiltrated subcutaneous tissues without definitive signs of infection. At the current admission, ultrasound revealed a localized collection of non-transparent fluid surrounding the CIED. Aspiration of the pocket showed microerythrocytes, polymorphonuclear leukocytes, and occasional lymphocytes, consistent with a suppurative hematoma. Culture from the pacemaker pocket grew *Staphylococcus aureus*, whereas blood cultures remained negative. Due to these results antibiotic therapy was initiated. Despite antimicrobial treatment, progressive pocket swelling persisted, prompting complete removal of the dual-chamber pacemaker system. Transthoracic echocardiography revealed a left ventricular ejection fraction of 20%, and electrocardiography demonstrated complete left bundle branch block. Therefore, a cardiac resynchronization therapy pacemaker was implanted to the right side after a negative blood culture.

Summary

This case illustrates the importance of early recognition of CIED involvement in SAB to ensure effective management.

Conclusions

Late CIED pocket infection illustrates the bidirectional risk between device and systemic infection, reinforcing early diagnosis, careful monitoring, and individualized management to prevent complications.

LEFT VENTRICULAR EJECTION FRACTION RECOVERY AFTER TAKOTSUBO SYNDROME: A 3–6-MONTH ECHOCARDIOGRAPHIC COHORT STUDY

Mr. Ivans Mirzojans¹

1. Riga Stradins University, Latvia

Keywords

Takotsubo syndrome, stress cardiomyopathy, left ventricular ejection fraction, echocardiography.

Objectives

Takotsubo syndrome (TTS) is a reversible acute heart failure syndrome that mimics acute coronary syndrome (ACS) and can be complicated by arrhythmias and thromboembolism. Medium-term left ventricular recovery and its determinants remain incompletely defined. We aimed to describe the clinical, ECG, and echocardiographic features of TTS hospitalizations and quantify LVEF recovery at 3–6 months in a prospective follow-up cohort.

Methods

We included 56 InterTAK-confirmed TTS hospitalizations: retrospective (n=33) and prospective follow-up (n=23). The prospective cohort had symptom assessment and repeat transthoracic echocardiography at 3–6 months. Data are reported as n (%) or mean $\pm$ SD. LVEF change was tested with a two-tailed paired sign test ($\alpha=0.05$); correlations used Spearman's ρ .

Results

Mean age was 69.2 ± 11.7 years, with female predominance (50/56, 89.3%). Mean InterTAK Diagnostic Score was 45.1 ± 17.4 .

At presentation, mean LVEF was $45.4 \pm 9.7\%$ (n=52), with reduced, mildly reduced, and preserved LVEF in 36.5%, 30.8%, and 32.7%, respectively. ECG findings commonly showed T-wave inversion (42.9%) and ST-segment elevation (41.1%), with QT prolongation (28.6%), pathological Q waves (25.0%), and ST depression (23.2%); LVOT obstruction occurred in 7.1%.

In-hospital complications were uncommon: acute heart failure and atrial fibrillation/flutter (each 14.3%), stroke/TIA (3.6%), and cardiogenic shock, ventricular arrhythmias, and pulmonary embolism (each 1.8%). Lower baseline LVEF correlated with older age (Spearman $\rho = -0.38, p=0.006$) and higher NT-proBNP ($\rho = -0.55, p<0.001$). In those with paired echocardiograms (n=23), LVEF improved significantly (sign test $p=0.00012$), reaching $\geq 50\%$ in 91.3%, with 8.7% remaining mildly reduced.

Conclusions

In this mixed cohort of 56 TTS patients, early systolic dysfunction was frequent, yet 3–6 month LVEF recovery was near-universal. Over 90% with paired echocardiograms normalized LVEF, with significant improvement. These results support favorable TTS prognosis and routine post-discharge echocardiography to confirm recovery and detect persistent dysfunction. This Latvia investigator-initiated TTS registry will continue to define long-term recovery and late complications.

ORAL ANTICOAGULANT PRESCRIBING PATTERNS FOR ATRIAL FIBRILLATION PATIENTS AFTER CARDIOVERSION IN LATVIAN EMERGENCY DEPARTMENTS

Mr. Sergejs Čapulis¹, Mr. Ivans Mirzajans¹, Ms. Julija Zabrodina¹

1. Riga Stradins University, Latvia

Keywords

Atrial fibrillation, oral anticoagulant, Emergency Department

Objectives

Atrial fibrillation (AF) is the most prevalent cardiac arrhythmia worldwide, and stroke remains its most severe complication. Although clinical guidelines clearly recommend oral anticoagulants (OAC) for stroke prevention, real-world clinical practice often diverges from these recommendations.

This study aims to assess current prescription patterns in Emergency Departments of Latvia's largest hospitals and identify potential gaps in stroke prevention.

Methods

Data from 522 AF patients treated at Pauls Stradins Clinical University Hospital (PSKUS) and Riga East University Hospital (RAKUS) from 2022–2025 were analysed using IBM SPSS. Metrics included AF duration, medications, chronic diseases and discharge recommendations

Results

273 patients (52.3 %) were on OAC treatment prior to hospitalization, while 249 (47.7 %) were not using any OAC. After cardioversion, at discharge, 85 out of the 249 patients (34.1 %) received a first-time OAC prescription. Tendency to recommend OAC first-time prescription varied by CHA₂DS₂-VA score and year:

for score = 0, in 2022 28.6 % (n-14); in 2025 33.3 % (n-3)

for score = 1, in 2022 47.8 % (n-23); in 2025 25% (n-4)

for score = ≥ 2 , in 2022 25.6 % (n-43); in 2025 55.6 % (n-18)

In 6 cases (4.5 %) patients were recommended to use antiaggregant instead of OAC.

In 38 out of 42 (90.5 %) cases, when sinus rhythm was not restored, 4-week OAC therapy and following electrocardioversion (ECV) were recommended.

Rivaroxaban was the most commonly prescribed first-time OAC (68.8 %), followed by edoxaban (17.7 %) and apixaban (5.3 %).

Conclusions

Although adherence to ESC guidelines and tendency to prescribe OAC according to CHA₂DS₂-VA score improved over the years, particularly in high-risk patients, substantial gaps in OAC prescribing remain. A notable proportion of eligible patients were still discharged without OAC, highlighting the need for more standardized and consistent clinical practice to optimize stroke prevention.

Progression of Atrial Fibrillation and Associated Complications in a Real-World Cohort

Ms. Everita Kupriša¹

1. Riga Stradins University, Latvia

Keywords

Atrial fibrillation, disease progression, atrial fibrillation complications

Objectives

Atrial fibrillation (AF) frequently progresses due to ongoing electrical and structural remodeling, leading to increased risk of stroke, heart failure, and healthcare utilization. The objective of this study was to evaluate the rate of AF progression during follow-up and to assess associated complications and the influence of pharmacological therapy and comorbidities on progression in a real-world cohort.

Methods

This was a single-center observational cohort study of 341 patients with documented AF who underwent structured ambulatory follow-up. Multivariable logistic regression and Cox proportional hazards analyses were applied to identify independent predictors of AF progression using IBM SPSS statistical software.

Results

Mean age was 64.8 ± 10.5 years and median follow-up was approximately 52 months. AF progression occurred in 25.7% (n=88) of patients, including transition to permanent AF in 14.3%. Hospitalization for AF paroxysms was required in 45.2% of patients (606 admissions), and 29.6% underwent electrical cardioversion (341 procedures). Complications included ischemic stroke 2.1%, hemorrhagic stroke 0.3%, heart failure decompensation 2.1%, syncope 1.5%, pulmonary embolism 0.3%, and clinically relevant bleeding 1.2%. Class IC antiarrhythmic therapy was associated with lower risk of AF progression (HR 0.78; $p=0.013$), and electrical cardioversion was also associated with reduced progression (OR 0.32; $p=0.029$). Comorbidity burden—including CHA₂DS₂-VASc score, NYHA class, and overall comorbidity count—was not independently associated with AF progression ($p>0.05$). Left atrial volume index correlated inversely with left ventricular ejection fraction ($\rho = -0.355$; $p<0.05$), but neither parameter correlated with AF progression.

Conclusions

One quarter of patients experienced AF progression accompanied by high rates of hospitalization and clinically relevant complications. Electrical cardioversion and Class IC therapy were associated with lower progression risk, while baseline comorbidity burden and echocardiographic markers did not predict progression. These findings emphasize the need for proactive rhythm-control strategies and close monitoring to reduce AF-related morbidity.

REM SLEEP-RELATED CATATHRENIA MIMICKING OBSTRUCTIVE SLEEP APNOEA: A CASE REPORT

Ms. Elija Jančauskaitė¹, Ms. Žavinta Laikūnaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Catathrenia, sleep-related disorder, polysomnography, REM sleep, daytime sleepiness

Introduction

Sleep-related breathing complaints are common reason for referral to pulmonologist. Some conditions may mimic sleep apnoea but have a different clinical background. Catathrenia is a rare disorder that is often recognized only after polysomnographic evaluation.

Case Description

A male patient was admitted to the Pulmonology Department for further evaluation of suspected obstructive sleep apnoea. According to the patient, abnormal breathing during sleep had been noticed by his relatives for approximately six years. He reported frequent nocturnal awakenings (three to four times per night), nocturia, non-restorative sleep, daytime sleepiness, and morning headaches. The patient had no known chronic diseases, did not use regular medication, and denied cardiovascular or thyroid disease, head trauma, and sedative use. Four years earlier, he had undergone nasal septum surgery. Over the previous six months, his body weight had increased by 10 kg. He had a smoking history of 10 pack-years. On examination the patient was obese (BMI 30.3 kg/m²). Epworth Sleepiness Scale was 5 points. Spirometry was normal. Polysomnography demonstrated total sleep time of 436.8 minutes, sleep efficiency of 91.1%, and REM sleep duration of 34.1%. The apnoea-hypopnea index was 5.9 events per hour, however these events represented breathing movements during REM sleep that imitated central sleep apnoea. Oxygen desaturation was minimal. Findings were consistent with REM sleep-related catathrenia.

Summary

The patient was investigated for suspected obstructive sleep apnoea. Polysomnography excluded clinically significant sleep apnoea and identified catathrenia as the cause of nocturnal breathing disturbances.

Conclusions

Catathrenia may present with long-standing sleep-related symptoms and mimic sleep apnoea. Polysomnography is essential for accurate diagnosis and appropriate patient management.

RISK SCORE ASESMENT IN PATIENTS WITH A PULMONARY EMBOLISM

Mr. Kristaps Salmiškis¹, Mr. Rolands Paļuga¹, Mr. Aleksejs Karols¹, Mr. Artūrs Vecbaštiks¹, Mr. Niklāvs Nemme¹, Ms. Renāta Rimdjonoka¹

1. Riga Stradins University, Latvia

Keywords

Pulmonary embolism, risk scores, anticoagulation

Objectives

To assess and compare the prognostic performance of three clinical risk scores (sPESI, HESTIA, BOVA) in predicting 30-day and 12-month mortality, bleeding, recurrent venous embolism in patients with pulmonary embolism (PE), and to evaluate the impact of laboratory markers, treatment strategies, and comorbidities on outcomes.

Methods

A retrospective study including consecutive 326 PE patients (2016–2025) from the RIETE registry. Clinical, laboratory, and treatment data were analyzed. Descriptive statistics were performed to summarize patients demographic, clinical and laboratory characteristics. ROC analyses, Chi-square test, and binary logistic regression models were used to identify predictors of outcomes.

Results

None of the clinical scores showed significant discriminative ability for 30-day or 12-month mortality, bleeding or recurrent venous embolism (AUC <0.6, $p > 0.05$).

Elevated D-dimer levels ($p < 0.05$), leukocytosis ($p < 0.05$) were associated with both 30-day and 12-month mortality, suggesting their role as early and persistent prognostic markers. Patients treated with other anticoagulation regimens (UFH, VKA or thrombolytic therapy) had significantly higher 12-month mortality ($p < 0.05$). LMWH therapy was associated with significantly lower 30-day and 12-month mortality ($p < 0.05$), while NOACs showed a positive but non-significant trend. Prior diagnosis of chronic kidney disease ($p < 0.05$) and chronic pulmonary diseases ($p < 0.05$) were significant comorbid predictors. Patients with ≥ 2 comorbidities had markedly worse outcomes ($p < 0.05$).

Conclusions

Patients treated with LMWH had lower 30-day and 12-month mortality, while those receiving NOACs showed a positive but non-significant trend.

Patients treated with other regimens (UFH, VKA, thrombolytics) had significantly higher 12-month mortality, likely reflecting more severe clinical presentation.

Chronic kidney disease and chronic pulmonary diseases are independent prognostic factors for long-term mortality. Elevated D-dimer levels and leukocytosis serve as both early and long-term predictors of mortality in PE patients.

A combined approach incorporating clinical, laboratory and therapeutic factors, might provide a more accurate prediction than traditional scores alone.

Spontaneous Reduction in Premature Ventricular Contraction Burden While Awaiting Catheter Ablation

***Ms. Beatrise Brikovska**¹*

1. University of Latvia, Latvia

Keywords

Premature ventricular contractions; PVC burden; Catheter ablation; Holter monitoring; Longitudinal follow-up.

Objectives

To assess longitudinal changes in PVC burden in patients awaiting catheter ablation.

To quantify the magnitude of change in PVC burden during the waiting period.

Methods

Patients with documented PVCs who were placed on the waiting list for catheter ablation were included in the study (n = 125). The average waiting time for the procedure was 3 years. Over the course of one year, all patients on the waiting list were evaluated at Pauls Stradiņš Clinical University Hospital for changes in physical well-being, as well as for objective changes detected by 24-hour Holter monitoring and echocardiography.

Patients with at least two available measurements of PVC burden obtained at different time points were eligible for longitudinal analysis. Changes in ectopic burden were assessed by comparing the first and last Holter recordings. Patients were stratified according to the duration of the observation period, and trends in PVC burden over time were analyzed using descriptive statistics.

Results

A total of 101 patients with two documented Holter monitor recordings were included in the analysis. Across all observation-period groups, the majority of patients demonstrated a reduction in PVC burden while awaiting catheter ablation. The proportion of patients exhibiting a decrease in ectopic burden increased with longer follow-up duration, reaching 77.6% among patients with an observation period of ≥ 2 years. Furthermore, the median percentage change in PVC burden became progressively more negative with increasing intervals between measurements, indicating a time-dependent trend toward spontaneous reduction in ectopic activity.

Conclusions

In patients awaiting catheter ablation, PVC burden frequently decreases over time, with more pronounced reductions observed during longer waiting periods. These findings suggest substantial natural variability in ectopic activity and underscore the importance of considering spontaneous changes in PVC burden when planning interventional treatment.

THERAPEUTIC POSSIBILITIES OF VENTRICULAR ELECTRIC STORM TREATMENT IN LATVIA

***Ms. Katrina Verbovenko**¹*

1. Riga Stradins University, Latvia

Keywords

Keywords. Ventricular arrhythmia; Ventricular electric storm; Amiodarone; Stellate ganglion block; Catheter ablation

Introduction

Introduction. Ventricular electrical storm (VES) is characterized by recurrent episodes of ventricular arrhythmias, occurring at least three times within 24 hours, with intervals of at least five minutes between episodes, requiring implantable cardioverter-defibrillator (ICD) shocks. It develops in approximately 25% of ICD patients and is associated with poor short-term and long-term prognosis, particularly in those with reduced left ventricular ejection fraction (EF). VES is a medical emergency requiring multidisciplinary interventions.

Case Description

Case description. A 67-year-old man with chronic heart failure (NYHA III, EF 30%) and 8-year prior myocardial infarction presented with tachycardia, multiple ICD discharges, dyspnea. Electrocardiogram revealed recurrent polymorphic ventricular tachycardia, and ICD event history showed more than three discharges within 24 hours and evidence of device exhaustion, confirming the diagnosis of VES. Initial therapy with intravenous amiodarone was complicated by hyperthyroidism, and subsequent lidocaine was ineffective. The patient was intubated, placed under deep sedation with midazolam, fentanyl, propofol. A stellate ganglion block was performed, but without clinical improvement. After multidisciplinary consultation, catheter ablation was performed under extracorporeal membrane oxygenation (ECMO) support. Following stabilization, a cardiac resynchronisation therapy device (CRT-D) was implanted, and ECMO was removed, resulting in hemodynamic recovery.

Summary

Summary. This study presents a case of VES in a patient with chronic heart failure and prior myocardial infarction. The patient was treated according to the ESC guidelines. Despite initial complications of pharmacologic therapy, the patient was stabilized using invasive methods.

Conclusions

Conclusions. VES is a life-threatening condition. This case highlights the importance of early diagnosis, stepwise, individualized management in achieving successful stabilization.

TROMBEMBOLIC MYOCARDIAL INFRACTION CAUSED BY PATENT FORAMEN OVALE IN 31 YEARS OLD PATIENT

Mr. Mikus Bernots¹

1. Riga Stradins University, Latvia

Keywords

Patent foramen ovale; paradoxical embolism; embolic myocardial infarction; deep vein thrombosis, young adult

Introduction

Patent foramen ovale (PFO) is a frequent anatomical variant, present in up to one third of the adult population, yet it is rarely clinically consequential. Under specific hemodynamic conditions, PFO may serve as a conduit for paradoxical embolism, most commonly manifesting as ischemic stroke. Myocardial infarction resulting from this mechanism is exceptionally rare and poses a significant diagnostic challenge, particularly in young patients without traditional cardiovascular risk factors.

Case Description

A 31-year-old male with no history of cardiovascular disease presented with acute chest pain. Electrocardiography and elevated cardiac biomarkers (CK-MB, Troponin I) confirmed acute myocardial infarction in the left ventricle inferior wall. Emergency coronary angiography demonstrated thrombotic occlusion of the right coronary artery (RPL branch) without angiographic evidence of atherosclerotic disease. Percutaneous coronary intervention with thrombus aspiration and balloon angioplasty was successfully performed. Subsequent investigations revealed deep vein thrombosis of the left lower extremity. Transthoracic and transesophageal echocardiography identified a patent foramen ovale (~3 mm) with right-to-left shunting during Valsalva maneuver, accompanied by right heart dilation and severe pulmonary hypertension. Comprehensive evaluation excluded inherited thrombophilia and antiphospholipid syndrome. The overall findings supported paradoxical embolism as the most plausible etiology of myocardial infarction. Long-term anticoagulation was initiated, and the patient was scheduled for percutaneous PFO closure.

Summary

This case demonstrates a rare but clinically critical mechanism of myocardial infarction caused by paradoxical embolism through a PFO. Careful integration of invasive and non-invasive diagnostics was essential for establishing the underlying pathophysiology.

Conclusions

In young patients with myocardial infarction and angiographically non-atherosclerotic coronary arteries, paradoxical embolism should be actively considered. Recognition of this mechanism has important implications for secondary prevention and long-term management strategies.

**Internal Medicine II
(Gastroenterology,
Nephrology,
Endocrinology,
Rheumatology)**

A SINGLE-CENTER RETROSPECTIVE COHORT STUDY OF DENOSUMAB THERAPY IN MEN WITH OSTEOPOROSIS (OSTEOPROM PART 4)

Ms. Anastasija Makarova ¹

1. Riga Stradins University, Latvia

Keywords

Male Osteoporosis; Denosumab; Bone Mineral Density; Fractures.

Objectives

Osteoporosis in men remains underdiagnosed and understudied compared with women, despite a substantial burden of fractures and associated morbidity. While denosumab is a well-established antiresorptive therapy, evidence regarding its effectiveness in male patients is limited. This study aimed to assess the effects of denosumab on bone mineral density, fracture incidence, and some laboratory data in men with osteoporosis.

Methods

This retrospective observational cohort study from 2014 to 2025 included 76 men with osteoporosis. Patient demographics, body mass index, osteoporosis duration, prior antiosteoporotic treatment, oral glucocorticoid exposure, and fracture history were analyzed. Bone mineral density at the lumbar spine (L1–L4) and total mean hip was assessed using dual-energy X-ray absorptiometry. Serum cholecalciferol, parathyroid hormone, and calcium levels were measured before, after or during denosumab therapy. Fracture incidence before and during treatment was recorded, and descriptive statistical analysis was performed.

Results

The mean men age was 65.7 years, with 75% of men aged ≥ 60 years. Prior to therapy, 40.8% of patients had sustained fractures, including vertebral fractures in 14.5%. During treatment, fractures were observed in 5.3% of patients, predominantly non-vertebral. Lumbar spine BMD increased by >0.05 g/cm² in 42% of patients and remained stable (± 0.05 g/cm²) in 32% during treatment. At the total mean hip, 63.2% of patients demonstrated a clinically significant increase in BMD. The prevalence of cholecalciferol deficiency (≤ 30 ng/mL) decreased from 18.4% before to 4.0% during treatment. A mild increase in serum PTH levels was noted, while calcium levels remained within the normal range. No major adverse cardiovascular events occurred.

Conclusions

Denosumab therapy in men with osteoporosis was associated with improved bone mineral density and reduced fracture incidence. These findings support denosumab as an effective treatment option for male osteoporosis, a population that remains underrepresented in clinical research.

CASE REPORT ON HASHIMOTO ENCEPHALOPATHY

Ms. Kotryna Vaicekauskaite¹, Ms. Anastasija Nikitina¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Hashimoto's encephalopathy
Autoimmune thyroiditis
Encephalopathy
Corticosteroid therapy

Introduction

This case highlights the diagnostic challenges of Hashimoto's encephalopathy due to its nonspecific and heterogeneous clinical presentation, while demonstrating the effectiveness of appropriate treatment.

Case Description

A 76-year-old man was hospitalized with relapsing–remitting encephalopathy manifested by disorientation and vestibuloataxia. His condition deteriorated with progressive neuropsychiatric symptoms and recurrent generalized seizures, with consciousness declining to 9 points on the Glasgow Coma Scale. Neuroimaging revealed diffuse cerebral atrophy and an atypical right frontal meningioma. Laboratory testing showed markedly elevated anti-thyroid peroxidase antibodies (>1000 IU/ml) and a grade III nodular goiter. The clinical course was complicated by aspiration pneumonia, sepsis, and respiratory failure requiring intensive care. After exclusion of autoimmune encephalitis, Hashimoto's encephalopathy was diagnosed. Intravenous methylprednisolone resulted in gradual clinical improvement, followed by oral prednisone therapy. The patient regained mobility with residual vestibuloataxia and was transferred for rehabilitation.

Summary

Hashimoto's encephalopathy can present with nonspecific and fluctuating neuropsychiatric symptoms, including altered consciousness, seizures, and behavioral changes, making early diagnosis challenging.

Objectives

This case report aims to highlight the diagnostic challenges of Hashimoto's encephalopathy and the effectiveness of timely corticosteroid therapy.

Results

The patient presented with relapsing–remitting encephalopathy, progressive neuropsychiatric symptoms, and recurrent generalized seizures, with impaired consciousness (Glasgow Coma Scale score of 9), markedly elevated anti-thyroid peroxidase antibodies (>1000 IU/ml), nonspecific neuroimaging findings, and no evidence of infectious or autoimmune encephalitis; initiation of intravenous methylprednisolone resulted in marked clinical improvement, recovery of consciousness, cessation of seizures, and functional improvement allowing transfer to rehabilitation.

Conclusions

Hashimoto's encephalopathy is a rare, diagnostically challenging disorder with diverse clinical manifestations, in which early corticosteroid therapy can lead to significant recovery even in severe cases.

CHANGES IN BONE AND MINERAL METABOLISM BEFORE AND AFTER KIDNEY TRANSPLANTATION: A SINGLE-CENTER STUDY IN LATVIA

Ms. Ilze Skrastiņa¹, Ms. Ksenija Bozunova¹

1. Riga Stradins University, Latvia

Keywords

CKD-MBD

Kidney transplantation

Glucocorticoid-induced bone disease

Objectives

Kidney transplant recipients are at increased risk of bone and mineral disorders due to chronic kidney disease–mineral and bone disorder (CKD-MBD) and immunosuppressive therapy. This study aimed to evaluate changes in bone and mineral metabolism, fracture prevalence, dialysis exposure, comorbidities, and parathyroidectomy rates before and after kidney transplantation.

Methods

This retrospective single-center observational study included 96 adult patients, treated at a national transplant center in Latvia, who underwent kidney transplantation between January 1, 2023 and December 31, 2024. Clinical characteristics, dialysis modality, comorbidities, glucocorticoid use, laboratory parameters, hyperparathyroidism status, parathyroidectomy, and fracture history were analyzed before and after transplantation.

Results

Mean patient age was 50.4 ± 12.9 years, and 54.2% were male. Prior to transplantation 94.8% of patients received dialysis and 5.2% underwent preemptive transplantation. Arterial hypertension was present in 96.9% of patients and diabetes mellitus in 8.3%. Secondary and tertiary hyperparathyroidism was observed in 81 (84.4%) and 12 (12.5%) patients, respectively; 7 patients (7.3%) had undergone parathyroidectomy. After transplantation, renal function and mineral metabolism improved significantly: serum creatinine decreased from 760.6 ± 271.0 to $139.7 \pm 126.6 \mu\text{mol/L}$, phosphorus from 2.15 ± 0.73 to $1.05 \pm 0.30 \text{ mmol/L}$, and iPTH from 313.1 ± 298.7 to $128.9 \pm 114.8 \text{ pg/mL}$, while calcium increased from 2.36 ± 0.32 to $2.44 \pm 0.19 \text{ mmol/L}$ and vitamin D from 22.1 ± 14.0 to $30.1 \pm 13.8 \text{ ng/mL}$. Secondary hyperparathyroidism persisted in 70.8%, and 4.2% required parathyroidectomy. Fractures occurred in 13.6% before and 8.4% after transplantation. Post-transplant diabetes mellitus increased to 33.3% of patients, arterial hypertension persisted in 95.8% and 87.5% received long-term glucocorticoid therapy.

Conclusions

Although kidney transplantation substantially improved renal function and mineral metabolism, persistent hyperparathyroidism, post-transplant comorbidities, glucocorticoid exposure, and continued fracture occurrence highlight the necessity for long-term bone health surveillance in kidney transplant recipients.

EFFICACY OF DIFFERENT PLASMA THERAPY METHODS IN PATIENTS WITH HYPERBILIRUBINAEMIA

*Ms. Lorīna Jesse*¹

1. Riga Stradins University, Latvia

Keywords

Plasma exchange therapy; bilirubin adsorption ; hyperbilirubinemia; hepatic jaundice.

Objectives

Untreated hyperbilirubinemia and jaundice are frequent complications of liver disease that may progress to secondary biliary cirrhosis and cause significant emotional burden. This study aimed to evaluate the efficacy of plasma exchange therapy in patients with hepatic jaundice and to identify factors influencing treatment effectiveness.

Methods

A retrospective study included 43 patients (23 women, 20 men) with hepatic jaundice and hyperbilirubinaemia of hepatic origin treated with plasma exchange therapy between January 2016 and December 2025 at the RAKUS, Latvian Centre of Infectious Diseases, Liver Diseases Unit. Patients without clinical improvement after pharmacological treatment were included. Patients were stratified by age (20–39 years, n = 18; 40–59 years, n = 10; ≥60 years, n = 15). Mean total bilirubin levels before and after therapy were 396 µmol/L and 248 µmol/L, respectively. Pre- and post-treatment laboratory parameters were analyzed. Therapeutic efficacy was defined by bilirubin reduction and clinical improvement in jaundice, and associations with clinical factors were statistically assessed.

Results

Thirty-one out of 43 patients demonstrated both a significant reduction in total bilirubin and visible clinical improvement in jaundice. Among responders, mean bilirubin reduction was 192 ± 86 µmol/L ($p < 0.001$). Bilirubin reduction did not differ significantly between diagnosis groups (one-way ANOVA, $F(4,43) = 1.408$, $p = 0.250$). Patients without cirrhosis had a higher response rate than those with cirrhosis (92.3% vs 72.7%), though not statistically significant ($p = 0.144$). Older age was significantly associated with ineffective therapy (median age 62.5 vs 34.0 years; $p = 0.002$).

Conclusions

Plasma exchange therapy effectively reduces bilirubin levels in most patients with hepatic jaundice. Treatment efficacy was not influenced by underlying diagnosis or cirrhosis status, while increasing age was associated with reduced therapeutic effectiveness.

End-Stage Kidney Disease With Recurrent Access Thrombosis: A Case of Antiphospholipid Syndrome

Mr. Rokas Žekonis¹, Mr. Matas Žekonis¹

1. Vilnius University, Lithuania

Keywords

CKD, APS, thrombotic microangiopathy

Introduction

Chronic kidney disease (CKD) is a major global health issue, primarily caused by uncontrolled hypertension, diabetes, and various glomerular diseases. However, less common causes can present with misleading symptoms, making diagnosis challenging. We describe a case of kidney failure initially suspected to be hereditary but later identified as antiphospholipid syndrome (APS) following recurrent arteriovenous fistula (AVF) thrombosis.

Case Description

A 45-year-old male presented with severe general weakness and dysphonia. Bloodwork revealed uraemia, hypokalaemia, hypocalcaemia, metabolic acidosis. Findings indicated advanced CKD; kidney biopsy was deferred as it was uninformative due to renal atrophy. Urgent hemodialysis was initiated. Given the sensorineural hearing loss, haematuria and proteinuria, a hereditary nephropathy like Alport syndrome was suspected, but genetic testing was negative. Radiocephalic AVF was created but subsequently thrombosed. Further vascular interventions were attempted but the patient experienced three episodes of AVF thrombosis with no identifiable mechanical cause. Recurrent AVF thrombosis led to further evaluation for thrombophilia. This revealed persistently positive antiphospholipid antibodies, including anti- β 2-glycoprotein I IgG, anticardiolipin IgG, confirming the diagnosis of APS. Long-term anticoagulation therapy with low molecular weight heparins was started. The patient was later placed on the waiting list and successfully underwent transplantation, with good early graft function and no events of systemic thrombosis.

Summary

This case describes an unusual presentation of end-stage kidney disease caused by APS, initially mimicking a hereditary nephropathy. Recurrent AVF thrombosis proved to be the key clinical feature leading to the correct diagnosis.

Conclusions

The kidney is a major target organ in APS, and its involvement presents a significant clinical challenge. This case underscores APS as a crucial yet underrecognized cause of CKD and recurrent AVF thrombosis. Clinicians should maintain broader differential diagnosis in such patients, as recognition of a systemic thrombotic disorder significantly influences subsequent management and outcomes.

EUS AND EN BLOC EMR CLARIFY BIOPSY–RESECTION DISCORDANCE AT THE DISTAL ESOPHAGUS/GEJ LESION: A CASE REPORT

*Ms. Kristīne Ričarda Muceniece*¹

1. Rīga Stradiņš University, Latvia

Keywords

Gastroesophageal junction; endoscopic ultrasound; endoscopic mucosal resection; high-grade dysplasia; biopsy–resection discordance.

Introduction

Accurate staging of suspected early distal esophageal/gastroesophageal junction (GEJ) neoplasia is essential as management ranges from endoscopic therapy to esophagectomy. Forceps biopsy can overestimate or underestimate depth of the invasion; endoscopic ultrasound (EUS) and endoscopic resection can provide depth assessment and guide minimally invasive treatment.

Case Description

A 76-year-old man with atrial fibrillation treated with edoxaban presented with syncope after two weeks of melena and severe anemia (hemoglobin 7.7 g/dL). Anticoagulation was withheld and supportive treatment, including red blood cell transfusion and intravenous iron, was provided. Esophagogastroduodenoscopy revealed a polypoid lesion at the distal esophagus/GEJ; targeted forceps biopsies were reported as well-differentiated adenocarcinoma. Repeat endoscopy with EUS characterized an approximately 0.8 × 1.8 cm superficial lesion without evidence of muscularis propria invasion and without suspicious regional lymph nodes (cT1aN0). En bloc endoscopic mucosal resection (EMR) was performed. Histopathology showed an intestinal-type adenoma with high-grade dysplasia and no definite invasive carcinoma; the lesion's margin status was not reported.

Summary

This case demonstrates clinically relevant discordance between forceps biopsy and resection histology in a distal esophageal/GEJ lesion detected during evaluation of overt bleeding on a direct oral anticoagulant. EUS supported a minimally invasive endoscopic-first approach, while en bloc EMR provided the definitive strategy for diagnosis and management.

Conclusions

Forceps biopsy in distal esophageal/GEJ lesions may misclassify invasion and should not be used in isolation to commit patients to esophagectomy. When EUS suggests superficial, node-negative disease, en bloc endoscopic resection provides the definitive specimen for diagnosis by avoiding sampling error and crush artifact associated with forceps biopsy and guides appropriate surveillance or escalation of therapy.

GLYCOGENIC HEPATOPATHY DUE TO POORLY MANAGED TYPE 1 DIABETES MELLITUS: A CASE REPORT.

***Mr. Niklāvs Nemme**¹*

1. Riga Stradins University, Latvia

Keywords

Glycogenic hepatopathy; Type 1 diabetes mellitus; Hyperglycemia.

Introduction

Glycogenic hepatopathy (GH) is a rare but potentially underdiagnosed complication of diabetes mellitus. In poorly managed type 1 diabetes mellitus (T1DM), prolonged hyperglycemia leads to continuous activation of glycogen synthase, resulting in excessive glycogen accumulation and hepatomegaly. Liver biopsy is the gold standard for diagnosing GH, as glycogen accumulation illustrates the underlying mechanism of hepatocellular injury. Although GH is initially reversible with appropriate glycemic control (GC), prolonged damage can lead to liver cirrhosis.

Case Description

An 18-year-old female with a 12-year history of T1DM was referred to the emergency room by her endocrinologist with suspected diabetic ketoacidosis and poor GC (HbA1c-10.2%). The patient denied any active symptoms and was admitted to evaluate her T1DM treatment. Her vital signs were stable upon admission. Physical examination revealed hepatomegaly with the liver edge palpable 1 cm below the right costal margin, without other clinical signs of liver disease. Her last admission was two weeks ago when she presented with elevated liver enzymes (AST-1992 U/L; ALT-622 U/L). On the latest admission, liver enzymes had improved but remained abnormal (AST-257 U/L; ALT-255 U/L; GGT-257 U/L; ALP-142 U/L). Other causes of liver injury, such as viral and autoimmune hepatitis, were excluded. The patient received appropriate insulin therapy, resulting in good GC, and given the spontaneous improvement in liver enzymes, GH was suspected. Ultrasound-guided CORE liver biopsy confirmed the diagnosis. Her insulin treatment was continued, and she was discharged with stable glucose levels.

Summary

Poorly managed T1DM can cause GH, resulting in liver damage. Biopsy is the method of diagnosis; only timely GC can be preventive.

Conclusions

This case outlines the need to consider GH in T1DM patients with elevated liver enzymes, especially in childhood-onset T1DM. Immediate treatment can prevent and potentially reverse GH, demonstrating that a strict therapy regimen can reduce disease burden.

MIXED MEAL TEST AS A NEW DIAGNOSTIC TOOL FOR DETECTING EARLY PREDIABETES AND TYPE 2 DIABETES

Ms. Helēna Apele¹

1. Riga Stradins University, Latvia

Keywords

Mixed meal test; postprandial glucose; prediabetes; type 2 diabetes

Objectives

Prediabetes and type 2 diabetes mellitus (T2DM) are diagnosed using fasting plasma glucose, HbA1c, or the oral glucose tolerance test (OGTT). Despite its diagnostic value, OGTT is time-consuming and often poorly tolerated. Early postprandial glucose dynamics following a mixed meal test (MMT) may offer an alternative for distinguishing different stages of dysglycemia. The aim of this study was to assess whether early glucose responses to a standardized MMT can discriminate healthy individuals from those with prediabetes and T2DM.

Methods

A MMT was conducted in 45 participants: healthy controls (n=13), individuals with prediabetes (n=17) and T2DM (n=15). Plasma glucose concentrations (GC) were measured at baseline and 30, 60, and 120 minutes after the meal. Early postprandial response were assessed as the relative glucose change from baseline. Group differences were analyzed using the Kruskal–Wallis test with Bonferroni-adjusted post-hoc comparisons.

Results

Fasted GC differed significantly between groups, with lower values observed in controls compared with prediabetes (p.adj=0.044) and T2DM (p.adj=0.002), while no significant difference was detected between prediabetes and T2DM at baseline. Relative increase in GC at 30 minutes after MMT also differed significantly across groups (H=15.02, df=2, p=0.001). Median GC rose by approximately 10% (IQR 92-131%) in baseline in controls, by 33% (IQR 127-146%) in prediabetes, and by 52% (IQR 134-165%) in T2DM. Post-hoc analysis showed significantly greater increases in GC in prediabetes (p.adj=0.034) and T2DM (p.adj<0.001) compared with controls, while no significant difference between prediabetes and T2DM (p.adj=0.415) was observed. Higher GC were also measured at 60 and 120 minutes of MMT.

Conclusions

A higher postprandial glucose response in individuals with prediabetes and T2DM is detectable as soon as 30 minutes after the start of the MMT and may complement conventional diagnostic strategies for prediabetes and T2DM.

PRIMARY HYPERPARATHYROIDISM CAUSED BY CYSTIC ECTOPIC PARATHYROID ADENOMA: A CASE REPORT

*Ms. Helēna Apele*¹

1. Riga Stradins University, Latvia

Keywords

Ectopic parathyroid gland, cystic parathyroid lesion, primary hyperparathyroidism.

Introduction

Ectopic and cystic parathyroid lesions present diagnostic challenges due to atypical anatomical positioning and variable imaging characteristics. Careful preoperative localization is essential to guide surgical management and optimize outcomes.

Case Description

We report a case of a 70-year-old female with biochemical evidence and complications of primary hyperparathyroidism, including marked hypercalcemia (3,02 mmol/L), elevated parathyroid hormone (PTH 517,42 pg/mL), hypophosphatemia (0,62 mmol/L), osteopenia and a history of nephrolithiasis. Neck ultrasonography revealed a thyroid with small colloid cysts and a cystic, vascularized lesion (1,7x1,9x2,6 cm) along the left cervical vessels (zone II), initially interpreted as a potentially destructive lymph node. No parathyroid glands/lesions were visualised in typical anatomical locations. Computed tomography (CT) of the neck demonstrated a cystically transformed nodule within the left neck II–III lymph node groups, suspected to be a necrotic or cystically altered parathyroid adenoma. Selective venous sampling demonstrated significant PTH gradient from the upper left side (reaching 1775 pg/mL). PTH measurement in aspirated cyst fluid revealed extremely elevated levels (>6000 pg/mL), confirming the cystic lesion as the source of hormone excess. Tc99m MIBI with SPECT/CT did not demonstrate parathyroid uptake, presumably due to the cystic nature of the lesion. Surgical excision of the cystic neck mass was performed. Histopathology confirmed a parathyroid adenoma with cystic degeneration. Postoperatively, serum calcium, PTH and phosphorus levels normalized.

Summary

This case illustrates a rare but clinically significant ectopic and cystic parathyroid adenoma requiring complex multimodal evaluation for definitive diagnosis and treatment.

Objectives

Methods

Results

Conclusions

This case highlights the diagnostic complexity of ectopic cystic parathyroid adenomas and the need for multimodal approach combining ultrasonography, CT, scintigraphy and selective venous sampling. Early surgical excision remains critical for optimal outcomes. Effective management requires close multidisciplinary collaboration among endocrinology, radiology, nuclear medicine and endocrine surgery specialists.

PROSPECTIVE EVALUATION OF TESTOSTERONE LEVELS AFTER TESTICULAR CANCER TREATMENT

Ms. Beata Krasovska¹

1. Riga Stradins University, Latvia

Keywords

Testicular cancer, testosterone, chemotherapy

Objectives

Testicular cancer represents approximately 5% of all urological malignancies but predominantly affects young men aged 16–45 years. The introduction of cisplatin-based chemotherapy has increased cancer-specific survival to over 95%. However, growing attention is being paid to long-term treatment-related toxicity, including endocrine dysfunction. This study aimed to evaluate the effect of testicular cancer treatment on total and free testosterone levels.

Methods

This prospective study included patients treated for testicular cancer between 2021 and 2024 at a specialized high-volume center. Patients with available laboratory measurements of total and free testosterone before treatment and 6 months after treatment were analyzed. Two groups were compared: patients treated with orchiectomy followed by chemotherapy and patients treated with orchiectomy alone. Categorical variables were described using frequencies and proportions. Continuous variables were summarized using medians and interquartile ranges (IQR). Changes over time were analyzed using the Wilcoxon signed-rank test.

Results

A total of 38 patients were included: 25 underwent orchiectomy followed by chemotherapy and 13 underwent orchiectomy alone. The median age was 37 years (SD 8). In the chemotherapy group, median total testosterone significantly decreased from 4.1 ng/mL (IQR 3.2–6.6) to 3.8 ng/mL (IQR 3.0–4.8; $p=0.01$). Free testosterone also declined significantly from 241 pmol/L (IQR 185–323) to 221 pmol/L (IQR 176–255; $p=0.008$). In contrast, no significant changes were observed in the surgery-only group for either total testosterone (3.41 vs 3.99 ng/mL; $p>0.999$) or free testosterone (240 vs 249 pmol/L; $p=0.898$).

Conclusions

Chemotherapy for testicular cancer is associated with a significant reduction in both total and free testosterone levels at 6 months post-treatment. Routine endocrine monitoring should be considered to identify and manage hypogonadism and reduce long-term treatment-related morbidity.

SHORT-TERM EFFECTS OF A POLYHERBAL FORMULATION ON THE GUT MICROBIOME IN METFORMIN-TREATED PATIENTS WITH TYPE 2 DIABETES

Ms. Annija Zodāne¹

1. University of Latvia, Latvia

Keywords

gut microbiome, polyherbal formulation, metformin, type 2 diabetes, randomized controlled trial

Objectives

Metformin-induced gastrointestinal intolerance limits treatment adherence in patients with type 2 diabetes and has been linked to alterations in the gut microbiome. This study aimed to evaluate the short-term effects of a polyherbal formulation, used as an add-on to metformin, on gut microbiome composition and CGM-derived glycemic metrics in patients with type 2 diabetes and prior metformin intolerance.

Methods

We report preliminary results from the first 7-day intervention phase of an ongoing randomized, placebo-controlled, crossover clinical trial including 27 adults with type 2 diabetes. Participants received either a polyherbal formulation or placebo alongside their individually tolerated metformin dose. Stool samples were collected before and after the intervention and analyzed using shotgun metagenomic sequencing to assess microbial composition and functional pathways. Glycemic outcomes were evaluated using continuous glucose monitoring.

Results

No significant changes in alpha diversity were observed in either group. However, beta diversity differed significantly between treatment arms (PERMANOVA $R^2 = 0.04$, $p = 0.04$). In the polyherbal formulation group, 17 microbial species changed significantly following the intervention ($FDR < 0.25$), including consistent increases in multiple *Bifidobacterium* species such as *Bifidobacterium adolescentis* and *Bifidobacterium ruminantium*. No major microbiome shifts were observed in the placebo group. Functional profiling in the polyherbal formulation arm indicated modulation of 10 microbial pathways ($FDR < 0.25$). Short-term glycemic metrics assessed by continuous glucose monitoring did not differ significantly between groups.

Conclusions

Short-term co-administration of a polyherbal formulation with metformin selectively modulated the gut microbiome in patients with type 2 diabetes, promoting beneficial bacterial taxa without adversely affecting glycemic control. These findings support further investigation of microbiome-targeted strategies as potential adjuncts to improve metformin tolerability and therapeutic outcomes.

Surgery

ANALYSIS OF AXILLARY LYMPH NODE SURGERY OUTCOMES IN BREAST CANCER

***Mr. Artūrs Vecbaštiks**¹*

1. Riga Stradins University, Latvia

Keywords

Breast cancer; Axillary lymph node dissection; Sentinel lymph node biopsy; Lymph node metastasis.

Objectives

To describe nodal yield and metastatic burden in ALND specimens, identify factors associated with metastatic lymph node rate, and estimate the frequency of axillary metastases in patients with very small, clinically node-negative tumours.

Methods

We performed a retrospective observational study of breast cancer patients with axillary surgery recorded in a single-centre database. For ALND cases, we summarised examined and metastatic lymph node counts.

We fitted a negative binomial regression model with a log link and an offset for the log of examined nodes to evaluate associations between metastatic node rate and age, clinical tumour size, histological grade (1–3), and core-biopsy-derived subtype (HR+/HER2–, HER2+, triple-negative).

In clinically node-negative patients (cN0) with clinical tumour size <11 mm, we calculated the proportion with at least one metastatic lymph node.

Results

The analytic cohort included 699 patients, of whom 137 underwent ALND. In ALND specimens, the mean number of metastatic lymph nodes was 3.18 (SD 3.65; median 2; range 0–15) and the mean number of examined nodes was 11.85 (SD 5.42; median 12; range 1–26). In the negative binomial model, age was associated with a higher metastatic node rate (incidence rate ratio 1.024 per year, $p=0.003$), whereas clinical tumour size, grade, and subtype were not statistically significant. Among cN0 patients with tumours <11 mm ($n=95$), axillary metastases were present in 7.4% (7/95).

Conclusions

In this cohort, ALND typically yielded around 12 nodes with a median of 2 metastatic nodes. After accounting for nodal yield, older age was associated with greater metastatic burden, while tumour size and biology were not. Axillary metastases were uncommon in cN0 tumours <11 mm, supporting a de-escalated axillary approach in carefully selected patients

C-Reactive Protein is a more reliable predictor than leukocytosis for assessing acute diverticulitis severity and mortality

Ms. Jekaterina Jeņenkova¹

1. Riga Stradins University, Latvia

Keywords

Diverticulitis, CRP, WBC

Objectives

To compare the diagnostic and prognostic value of admission CRP and WBC count as predictors of acute diverticulitis severity and mortality.

Methods

This retrospective study at Pauls Stradiņš Clinical University Hospital analyzed adult patients admitted with acute diverticulitis in 2024. Based on the modified Hinchey classification, patients were categorized into two groups: uncomplicated (Hinchey 1a), and complicated diverticulitis (Hinchey $\geq 1b$). Statistical analysis (IBM SPSS) included Mann-Whitney U tests, ROC analysis, and binary logistic regression.

Results

The study included 186 patients with a median age of 60 years. While hospitalization was common (38.7%), mortality remained low (2.2%). Admission CRP levels showed good discriminatory ability for predicting mortality (AUC = 0.882). CRP rose significantly with disease severity ($p < 0.001$), increasing from a median of 37.9 mg/L in uncomplicated cases to 124.8 mg/L in complicated disease. Similarly, WBC counts also showed a significant rise ($p = 0.011$), increasing from a median of $9.2 \times 10^9/L$ in uncomplicated to $11.1 \times 10^9/L$ in complicated cases. ROC analysis identified CRP as a reliable diagnostic marker (AUC = 0.804). The optimal CRP cut-off value for predicting complications was 83.7 mg/L. In contrast, WBC count demonstrated poor diagnostic value (AUC = 0.655). Each 1 mg/L increase in C-reactive protein was associated with a 1.9% increase in the odds of complicated diverticulitis ($p < 0.001$), corresponding to an approximate 20.7% increase in odds for every 10 mg/L rise in CRP.

Conclusions

CRP is a superior biomarker to leukocytosis for grading diverticulitis severity. While WBC count shows a statistically significant increase in complicated cases, its clinical discriminatory power is poor and it does not correlate with mortality. A CRP level exceeding 83.7 mg/L serves as a strong predictor for complicated disease.

EARLY RESULTS OF AORTIC VALVE SPARING ROOT REPLACEMENT SURGERY IN COMPARISON WITH BENTALL PROCEDURE IN ELECTIVE PATIENTS

*Mr. Raivis Bricis*¹

1. Riga Stradins University, Latvia

Keywords

Aortic root aneurysm; Cardiac surgery; Early postoperative results

Objectives

Aortic root surgery is a key treatment for patients with aortic root aneurysms, dissections and other pathologies. The most commonly used surgical methods are the David procedure, which preserves the native aortic valve, while replacing the aorta, and the Bentall procedure, during which the aortic valve is replaced together with the aortic root. This study aimed to compare the early results of these two surgical procedures in a single center experience.

Methods

A retrospective analysis of 61 patients who underwent elective aortic root surgery from January 2022 to December 2024 was conducted. Patient comorbidities, including known connective tissue disorders, as well as operative data, laboratory analyses and echocardiography findings were evaluated.

Results

Patients were divided into two groups based on the procedure- Bentall (n=44) and David (n=17). The age of the patients was 63.18 ± 13.13 and 46.53 ± 13.66 years respectively ($p < 0.001$). Preoperative echocardiographic assessment showed larger left ventricular end-diastolic diameter (62.21 ± 9.61 mm/m² and 54.81 ± 7.77 mm/m², $p = 0.006$), larger left ventricular end-systolic diameter ($p = 0.043$), and lower left ventricular ejection fraction (52.31 ± 9.67 % and 57.19 ± 6.59 %, $p = 0.034$) in patients undergoing the Bentall procedure. Regarding surgical data, David group showed a longer cardiopulmonary bypass ($p < 0.001$) and aortic cross-clamp times ($p < 0.001$). Postoperative echocardiography results favoured valve-sparing surgery, with lower mean and peak transvalvular gradients (both $p < 0.001$), lower peak velocity ($p = 0.019$) and higher left ventricular ejection fraction (49.95 ± 9.02 % and 55.94 ± 5.31 %, $p = 0.014$). ICU stay was significantly shorter in the David group ($p = 0.035$), while total hospital length of stay did not statistically differ between groups ($p = 0.082$).

Conclusions

Early outcomes after aortic root replacement surgery were good for both surgical techniques. Despite longer operative times, the David procedure showed improved early echocardiographic results and reduced ICU stay.

IMPACT OF PACEMAKER IMPLANTATION ON OUTCOMES AMONG INFECTIVE ENDOCARDITIS PATIENTS REQUIRING CARDIAC SURGERY

Ms. Krista Aiga Bucika¹

1. Riga Stradins University, Latvia

Keywords

Endocarditis; Pacemaker; Cardiac Surgery

Objectives

Surgical treatment for infective endocarditis carries a significant risk of requiring the implantation of a new pacemaker. However, the specific impact of the pacemaker on patient prognosis remains unclear. Some studies indicate that patients requiring pacemaker implantation after valvular surgery, even in the absence of infective endocarditis, tend to have worse short- and long-term outcomes. This study aims to evaluate the impact of pacemaker implantation on patient outcomes, including in-hospital, 1-year and 10-year all-cause mortality, among individuals with infective endocarditis undergoing surgical intervention.

Methods

This is an ongoing study at Pauls Stradiņš Clinical University Hospital. Patients requiring cardiac surgery due to infective endocarditis between 2015 and 2024 were retrospectively analyzed and included in the study. Patients were divided into two groups: one group included patients who underwent surgical treatment for infective endocarditis without the need for pacemaker implantation, while the other group comprised patients who received a pacemaker shortly after surgery.

Results

Out of 396 patients who were included in the study 73.7% (n=292) were male with the mean age of 55.4 years (SD $\pm$ 13.9; 17-84) and 26.3% (n=104) were female with the mean age of 58.3 (SD $\pm$ 15.8; 20-83). Thirty nine patients (9.8%) needed a permanent pacemaker implantation within 30 days after the surgery. Seven (18.9%) patients of this group died within 1 year after the surgery. Mortality did not differ significantly between the pacemaker group and the control group (p = 0.192). The 10-year follow-up revealed a 40.7% mortality (n=161) for all patients, with 10.6% (n=42) of deaths occurring during initial hospitalization.

Conclusions

Although pacemaker implantation after surgical treatment of endocarditis does not increase mortality, outcomes remain poor in this population.

LONG-TERM COMPLICATIONS AFTER SURGERY OF THYROID CANCER AT PAULS STRADIŅŠ CLINICAL UNIVERSITY HOSPITAL

Ms. Uva Veja¹, Mr. Ralfs Roberts Zitāns¹

1. Riga Stradins University, Latvia

Keywords

Thyroid cancer. Recurrent laryngeal nerve palsy. Postoperative hypoparathyroidism

Objectives

This study aimed to determine the incidence of postoperative hypoparathyroidism and recurrent laryngeal nerve (RLN) palsy following surgery for thyroid cancer at Pauls Stradiņš Clinical University Hospital (PSCUH), defined as complications persisting for at least six months postoperatively.

Methods

The study included 120 patients (18 men and 102 women). The long-term outcomes were analyzed for patients with a median age of 48 (IQR: 36 – 59) years who underwent surgery for thyroid cancer at PSCUH between June 2023 and July 2024. Data were collected using the Eurocrine database and Microsoft Excel. Statistical analysis was performed using IBM SPSS (frequency analysis and the chi-square test).

Results

Permanent left RLN palsy was observed in 2 patients (1.67%), while permanent right RLN palsy was not observed in any of the analyzed patients. Reduced parathyroid hormone (PTH) levels were detected in 3 patients (2.5%). Of these, 1 patient underwent total thyroidectomy, and 2 underwent total thyroidectomy with lymph node dissection. No statistically significant association was found between PTH levels and the type of surgery ($p > 0.05$). At six months postoperatively, calcium levels were within the normal range in all patients.

Conclusions

At six months, reduced PTH levels were more frequently observed in patients who underwent total thyroidectomy with lymph node dissection. The incidence of RLN palsy and postoperative hypoparathyroidism following surgery of thyroid cancer at PSCUH is comparable to rates reported in the literature.

LONG-TERM ECHOCARDIOGRAPHIC COMPARISON OF AORTIC ROOT SURGICAL TECHNIQUES

Ms. Viktorija Kvedaraitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Aortic valve–sparing surgery (AVS); aortic valve and root replacement surgery (AVR); left ventricle (LV); aortic regurgitation (AR)

Objectives

To compare long-term left ventricular remodeling and systolic function after aortic valve–sparing (AVS) versus aortic valve and root replacement (AVR) surgery in patients with aortic aneurysm and aortic regurgitation. Contemporary aortic valve–sparing aortic root replacement (reimplantation) techniques have evolved substantially; however, further insight into their long-term outcomes is required, particularly in comparison with conventional aortic valve and root replacement. Moreover, direct long-term postoperative echocardiographic comparisons between these two surgical strategies remain limited and controversial.

Methods

A total of 141 patients treated between 2004 and 2024 were retrospectively analyzed, including 73 patients undergoing AVS and 68 undergoing AVR. Mean clinical follow-up was 12.1 ± 3.2 years, with 100% follow-up completeness. Complete long-term echocardiographic data were available in 82.7% of patients. Statistical analyses were performed using SPSS version 30.0.

Results

Twelve-year survival was significantly higher in the AVS group compared with the AVR group ($90.6 \pm 2.6\%$ vs $85.6 \pm 4.4\%$; $p = 0.02$). Left ventricular end-diastolic diameter index and LV mass index decreased early after surgery ($p < 0.05$) and showed no significant changes during late follow-up in either group ($p = 0.07$ and $p = 0.09$, respectively). In contrast, left ventricular systolic function remained significantly higher and better preserved in the AVS group at 12 years compared with the AVR group (54.2% vs 44.2% ; $p = 0.03$).

Conclusions

Long-term echocardiographic follow-up demonstrated comparable left ventricular reverse remodeling between surgical strategies; however, aortic valve–sparing surgery was associated with superior long-term survival and preservation of left ventricular systolic function.

RADIOACTIVE IODINE THERAPY IN PATIENTS WITH PAPILLARY THYROID CARCINOMA AFTER SURGERY AT PAULS STRADIŅŠ CLINICAL UNIVERSITY HOSPITAL

Mr. Ralfs Roberts Zitāns¹, Ms. Uvaveja¹

1. Riga Stradins University, Latvia

Keywords

Papillary thyroid carcinoma; Radioactive iodine; TNM staging.

Objectives

In differentiated thyroid cancer, radioactive iodine therapy is used for remnant ablation, adjuvant treatment, and the management of persistent or metastatic disease. TNM staging is one of the major factors influencing the decision to administer radioactive iodine therapy. The aim of this study was to evaluate the use of radioactive iodine therapy in patients with papillary thyroid carcinoma (PTC) after surgery at Pauls Stradiņš Clinical University Hospital (PSCUH).

Methods

A retrospective analysis was conducted including 111 patients (17 males and 94 females). The administration of radioactive iodine therapy was analyzed in patients with a median age of 48 (IQR: 36 – 59) years who underwent surgery for thyroid cancer at PSCUH between June 2023 and July 2024. All data were collected using Eurocrine database and Microsoft Excel. Statistical analysis was performed using IBM SPSS software, applying frequency analysis and the chi-squared test.

Results

52 patients (46.8%) received radioactive iodine therapy, while 59 patients (53.2%) did not. Radioactive iodine was used more frequently in patients with PTC who had a higher T stage and positive N stage following total thyroidectomy ($p = 0.041$ and $p = 0.003$, respectively). Distant metastases (M1) were observed in one patient, who was treated with radioactive iodine.

Conclusions

Nearly half of patients with PTC who underwent surgery received radioactive iodine therapy, which is consistent with findings reported in the literature. Among patients undergoing total thyroidectomy, radioactive iodine use was significantly associated with higher T stage and positive N stage. TNM staging is a critical factor in assessing the indication for radioactive iodine therapy in differentiated thyroid cancer, alongside other clinical and pathological considerations.

RETROSPECTIVE COMPARISON OF THE MINIMALLY INVASIVE TRANSAXILLARY AND CONVENTIONAL STERNOTOMY APPROACHES IN AORTIC VALVE REPLACEMENT

Mr. Oto Skrupskis¹

1. Riga Stradins University, Latvia

Keywords

Aortic valve replacement, Minimally invasive cardiac surgery, Transaxillary approach, Propensity score matching

Objectives

The aim of this research is to compare aortic valve replacement (AVR) via transaxillary access with conventional sternotomy and evaluate safety, types and frequency of complications, as well as surgical outcomes.

Methods

Between June 2023 and December 2024 there were 288 isolated AVR, 240 patients had sternotomy and 48 patients had transaxillary AVR. Propensity score matching was performed and it was based on preoperative characteristics including age, sex, EuroSCORE, LVEF, chronic lung disease, BMI, and it yielded 48 pairs.

Results

The transaxillary group had significantly longer operation times (median 3.08 vs. 2.25 hours; $p < 0.001$) and cardiopulmonary bypass times (median 104 vs. 69.5 min; $p < 0.001$) compared to the sternotomy group. However, aortic cross-clamp times (ACCT) were not significantly different (median 57 vs. 52.5 min; $p=0.24$).

There were no significant differences in postoperative recovery, median intubation time (3.4 vs. 3.7 hours; $p=0.63$) and ICU stay duration (22.3 vs. 22.9 hours; $p=0.41$) were similar. Mean and maximal aortic pressure gradients after surgery were similar (11 vs 12 mmHg; $p=0.32$) and (20.5 vs. 21.0 mmHg; $p=0.37$).

Both surgical approaches demonstrated comparable safety, with low 30-day mortality (1 patient in the transaxillary group). The incidence of re-exploration was 8.3% ($n=4$) in the transaxillary group compared to 6.2% ($n=3$) in the sternotomy group. New-onset atrial fibrillation occurred in 3 patients from the transaxillary and 4 patients from the sternotomy group. There were 4 conversions to sternotomy in the transaxillary group. No strokes were observed in either cohort.

Conclusions

Although the transaxillary approach requires longer operative and cardiopulmonary bypass time, it does not prolong ACCT, intubation time, or ICU stay. Statistically significant differences in complications were not observed, this confirms transaxillary access as a safe alternative to sternotomy.

SURGICALLY TREATED GALLBLADDER CANCER PATIENTS: OUTCOMES OF A RETROSPECTIVE SINGLE CENTRE STUDY

*Ms. Beatrise Alise Sarkanābola*¹

1. Riga Stradins University, Latvia

Keywords

gallbladder cancer, CA 19-9, cholecystectomy

Objectives

Gallbladder cancer (GBC) is a rare malignancy with poor prognosis and is frequently diagnosed incidentally during or after surgery for benign biliary disease. This retrospective single-centre study aimed to describe surgical management and early postoperative outcomes of GBC patients.

Methods

A retrospective study was conducted of patients who underwent surgical treatment for GBC at a clinical university hospital between 2019 and 2025. Perioperative data were extracted from medical records, including comorbidities, preoperative cancer status, CA-19-9 levels, surgery approach and extent, early postoperative complications, histopathological findings, adjuvant chemotherapy, follow-up visits and vital status. Descriptive analysis was performed.

Results

Seventeen patients with histopathologically confirmed GBC underwent surgical treatment. Preoperative cancer status was unknown in 29.4% of cases. Surgical procedures included cholecystectomy alone (n=5), cholecystectomy with liver resection (n=8), one hemihepatectomy with biliodigestive anastomosis (BDA), one cholecystectomy with BDA and common bile duct (CBD) excision, one cholecystectomy with BDA and one exploratory laparotomy. Patients with preoperatively suspected or known malignancy more frequently underwent extended surgical procedures. Preoperative CA19-9 levels varied widely with median level 82,8 U/ml. Major complications (Clavien–Dindo above IIIA) occurred in 11,8% of patients. According to TNM staging, stage IIIB disease was most common (52,9%), followed by IIIA and IVB 17,6% each, stage IIA 11,8%. Adjuvant chemotherapy was administered in 52.9% of patients, most commonly cisplatin with gemcitabine. At the time of study, 58.8% of patients were deceased. Prognostics factors as preoperative diagnosis, CA19-9 levels, type of surgical management and admission of adjuvant chemotherapy were analysed.

Conclusions

GBC remains an aggressive disease with variable surgical management. Incidental diagnosis may limit the extent of initial surgery. Preoperative suspicion appears to influence surgical planning, highlighting the importance of multidisciplinary preoperative assessment and awareness of GBC risk factors. Further research in larger cohorts is needed to better understand optimal perioperative management.

Basic & Preclinical Science (Morphology, Pathology, Genetics)

A COMPARATIVE ANALYSIS OF ANTHROPOMETRIC CHARACTERISTICS: PLACE OF BIRTH VS. RESIDENCE IN PIEBALGA

*Ms. Danija Svalba*¹

1. Riga Stradins University, Latvia

Keywords

Anthropometry, measurements, Piebalga region, place of birth, place of residence

Objectives

Anthropometric characteristics are non-invasive body measurements that enable the study of genetic, environmental, social and cultural influences, offering insights into population diversity and adaptation. This study aimed to evaluate differences in selected anthropometric parameters by place of birth and residence in the Piebalga region.

Methods

A study was conducted in 2024 in the Piebalga region of Latvia and involved 690 participants aged 1 – 99 years. Measurements of height, arm span, head circumference (HC), chest circumference (CC), waist circumference (WC), shoulder length (SL) and hip circumference (HiC) were collected and body mass index (BMI) was calculated, along with additional data from a questionnaire on place of birth and residence. Descriptive statistics were used to calculate mean and standard deviation, while median and interquartile range (IQR) were reported for non-normally distributed data. Data analysis was performed using IBM SPSS Statistics version 29.0.

Results

Significant differences were observed between participants based on their place of birth. Those born in Piebalga generally exhibited higher values ($p < 0.005$) across several parameters, including height, arm span, HC, CC, WC, SL, HiC and BMI. Further comparisons based on current residence revealed a different pattern. While significant differences ($p < 0.005$) were found for age, height, CC, WC, HiC and BMI, there were no significant variations in arm span, HC and SL. Overall, individuals currently living in Piebalga demonstrated higher anthropometric values, except for height. In this case, non-residents were taller (167.59 ± 15.50 cm) than those currently living in Piebalga (165.54 ± 16.80 cm).

Conclusions

Place of birth and residence were associated with significant differences in several anthropometric parameters. These findings suggest that both birthplace and current environmental factors may influence body dimensions, emphasizing the role of regional factors in anthropometric variation.

A Comprehensive literature review of Colorectal Cancer in Latvian Patients

*Ms. Fatma Sadiya*¹

1. Riga Stradins University, Latvia

Keywords

Colorectal cancer; Molecular markers; Latvia; MSI/MMR; KRAS/BRAF

Objectives

This study aimed to analyze the characteristics of Colorectal cancer in Latvia to identify factors that may contribute to its aggressive behavior. CRC is one of the most serious health problems in Latvia, where many patients are still diagnosed at late stages, and incidence and mortality rates still remain highest in this region. Many patients seek medical attention only when symptoms get serious which leads to diagnosis in late stages and limited management options. This contradicts many rich countries where CRC is often curable.

Methods

This study was carried out as a pathology-focused interpretative study supported by a thorough review of the literature. Representative anonymized histological slides of CRC, provided by a hospital (pathology department) in Riga, Latvia, were examined to highlight key histological patterns and aggressive features described in published research. Evaluation focused on tumor structure, degree of differentiation, stromal reaction, presence of necrosis, MMR status, MSI, and common oncogenic alterations such as KRAS and BRAF.

Results

By integrating pathological, molecular, and epidemiological evidence, we identified an integration of biological, environmental, and healthcare factors jointly shaping Latvia's CRC burden. Our analysis revealed a significantly elevated number of right-sided tumors, mucinous adenocarcinomas, and MSI-high carcinomas compared to global data. These subtypes are typically linked with MLH1 promoter methylation, BRAF V600E mutations, precursor lesions, and older patient age. A senior pathologist selected slides to illustrate key patterns commonly described in aggressive colorectal cancer.

Conclusions

Histologically and molecularly, CRC in Latvia follows many of the global trends, including the microsatellite instability route, but with a comparatively greater prominence of features associated with aggressive behavior and late-stage presentation. This suggests that, although the underlying mechanisms are not different, their distribution and clinical impact in Latvia may contribute to poorer outcomes and necessitate focused attention in diagnostic strategies.

A RARE PRESENTATION OF ARTERIA OMENTALIS MAGNA WITH VENOUS SYSTEM CONNECTION

Mr. Edvards Pogrebnaks¹

1. Riga Stradins University, Latvia

Keywords

greater omentum, arteria omentalis magna, omental arteries, gastrointestinal veins

Objectives

The arteria omentalis magna (AOM) is critical for the blood supply of the greater omentum, yet its anatomical consistency is frequently subject to variation. Unusual origins or courses of this vessel can lead to unintended complications during omentoplasty and gastrectomy. For this reason, it is important to improve the knowledge about the vasculature of the greater omentum. The aims were to evaluate, measure and describe a rare instance of an anomalous connection in which the AOM appeared to communicate directly with the gastrointestinal venous system.

Methods

Dissection of the greater omentum was performed on a single cadaver provided by the Laboratory of Anatomy, Department of Morphology, Institute of Anatomy and Anthropology, Riga Stradiņš University. Length and diameter measurements were taken using a digital caliper with a 0.01 mm scale.

Results

The length of AOM from the branching point of the gastrointestinal veins to the bifurcation of the artery was 113.5 mm, and from the anastomosis point with the gastrointestinal arteries to the bifurcation of the artery was 104.4 mm. The diameter of the artery was measured in 4 places: in the branching point from the gastrointestinal veins was 1.5 mm, in the anastomosis point with the gastrointestinal arteries was 1.7 mm, in the middle between the anastomosis point with the gastrointestinal arteries and the bifurcation of AOM was 1.6 mm, and in the bifurcation of AOM was 1.9 mm.

Conclusions

This case demonstrates a highly unusual vascular arrangement where the AOM exhibits a direct structural relationship with the venous system of the greater omentum. It highlights a critical need for further morphometric research on omental vessel variations, as these structures are increasingly used in omentoplasty and reconstructive flaps, where vascular anomalies can directly affect surgical outcomes.

AGE-RELATED FEATURES OF THE CYTOARCHITECTONICS OF THE HUMAN ANTERIOR OLFACTORY NUCLEUS

Mr. Roman Myroniuk¹

1. Lesya Ukrainka Volyn National University, Ukraine

Keywords

Brain, nervous system, olfactory sensory system, olfactory bulbs, anterior olfactory nucleus, age-related changes.

Objectives

The human olfactory bulbs are the first relay of the central nervous system involved in processing olfactory information. One of their key structural components is the anterior olfactory nucleus (AON), which performs an integrative function by providing connections between the olfactory bulb, olfactory tract, piriform cortex, and limbic structures. The bulbar part, distinct insular zones can be identified, differing in cellular composition and cytoarchitectonics. We assessed age-related cytoarchitectonic changes of AON neurons.

Methods

Autopsy olfactory bulbs and olfactory tract from 48 individuals (33-90 years) without CNS pathology. Were fixed in 10% neutral buffered formalin and embedded in paraffin. Serial sections (5 µm) were processed with standard histological stains. Morphometric analysis was performed using a Primo Star 3 light microscope (ZEISS) and ZEN software.

Results

Neurons of the AON were represented by large and small pyramidal and oval forms. In young adults, neurons in the rostral and dorsal insular zones were characterized by well-developed cytoplasm and a balanced nuclear-to-cytoplasmic ratio (NCR). In middle-aged individuals, a moderate increase in the size of the cell bodies of large neurons was observed, while nuclear dimensions remained relatively stable. In elderly individuals, a decrease in cytoplasmic volume became evident, most pronounced in small pyramidal neurons, particularly in the dorsal insular zone. In senile age, a marked reduction of cytoplasmic volume combined with a relative increase in nuclear size resulted in a pronounced alteration of the NCR.

Conclusions

With advancing age, neurons of the human AON demonstrate a decrease in cell body volume with relative stability of nuclear volume in elderly individuals and a slight increase in senile age, resulting in an increased NCR, which is most pronounced in senile age.

ANATOMICAL AND MORPHOMETRIC VARIATIONS OF THE HUMAN ACHILLES TENDON IN RELATION TO COMMON RUPTURE SITES

***Ms. Felicita Luīze Kozlovskā**¹*

1. Rīga Stradiņš University, Latvia

Keywords

Achilles tendon, anatomy, morphometric analysis, cadaveric study, tendon rupture

Objectives

The Achilles tendon is the largest and strongest tendon in the human body, yet it is frequently subject to rupture. Clinical findings suggest that most ruptures occur in the mid-substance, likely due to a combination of hypovascularity and mechanical stress. This study aimed to evaluate the anatomical and morphometric variations of the Achilles tendon, identify regions of minimal cross-sectional area and relate them to common rupture sites.

Methods

Ten human cadaveric Achilles tendons were dissected to visualize the musculotendinous junction and the calcaneal insertion. Materials and instruments were provided by the Laboratory of Anatomy of the Department of Morphology at Rīga Stradiņš University's Institute of Anatomy and Anthropology. Length, width and thickness were measured at 1 cm intervals along the entire course of the tendon using a digital caliper (precision ± 0.1 mm; range 150 mm).

Results

The average tendon length was 131.2 mm (range: 118.6 – 142.3 mm). Both width and thickness reached maximum values at the proximal musculotendinous junction (average width 17.1 mm; thickness up to 14.5 mm). A significant morphometric narrowing was observed in the mid-portion, approximately 8 cm proximal to the calcaneal insertion, where the average width decreased to 10.4 mm and the thickness ranged between 3.9 and 7.9 mm. While the tendon widened again near the distal insertion, the mid-portion consistently exhibited the smallest cross-sectional dimensions. Individual variations were also observed between left and right tendons as well as between different cadavers.

Conclusions

The observed morphometric narrowing aligns with the critical 5 – 8 cm zone, which represents the primary site of loss of structural integrity in the Achilles tendon. It provides anatomical evidence supporting the biomechanical vulnerability of this region, as the narrowing likely leads to increased mechanical stress concentration, predisposing the tendon to injury.

ANATOMICAL EVALUATION OF RENAL VEINS AND THEIR CLINICAL IMPLICATIONS

Ms. Rainita Āboliņa¹, Ms. Dana Šēra¹

1. Riga Stradins University, Latvia

Keywords

Renal veins; Veins anatomy; Anatomical variations

Objectives

Renal veins are paired visceral veins that arise at the kidney hilum and drain into the inferior vena cava (IVC). Anatomical variations in these veins are common and have been linked to conditions such as varicocele, Nutcracker syndrome and pelvic congestion syndrome. This study aims to assess the distribution, course, diameter and anatomical variations of renal veins.

Methods

Right (RRV) and left renal veins (LRV) of 7 human cadavers were analyzed, provided by the RSU Institute of Anatomy and Anthropology. Abdomen dissection was performed to better visualise renal veins and their branching patterns. Measurements like the width and length of renal veins, as well as the distance to different anatomical structures, were made. A digital Vernier caliper was used for all measurements; for angle measurements, an angle meter was used. All statistical data was analyzed using Microsoft Excel.

Results

The mean width of LRV at its insertion point into the IVC, at bifurcation and at its insertion into the kidney were 18.10 ± 6.70 mm, 10.10 ± 2.05 mm and 8.53 ± 4.32 mm, respectively. The mean width of RRV at its insertion point into the IVC, at bifurcation and at its insertion into the kidney were 13.0 ± 10.01 mm, 7.70 ± 7.34 mm and 4.50 ± 4.40 mm, respectively. Total length differed significantly, with the RRV measuring 39.30 ± 11.22 mm and the LRV 98.62 ± 12.19 mm. A high and statistically significant correlation was found between RRV and LRV total length. An additional LRV was detected in one, and RRV in five of the seven kidney samples.

Conclusions

This study demonstrated a significant difference in both diameter and length between RRV and LRV. Additional renal veins were more commonly observed on the right side, suggesting that “standard” anatomy is not universal. The presence of vein variability, especially on the right side, warns clinicians to be cautious during different vascular procedures.

ANATOMICAL MAPPING OF RADIAL NERVE BIFURCATION RELATIVE TO HUMERAL LENGTH: IMPLICATIONS FOR CLINICAL PROCEDURES

Mr. Aleksis Kevins¹

1. Riga Stradins University, Latvia

Keywords

Dissection; Radial nerve; Bifurcation; Humeral index

Objectives

The radial nerve (RN) traditionally bifurcates into the superficial radial nerve (SRN) and posterior interosseous nerve (PIN) anterior to the lateral epicondyle. However, proximal “high bifurcation” can lead to incomplete distal nerve blocks and iatrogenic injury if the nerve is mistaken for single trunk. This study aimed to map the incidence of high RN bifurcation and correlate its level with total humeral length (HL) to define a standardized “safe zone”.

Methods

Bilateral dissection was performed on 20 cadaveric upper limbs. Total HL was measured from the lateral part of the acromion to the lateral epicondyle (LE). The RN was traced to identify its bifurcation point into SRN and PIN. The vertical distance from LE to the bifurcation was recorded. High bifurcation was defined as branching >4 cm proximal to LE. A Humeral Bifurcation Index (HBI) was calculated for each upper limb to normalize variations in arm length. Specimens were divided into two groups – A (high bifurcation) and B (standard bifurcation).

Results

High bifurcation of radial nerve was identified in 20% of specimens (group A) with mean HL 33.5 ± 2.1 cm. The nerve divided at a mean of 9.5 cm proximal to the LE (HBI: 29%). In 80% of specimens (group B) bifurcation occurred at a mean of 1.5 cm proximal to the LE (HBI: 4.6%). No bifurcations were observed in the proximal 50% of the humerus in any specimen. During bilateral dissection, group A showed recurrent SRN-PIN communications and one trifurcation case, suggesting that higher bifurcations correlate with increased nerve branching.

Conclusions

High RN bifurcation is a significant anatomical variation, occurring in one-fifth of cases. Data suggests that bifurcation identification should be done in the proximal 50% of the humeral length to minimize complications, relying on fixed distances from the elbow risks missing the division.

ASSESSMENT OF HUMAN CLAVICULAR MORPHOLOGY AND PREDICTIVE DIMENSIONAL RELATIONSHIPS USING 3D SCANNING ANALYSIS

Mr. Zigmārs Litavnieks¹

1. Riga Stradins University, Latvia

Keywords

Keywords: 3D morphometry; clavicle geometry; classification

Objectives

This study aims to develop predictive mathematical models for clavicular dimensions based on 3D morphological data. By identifying correlations between chosen measurements, the researcher aims to determine can one or two parameters be used to reliably predict others. This may allow differentiation between typical and atypical clavicles and contribute to anatomical classification and clinical assessment.

Methods

30 dried pathology-free, adult, human, unspecified sex clavicles were obtained. Each bone was digitized using EinScan H 3D scanner, to produce high resolution surface mesh model. Using 3D Slicer software each clavicles dimensions of interest were measured, following established protocol. Following data acquisition, statistical correlation analysis using SPSS was performed to identify relationships between clavicular dimensions. Based on those correlations, predictive mathematical models were constructed to estimate clavicular parameters from a limited set of measurements. Using predictive equations, each bones measured dimensions were compared to the model estimates.

Results

The 3D reconstructions of the scanned clavicles enabled precise visualization and consistent measurement of clavicular morphology. Correlation analysis revealed several meaningful relationships between clavicular dimensions, suggesting that selected parameters can serve as valid predictors of others. The developed mathematical models demonstrate the potential to estimate multiple clavicular measurements using one or two primary variables. After comparing the model estimates with the actual measurements, bones were separated into typical and atypical groups.

Conclusions

The obtained data showcase the possibility to identify predictive relationships in clavicular morphology using 3D models and correlation analysis. The findings suggest that limited measurements may sufficiently characterize clavicular dimensions, enabling distinction between typical and atypical forms.

BMP 2/4, IL-10, NF- κ B p105/p50, HSP 70, LL-37, Gal-10 and Caspase 3 in different cleft lip palate affected tissue

Ms. Laura Ozola¹

1. Riga Stradins University, Latvia

Keywords

Cleft lip palate, transcription factors, inflammation factors

Objectives

Cleft lip and/or palate (CLP) is a defect caused by failure of palatal shelf fusion and growth, which is heavily influenced by many environmental and biological factors. Transcription, growth, inflammation and antimicrobial factors modulate molecular events of clefted tissue, therefore, are vital in morphopathogenic assessment of CLP. The aim of the study is to determine expression and distribution of local tissue factors (bone morphogenetic proteins (BMP), nuclear factor kappa beta (NF- κ B), interleukin 10 (IL-10), heat shock protein 70, caspase 3, cathelicidin 37 (LL-37)) between sinistral, dextral and bilateral cleft affected tissue

Methods

Tissue samples were obtained from 19 patients – 5 with CLP of the right side, 6 – left side, and 8 – bilateral. 5 controls were used for comparison. Data was evaluated with immunohistochemistry, semi-quantitative evaluation and Mann-Whitney U test

Results

Epithelium of CLP presented with significant changes in Gal-10 ($U = 3$, $p = 0.030$), IL-10 ($U = 3.0$, $p = 0.030$), ($U = 1.0$, $p = 0.002$), ($U = 2.0$, $p = 0.032$), NF- κ B p105 ($U = 2.0$, $p = 0.017$), ($U = 14.5$, $p = 0.017$), ($U = 44.0$, $p = 0.050$). Connective tissue presented with significant difference in Gal-10 ($U = 5$, $p = 0.019$) and HSP70 ($U = 1.5$, $p = 0.016$), Caspase 3, LL-37 and BMP2/4 showed no significant differences

Conclusions

CLP of the right side presented with more significant changes than any other type of CLP. Increase of factor expression in epithelium illustrates conditions of chronic inflammation. Increase of factor expression in connective tissue suggest protective actions. Factors that showed no change in their distribution suggest unaffected osteogenesis and antimicrobial activity in CLP

BRUGSCH INDEX (CHEST CIRCUMFERENCE TO HEIGHT RATIO) BY AGE AND SEX IN KULDĪGA, LIEPĀJA AND VENTSPILS: A COMPARATIVE DATA ANALYSIS

Ms. Lelde Balode¹

1. Riga Stradins University, Latvia

Keywords

Brugsch index; Chest circumference; Height; Age and sex differences; Regional comparison

Objectives

The Brugsch index is an anthropometric indicator that shows the proportional relationship between chest circumference and body height. The purpose of this assessment is to evaluate physical development, somatotype, moreover, this is an indirect indicator of respiratory function and lung capacity. The objectives of this study are to examine how the Brugsch index differs by age and sex in the studied population and to compare Brugsch index values between the cities of Kurzeme (Kuldīga, Liepāja and Ventspils).

Methods

An anthropometric cross-sectional study was conducted in July and August of 2025 in Kuldīga, Liepāja and Ventspils. The height of the participants (cm) was measured using an anthropometer. The chest circumference (cm) was measured using a measuring tape. Data on the sex and age of the participants were collected in a survey. The gathered data were analysed using IBM SPSS Statistics 31.0.

Results

Data from participants aged 1 to 99 years, grouped by age, were analyzed. The median Brugsch index varied across age groups, ranging from 48.9 (IQR: 46.4-51.4) in the youngest group to 60.4 (IQR: 56.1-64.6) in the oldest group. The Kruskal–Wallis test demonstrated a statistically significant difference among age groups ($H = 551.8$, $p < 0.001$), indicating pronounced age-related variation in the Brugsch index. No statistically significant differences in the Brugsch index were observed between males and females (Mann-Whitney U test, $p > 0.05$). Comparison between cities revealed no statistically significant differences in the Brugsch index among Kuldīga, Liepāja and Ventspils (Kruskal–Wallis test, $p = 0.467$).

Conclusions

These results indicate that the Brugsch index reflects age-related differences in body proportionality, while regional differences within the Kurzeme region appear minimal, with no significant sex-related differences observed.

CHANGES IN ENDOMETRIAL G-CSF, BMP-2/4, HSP-70, TUNEL, PROGESTERONE AND ESTROGEN IN INFERTILE WOMEN

***Ms. Elizabete Brikune**¹*

1. Riga Stradins University, Latvia

Keywords

Endometrium, infertility, HSP-70, apoptosis, estrogen.

Objectives

Infertility is associated with impaired endometrial function. Hormonal, apoptotic, immunologic, and regenerative pathways contribute to the cyclical remodeling of the human endometrium. This study examined the expression and distribution of G-CSF, BMP-2/4, HSP-70, apoptosis, progesterone, and estrogen in endometrium from infertile women at different menstrual cycle days, to better understand local tissue factor regulation.

Methods

A descriptive cross-sectional study was conducted using endometrial curettage samples from six infertile women aged 21-49 years. Tissue was processed by immunohistochemistry. Apoptosis was detected by the TUNEL assay. Positively stained cells for each marker were quantified in three visual fields. Mean values and standard deviations were calculated. Markers evaluated included G-CSF, BMP-2/4, HSP-70, TUNEL, progesterone, and estrogen.

Results

BMP-2/4, HSP-70, and apoptosis were the most consistent findings, with five out of six patients demonstrating their expression. BMP-2/4 showed numerous cells in two patients. HSP-70 and apoptosis were detected in variable number of cells also in two patients. G-CSF demonstrated low to moderate positive cells for most of the patients. Numerous progesterone and estrogen positive cells were detected in three patients. One patient showed complete absence of all markers.

Conclusions

Infertile endometrial tissue demonstrates heterogeneous expression of hormonal, apoptotic markers, and growth factors. Strong appearance of BMP-2/4, HSP-70, and apoptosis in several cases indicates active remodeling and stress responses, whereas inconsistent progesterone and estrogen expression suggests impaired hormonal regulation. Presence of G-CSF marks possible connection to the infertility. Commonly, the variability of molecular markers in infertile endometrium supports the need for individualized/personalized evaluation of endometrial function.

CHARACTERIZATION OF INFLAMMATORY PROTEINS/FACTORS IN PALATAL TISSUE OF PATIENTS WITH BILATERAL CLEFT LIP PALATE

Mr. Georgijs Kuļibaba ¹

1. Riga Stradins University, Latvia

Keywords

Cleft palate; Granulysin; Resistin; FCGR1A; NF-k β p65

Objectives

Orofacial clefts are among the most common craniofacial hereditary anomalies. The development of orofacial clefts is complex and remains unclear. Immunity factors modulate response, inflammation, and healing. In this study, we aim to evaluate the levels of the pro-inflammatory proteins/factors Granulysin, Resistin, FCGR1A, NF-k β p65 and CD68, to describe and understand the morphopathological basis of inflammation.

Methods

Tissues were obtained from 14 patients with bilateral cleft lip palate of both milk and mixed dentition age during cheiloplasty surgery. 10 control samples were used for the data comparison. Semi-quantitative method of data evaluation (from 0 to +++) was used. Statistics included Spearman's correlation and Chi-squared exact test (FFH) to compare groups and detect significant differences.

Results

Patient and control group comparison revealed some significant correlations. Resistin in the epithelium of the bilateral cleft lip palate presented with a statistical decrease, as well as NF-k β p65 in the salivary glands of the patient. Comparing milk dentition age groups, several statistical correlations between the expression of various factors such as Resistin, CD68, and Granulysin in epithelium and connective tissue were observed. Comparing mixed dentition age group Granulysin, FCGR1A, NF-k β p65 also indicated significant correlation including, the same histomorphological structures such as epithelium and connective tissue.

Conclusions

Decreased level of Resistin and NF-k β p65 can indicate weakened local immune response and possibly postpone the recovery of the tissue. The difference between milk and mixed dentition age pro-inflammatory factors indicates the age/disease duration impact and emphasises the meaning of persistent tissue damage and immune system response.

CHARACTERIZATION OF TISSUE IMMUNITY IN ADULTS WITH CHRONIC PERIODONTITIS

*Mr. Mārtiņš Vārsļavs*¹

1. Riga Stradins University, Latvia

Keywords

Periodontitis; Interleukins; Cytokines; Immunohistochemistry

Objectives

Periodontitis is a severe gum infection, that can lead to tooth loss, bone loss and other serious health complications. Immunity modulates immune response, inflammation, and healing; therefore, they are vital in the patient's immunological assessment and in the understanding of morphopathogenesis in periodontitis. Our aim was to assess the distribution of cytokines IL-1 α ; IL-4; IL-6; IL-12; IL-13; IL-17A, and to perform immunohistochemical analysis of periodontitis affected gingival tissue samples.

Methods

Tissues were obtained from 7 patients with chronic periodontitis during surgical treatment to reduce periodontal pockets. 5 controls were used for comparison of data. Immunohistochemistry, light microscopy, semi-quantitative evaluation (from 0 to +++) and statistics (Chi-square, Fisherman-Freeman-Halton exact test and Spearman's rank correlation) were used to evaluate the data, their statistically significant differences and correlations between the groups.

Results

Immunohistochemical evaluation of chronic periodontitis tissue showed a statistically significant decrease of IL-4 expression in both epithelial and connective tissues when compared to controls. Other cytokines—IL-1 α , IL-6, IL-12, IL-13 and IL-17A—demonstrated variable distribution patterns, but without statistically significant differences between the groups. IL-17A in epithelium showed only a tendency toward lower expression in the patient group, suggesting a possible early shift in local inflammatory signaling, although not confirmed statistically.

Conclusions

Reduced IL-4 expression indicates diminished anti-inflammatory signaling and suggests impaired immune regulation in chronic periodontitis, potentially contributing to sustained tissue inflammation. The absence of significant differences for IL-1 α , IL-6, IL-12, IL-13 and IL-17A highlights IL-4 as the principal cytokine deviating from normal patterns in this cohort, emphasizing its possible diagnostic or mechanistic relevance in disease progression.

Comparative Anatomy of Supraorbital and Supratrochlear Arterial Exits

Ms. Estere Gavare¹, Ms. Patrīcija Krastiņa¹

1. Rīga Stradiņš University, Latvia

Keywords

Supraorbital artery, supratrochlear artery, anatomical variation, clinical significance

Objectives

Two key branches of the ophthalmic artery emerge from the orbit to serve as the principal vascular supply for the forehead, upper eyelids and anterior scalp. The aim of the study is to detect, measure and analyze the exit points of the supratrochlear (ST) and supraorbital (SO) arteries, and to assess the anatomical differences from the midline on both sides. Additionally, compare other available scientific data on their exit points, including clinical importance.

Methods

The study materials were provided by the Laboratory of Anatomy of the Department of Morphology at the Institute of Anatomy and Anthropology. The measurements, using a Vernier digital caliper, were made on 2 cadavers and 13 skulls, including the distances between supratrochlear and supraorbital arteries, as well as from the glabella. Beyond basic measurements, the study included a bilateral comparison of the artery exit points to identify potential asymmetries. All collected metrics were systematically recorded and organized using MS Excel, where a statistical analysis was conducted to evaluate the consistency of these anatomical landmarks.

Results

In 93.3% of specimens, the supraorbital artery exited through the supraorbital incisure, while in 6.7% it exited through the supraorbital foramen. The mean distance of the supraorbital and supratrochlear artery from the glabella fell within the normal range in comparison to other scientific studies. An asymmetry of artery exit points by more than 3.0 mm on the right and left sides of the face was observed for the SO artery in 46.6% of specimens and for the ST artery- 20% of specimens.

Conclusions

The SO artery most commonly exits through the supraorbital incisure. The mean distances of the SO and ST arteries from the glabella had minor bilateral differences. Precise mapping of the arterial exit sites is essential to avoid procedural complications and improve clinical outcomes.

COMPREHENSIVE EXOME-BASED GENETIC ANALYSIS OF INHERITED PERIPHERAL NEUROPATHIES: DIAGNOSTIC YIELD, GENETIC SPECTRUM, AND RARE VARIANT BURDEN

*Elizabete Pantelejeva*¹

1. Riga Stradins University, Latvia

Keywords

Inherited peripheral neuropathy, Charcot-Marie-Tooth disease, whole exome sequencing, diagnostic yield, oligogenic inheritance, genetic modifiers

Objectives

Inherited peripheral neuropathies (IPN) are genetically heterogeneous monogenic disorders of the peripheral nervous system, with an estimated prevalence of 1:2,500. Despite identification of >100 causative genes, up to 60% of patients remain undiagnosed. This study evaluated the diagnostic yield of exome sequencing (ES), described the genetic spectrum of IPNs, and assessed whether cumulative rare variants contribute to phenotypic variability.

Methods

Between 2018 and 2024, 182 unrelated patients with suspected IPN underwent ES with copy-number variant and repeat-expansion analyses. Variant assessment used a curated neuromuscular gene panel (n=360) and ACMG/AMP classification. Rare variant burden in known IPN genes was compared across genetically solved cases, unsolved cases, and non-neurologic controls. Correlation between rare variant burden and disease severity (CMTNSv2, n=77) was examined using Spearman's test. Ethical approval was granted by the Latvian Central Medical Ethics Committee (No. 3/18-03-21).

Results

A molecular diagnosis was established in 93/182 patients (51%), involving 19 genes. PMP22 CNVs were most common (65%), followed by GJB1 (8%), HSPB1 (6%), and HINT1 (3%). A recurrent founder HSPB1 mutation was detected. Several diagnoses involved genes in which neuropathy is only part of the phenotype, including OPA1 and SPG11, underscoring the value of broad testing. Both solved and unsolved cases showed higher rare variant burden in IPN genes than controls ($p<0.05$), but there was no difference between the solved and unsolved groups, nor an association between variant burden and CMTNSv2 severity ($p>0.05$).

Conclusions

ES-based testing achieved a high diagnostic yield and captured atypical presentations where neuropathy was the first clinical sign of systemic disease. Although IPN patients showed enrichment of rare variants relative to controls, cumulative variant burden did not explain phenotypic heterogeneity or differentiate solved from unsolved cases. These findings support broad genomic testing in routine IPN diagnostics

CORRELATION BETWEEN ARM-SPAN AND STANDING HEIGHT AMONG POPULATIONS IN LATVIA; COMPARISON BETWEEN PIEBALGA, KULDĪGA, LIEPĀJA, VENTSPILS.

*Ms. Šarlote Ikstena*¹

1. Riga Stradins University, Latvia

Keywords

Arm span, height.

Objectives

Anthropometric parameters such as height and arm span have a great variety of applications in clinical settings. However, not always one or the other can be determined due to patient's physical state or injury, therefore the ability to evaluate height based on arm span (or vice versa) is essential. This study aims to determine the correlation between arm span and standing height in the adult population of Latvia using data collected in Piebalga in 2024 and Kuldīga, Liepāja, Ventspils in 2025.

Methods

The study population consisted of 1599 males and females aged ≥ 25 years from four Latvian cities (Piebalga $n=689$, Kuldīga $n=266$, Liepāja $n=517$, Ventspils $n=284$). Anthropometric measurements, including arm span and standing height, were obtained using standardized procedures with a stadiometer and anthropometer. Demographic variables, including sex, age, and place of birth, were recorded for all participants, and the arm span–height ratio (ASHR) was calculated. Statistical analyses were conducted after assessing data distribution. As the data were not normally distributed, non-parametric methods were applied. Group differences across cities were evaluated using the Kruskal–Wallis test with Dunn–Bonferroni post-hoc pairwise comparisons in SPSS software. Results were considered statistically significant at $p<0.05$.

Results

Median age differed across cities, with participants from Piebalga and Kuldīga being older (55 years) than those from Liepāja (51 years) and Ventspils (53 years). ASHR values were comparable across all four cities, with median ratios ranging from 1.01 in Ventspils to 1.03 in Piebalga, indicating similar arm span-height proportionality.

Conclusions

While age distributions varied modestly between cities, arm span-height ratios remained consistent across the study population. This stability in body proportionality suggests that regional differences in anthropometric characteristics among Latvians are minimal and confirms that arm span can be reliably used to estimate standing height in clinical and public health applications.

DISTRIBUTION OF DISEASE-ASSOCIATED HLA ALLELE GROUPS AMONG ORGAN TRANSPLANT RECIPIENTS AND DONORS IN LATVIA

Mr. Jans Ameriks¹, Mr. Sandis Bulduris¹, Ms. Laura Bērziņa¹, Ms. Amanda Elizabete Dūrēja¹, Ms. Karlina Emīlija Melberga¹

1. Riga Stradins University, Latvia

Keywords

Human leukocyte antigen; Allele distribution; Immune-mediated diseases

Objectives

Human leukocyte antigen (HLA) polymorphisms are strongly associated with autoimmune conditions such as rheumatoid arthritis, Behçet's disease, and coeliac disease. The aim of this study was to analyse the distribution of disease-associated HLA allele groups among organ transplant recipients and donors in Latvia with particular attention to deviations from patterns commonly reported in the literature.

Methods

Data were obtained from Pauls Stradiņš Clinical University Hospital and included low-resolution HLA allele group genotyping data from 479 kidney transplant recipients and 82 donors from 2020 to 2024. Frequencies of HLA allele groups, which were previously reported to be associated with autoimmune pathologies, were assessed and compared between recipient and donor groups.

Results

A statistically significant difference in the distribution of HLA-B*51 was observed between the studied groups. HLA-B*51 was present in 15.85% of the donor cohort compared to 7.31% of recipients ($p = 0.017$). Variations in the distribution of other disease-associated allele groups, such as HLA-B*27, were not statistically significant.

Conclusions

HLA-B*51 frequency diverges significantly from expected distribution, it was more often present in donors, which may suggest a potential involvement of HLA-B*51 in immune-mediated or renal-related processes. However, these findings should be validated in larger cohorts with high-resolution HLA genotyping.

Facial aging changes of the orbicularis oculi muscle and their relevance to dermatological procedures

Ms. Marija Lopireva¹

1. Riga Stradins University, Latvia

Keywords

orbicularis oculi muscle, facial aging, aesthetic dermatology

Objectives

The periorbital region is among the earliest facial areas to exhibit visible age-related changes associated with alterations of the orbicularis oculi muscle, a key mimetic muscle located close to the skin. These changes are clinically relevant for dermatological procedures in the periorbital area, including botulinum toxin injections and soft tissue fillers (Tong et al., 2025).

The aim of this study was to examine the morphological features of the orbicularis oculi muscle and their relevance to facial aging and dermatological procedures.

Methods

A human cadaver and instruments for anatomical dissection were provided by the Anatomy Laboratory of the Department of Morphology. Relevant anatomical and clinical literature was reviewed.

Results

Recent anatomical and clinical literature indicates that age-related changes of the periorbital region, including thinning of the orbicularis oculi muscle, reduced muscular tone, and increased laxity of surrounding soft tissues, may compromise tissue support and alter anatomical landmarks. These changes are clinically relevant in dermatological practice, as they may increase the risk of imprecise substance placement and reduced predictability of treatment outcomes during periorbital interventions (Piao et al., 2025).

In the present study, anatomical dissection of the periorbital region of an elderly specimen illustrated these age-related alterations. The orbicularis oculi muscle appeared thin and flattened, located immediately beneath the skin, with reduced tone and elasticity. The surrounding soft tissues were loose and less compact, particularly in the eyelid region, where diminished muscular support and altered spatial relationships between adjacent structures were observed (Abe & Loenneke, 2021).

Conclusions

The orbicularis oculi muscle plays an important role in the structural characteristics of the periorbital region. Dissection findings demonstrate that age-related morphological changes reduce muscular support and alter soft tissue organization, highlighting the importance of anatomical knowledge for safe dermatological injection procedures.

FACIAL AND LIP MORPHOLOGICAL PROPORTIONS IN INDIVIDUALS FROM LATVIA BASED ON HISTORICAL PHOTOGRAPHS FROM 1936

Ms. Alise Peiča¹

1. Rīga Stradiņš University, Latvia

Keywords

Face; Lips; Esthetics

Objectives

This study aimed to assess the facial and lip morphological proportions of women using two-dimensional historical photographs from 1936. The study focused on measuring key parameters of the lower third of the face and lips to evaluate how these historical measurements compare with ideals of female facial morphology.

Methods

In 1936, Professor Jēkabs Pīmanis conducted an anthropological research study in Piebalga, Latvia. As a part of this study, a photogrammetric analysis of women's facial features was performed using historical two-dimensional images from Rīga Stradiņš University Anatomy Museum. The analysis followed the methodology and results reported in the study "The Concept of Ideal Lips of Caucasian Female: An Anthropometric Analysis of the Lower Third of the Face" (Winiarska et al., 2024). Facial anthropometric parameters were evaluated using GIMP 3.0.6 version, enabling linear measurements. The results were calculated and analyzed based on the proportional ratios of assessed facial parameters.

Results

The mean ratio of the upper segment of the lower third of the face height was 0.31, whereas the lower segment comprised 0.69. The mean ratio of Cupid's bow width to total lip width was 0.20. The ratio of the upper lip height to the lower lip height was 0.57. The lower segment of the lower third of the face was proportionally longer. The Cupid's bow was relatively narrow. The upper lip was smaller compared with the lower lip (Winiarska et al., 2024). Variations were observed across individuals, indicating natural morphological diversity within the population studied.

Conclusions

The results demonstrate that the facial and lip proportions observed in the 1936 sample differ from the ratios reported in modern anthropometric studies. These findings provide a historical reference for anthropometric studies and may inform comparative analyses of facial proportions across populations and time periods.

From Tissue to Teaching Tool: Mastering Epoxy Resin for Educational Model Creation

Ms. Gertrūde Strance¹, Mr. Mārtiņš Bode¹

1. Riga Stradins University, Latvia

Keywords

Epoxy resin, embedding, medical education, QR code

Objectives

The study aims to test previously described methods for tissue embedding in epoxy resin for whole human and animal organs and their slices, and find which steps of the process can be altered to achieve the highest quality results in the least amount of time and to make additions so that the models are most suitable for anatomical studies.

Methods

Initially, tissue samples were incubated in a 96.2% ethanol solution for 24 hours to disinfect and remove formalin and excess fat, followed by placement in 100% glycerol for 2 hours under vacuum conditions. On some models, acrylic colors were used to distinguish certain anatomical structures. The tissue was fixed in scaffolds and embedded in an activated epoxy resin. Finally, the samples were post-processed to ensure the longevity and clarity of the material. Additionally, each model had a wooden platform made with a QR code attached, leading to a presentation with described visible anatomical structures in the corresponding model.

Results

In total, 30 models were created - 15 from cadavers and 15 from animals. From these models, two were both anatomically and clinically significant: an eye with a retinal detachment that had previously undergone surgical repair using the scleral buckling technique and a human meniscus with a sutured porcine graft.

There were also changes made to some of the previous protocols for tissue embedding in epoxy resin in order to make the embedding process more effective, such as replacing fixation rods with 5-minute epoxy glue for organ fixation in scaffolds.

Conclusions

The study found that the resin embedding method yields promising results for gross anatomy teaching, because the organs are preserved to be manipulated without gloves or masks and can be easily described in the format of the presentation in the scannable QR code format.

HEAD-TO-BODY RATIO IN LATVIAN CHILDREN AGED 1–5 YEARS: A LONGITUDINAL STUDY OF GROWTH PATTERNS AND LABOUR CHARACTERISTICS

Mr. Mihails Antonovs¹

1. Riga Stradins University, Latvia

Keywords

circumference, head-to-body ratio, labour difficulty

Objectives

The aim of this study was to establish age-specific normative head-to-body ratios for Latvian children aged 1–5 years and to evaluate their potential association with different types of labour. The study focused on identifying deviations from reference values relevant for early growth assessment.

Methods

This longitudinal study was initiated in 2005–2006 and included data from 377 children in Latvia. Head circumference and body height were measured annually over a five-year period using a non-stretchable measuring tape and an anthropometer, following standardized anthropometric procedures. The head-to-body ratio was calculated by dividing head circumference by body height and analyzed in relation to age and sex. Labour characteristics were classified into four types: (1) spontaneous vaginal delivery without medical intervention, (2) spontaneous vaginal delivery with spinal (neuraxial) anesthesia, (3) vaginal delivery with pharmacological stimulation, and (4) delivery by Caesarean section. Statistical analysis was performed using Microsoft Excel and IBM SPSS Statistics 28.0, applying descriptive and comparative methods.

Results

A consistent descending trend in the head-to-body ratio was observed with increasing age, reflecting faster linear growth relative to cranial growth. Relative deviation from WHO reference values ranged from 0.205–1.033% in females and 0.824–1.979% in males. Similar linear patterns were observed for both sexes in labour types 1 and 2. In labour type 3, deviations were comparable between sexes, reaching 2.44% in females and 2.20% in males. Groups including deliveries by Caesarean section were interpreted with caution, as surgical intervention may represent a consequence rather than a cause of cranial disproportion.

Conclusions

The age-specific head-to-body ratios established in this study provide a practical reference for early childhood growth assessment. These findings support the use of head-to-body proportions as a simple, non-invasive screening indicator for identifying deviations in cranial development during early childhood, while no consistent association with labour characteristics was observed overall.

Inflammatory tissue factors IL8, NF-kB and genes PTX3, CXCL8, CCR2, and CCR4 in cleft lip palate tissues

Ms. Laura Čerpakovska¹

1. Riga Stradins University, Latvia

Keywords

Cleft lip, PTX3, CXCL8, CCR2, NF-kB

Objectives

Globally it is considered that orofacial clefts are one of the most common congenital craniofacial malformations and cleft lip (CL) being the most common cleft subtype is observed 1 in 500 births. Genetic and environmental factors are related with formation of these anomalies, however, completed morphogenesis of orofacial clefts formation is not clarified yet. The aim of this study was to evaluate the expression of inflammatory genes PTX3, CXCL8, CCR2, CCR4, as well as gene proteins IL-8, NF-kB in control group, non-syndromic and syndromic cleft-affected tissue samples.

Methods

Non-syndromic lip cleft samples were taken from six patients, eight tissue samples were taken from patients who had at least one of ancestors with cleft characteristics and tissue samples from five patients with no characteristics of clefts. Gene expression was evaluated using Tissue in Situ Hybridisation method (CISH), gene protein expression - by immunohistochemistry (IMH) and semi-quantitative method, as well as statistical analysis (Kruskal-Wallis test and Spearman's rank correlation).

Results

Control group tissue samples showed no gene proteins positive structures among epithelium, connective tissues and endothelium except NF-kB. Both, – IL8 and NF-kB demonstrated moderate protein expression in all locations of the cleft patients by IMH. Among all syndromic CL tissue samples showed gene expression in epithelium by PTX3, CXCL8, CCR4, CCR2; in connective tissue by PTX3, CXCL8, endothelium by CXCL8. Among all non-syndromic CL tissue samples showed gene expression by PTX3, CXCL8, CCR4, CCR2; in connective tissue by CXCL8, CCR4, CCR2; in endothelium by CXCL8.

Conclusions

PTX3, CXCL8, CCR2 and CCR4 presence (amplification) in the CL-affected tissues proves the persistence of inflammatory genes in the tissue. The most affected seems the CL-affected epithelium followed by the connective tissue. The preliminary data doesn't show any difference in inflammatory gene expression between the clear non-syndromic and possibly syndromic CL.

INNERVATION, MOTILITY PEPTIDE AND EXTRACELLULAR MATRIX REMODELATION MARKERS IN PROXIMAL AND DISTAL OESOPHAGEAL TISSUE OF CHILDREN WITH OESOPHAGEAL ATRESIA (EA)

*Ms. Veronika Kulineca*¹

1. Riga Stradins University, Latvia

Keywords

Oesophageal atresia; innervation; immunohistochemistry

Objectives

EA is a congenital interruption of the oesophageal lumen caused by disturbed foregut morphogenesis. Abnormal innervation, motility signaling and extracellular matrix (ECM) remodeling are suspected in its pathogenesis, but their interplay in human EA tissue is poorly defined.

The aim of this study was to assess the distribution and relationships of PGP 9.5, motilin, MMP-1, MMP-2, MMP-9, TIMP-1, TIMP-2 and TIMP-4 in proximal and distal EA segments versus control oesophagus.

Methods

Formalin-fixed, paraffin-embedded proximal and distal oesophagus from children with EA and control cases were analysed immunohistochemically for PGP 9.5, motilin, MMP-1, MMP-2, MMP-9, TIMP-1, TIMP-2 and TIMP-4. According to published criteria, specimens were assigned to proximal, distal or control groups. Immunopositive structures were scored, group differences were tested with Kruskal–Wallis analysis, and Spearman's rank correlations were calculated for all EA segments.

Results

From all the factors, motilin positive structures were revealed to be more in the proximal EA, while TIMP-2 here was less distinct. MMP-2 and TIMP-1 dominated in the control tissue in comparison to the EA. In the distal segment, epithelial PGP 9.5 correlated strongly with nerve PGP 9.5, MMP-9 and TIMP-4, whereas epithelium motilin correlated negatively with PGP 9.5 and TIMP-4 ($|\rho| \geq 0.6$, $p < 0.05$). Distal MMP-2 epithelium showed positive correlations with TIMP-1 in epithelium and connective tissue. In the proximal EA, TIMP-1 and TIMP-4 in epithelium/connective tissue correlated positively with nerve PGP 9.5 and connective tissue MMP-2, while MMP-1 and MMP-2 in epithelium were inversely associated with nerve PGP 9.5 or motilin ($|\rho| \geq 0.6$, $p < 0.05$).

Conclusions

EA demonstrates altered MMPs and TIMPs expression, indicating disturbed ECM turnover. Segment-specific correlation patterns linking PGP 9.5, motilin, MMPs and TIMPs suggest that disrupted interaction between innervation, motility and ECM remodelling may contribute to EA pathogenesis.

MORPHOLOGICAL VARIATIONS OF THE CRUCIFORM EMINENCE AND A RESULTING CLASSIFICATION OF SKULLS

Mr. Ilans Birmans¹

1. Riga Stradins University, Latvia

Keywords

cruciform eminence; skull; variations; classification

Objectives

The study aimed to describe and classify the morphological variations of the cruciform eminence in 14 natural and 4 virtual skull samples.

Methods

Materials, instruments and “Anatome” were provided by the Laboratory of Anatomy of the Department of Morphology of the Institute of Anatomy and Anthropology at Riga Stradiņš University. The cruciform eminence, a key structure on the inner surface of the occipital bone, was measured using a compass, a ruler, and digital tools. Key assessments included the shortest cross-length of the grooves for the transverse sinuses (TSs), which was used to determine venous dominance, and the thickness of the groove for the superior sagittal sinus (SSS) along a 2.0 cm posterior segment to characterize its shape. The data was analyzed using MS Excel, noting variations, that were used to classify skulls.

Results

Classification of the 18 skulls revealed the following: left-sided dominance of the transverse sinus groove was the most common variation, found in 10 skulls (55.6%), compared to right-sided dominance in 7 skulls (38.9%). Only 1 skull (5.6%) showed no dominance. Regarding the posterior SSS groove, the concave shape was predominant in 8 skulls (44.4%). Upward narrowing was observed in 7 skulls (38.9%), with upward widening (1 skull, 5.6%) and convex shapes (2 skulls, 11.1%) being less frequent. Two skulls (11.1%) featured a groove for the occipital sinus instead of the usual internal occipital crest. Finally, the morphological characteristics of the cruciform eminence were largely consistent between the natural and virtual skull samples analyzed.

Conclusions

The cruciform eminence varies significantly across individuals. The most common characteristics identified were left-sided TS dominance, a concave SSS groove shape, and the absence of a groove for the occipital sinus. Importantly, the location of the cruciform eminence was found to be consistent across both the virtual and natural specimens.

MORPHOMETRIC CHARACTERIZATION OF MANDIBULAR LANDMARKS IN AN ADULT SKELETAL SAMPLE

Ms. Manon Ghesquiere¹

1. Riga Stradins University, Latvia

Keywords

Mandibular morphometry, craniofacial osteology, anatomical landmarks.

Objectives

For anatomical and clinical applications, including maxillofacial surgery, dental implantology and forensic diagnostics, it is essential to understand the dimensions of the mandibular landmarks. This study aimed to document and analyze the morphometric characteristics of the human mandibles by measuring key anatomical landmarks. The primary objectives were to establish baseline dimensions for the mandibular notch, condylar process, coronoid process and ramus, and to identify morphological discrepancies across various mandibular landmarks and explore the potential reasons for these variations.

Methods

Morphometric data were collected from a sample of 10 dry human mandibles. A digital Vernier caliper was employed to ensure precision in recording measurements for the following parameters: the mandibular notch (length), condylar width and height, coronoid width and length, ramus length and bigonial width. The data collection process used direct measurement techniques to determine linear distances between standardized osteometric landmarks, and these values were compared with published literature.

Results

The sample displayed mean mandibular notch lengths of 30.0 mm on the left and 29.0 mm on the right. Condylar measurements were recorded at 21.0 mm for width and between 24.0 and 25.0 mm for height. The coronoid process measured 18.0 – 20.0 mm in width and approximately 18.0 mm in length. Ramus length was consistent at 62.0 mm for both sides. A notably large bigonial width of 99.0 mm was observed across the sample. These dimensions indicate variability in mandibular structure, with many parameters and reasons aligning with typically documented characteristics.

Conclusions

The findings reveal a sample characterized by substantial mandibular dimensions, particularly in the condylar and bigonial regions. This study underscores the high level of individual variation present in mandibular anatomy and highlights the impact of sample-specific traits on osteometric data. These findings emphasize the need for population-specific references and standardized landmark definitions in mandibular morphometry.

MORPHOMETRIC VARIABILITY IN THE ORIGINS OF THE COMMON INTEROSSEOUS AND ULNAR RECURRENT ARTERIES

Ms. Viola Ivanova¹, Mr. Maksimuss Kolencovs¹

1. Riga Stradins University, Latvia

Keywords

Vascular morphometry. Common interosseous artery. Ulnar recurrent artery. Anatomical variations.

Objectives

The origins of the common interosseous and ulnar recurrent arteries exhibit considerable anatomical variation, although precise quantitative data are limited. Such variability may complicate surgical procedures and interventions involving the forearm. Therefore, the aim of this study was to assess morphometric variability by measuring the distance from the brachial artery bifurcation to the origins of the common interosseous and ulnar recurrent arteries.

Methods

Upper limb measurements were taken after exposing vascular structures during cadaveric dissection, using the bifurcation of the brachial artery as the reference point. Classic instruments such as the drawing compass and ruler traced the distances by hand, while the “Anatmage” table brought the process to life digitally, offering a virtual perspective from the same anatomical starting point.

Results

Morphometric analysis was conducted on 13 upper limbs from 7 specimens (5 male, 2 female). The distance from the brachial artery bifurcation to the origin of the common interosseous artery ranged from 12.3 to 38.7 mm (mean 26.1 ± 9.7 mm). In one specimen, the ulnar artery was transected 40.0 mm distal to the bifurcation, and no arterial branches were observed. The common ulnar recurrent artery originated at distances between 1.0 and 42.0 mm (mean 21.8 ± 11.6 mm). In three upper limbs, the ulnar recurrent artery did not present as a common trunk but instead arose as separate anterior and posterior branches, originating at mean distances of 11.3 mm (range 4.5 – 24.0 mm) and 26.2 mm (range 17.3 – 30.7 mm), respectively.

Conclusions

The origins of the common interosseous and ulnar recurrent arteries reveal a fascinating range of anatomical differences. Recognizing these variations can be crucial for surgeons and clinicians operating in the forearm and elbow regions.

SECULAR TRENDS IN BIZYGOMATIC AND BIGONIAL WIDTHS IN THE LATVIAN POOPULATION

***Ms. Līva Vinklere**¹*

1. Riga Stradins University, Latvia

Keywords

Bizygomatic width; Bigonial width; Cephalometric analysis; Secular craniofacial change; Latvian population

Objectives

This study aimed to investigate secular trends in craniofacial morphology in Latvia over approximately the last 100 years by comparing bizygomatic and bigonial widths between historical and contemporary populations. An additional objective was to compare the obtained results with findings reported in existing anthropological literature.

Methods

Contemporary data on bizygomatic and bigonial widths were obtained in 2024 from an existing longitudinal anthropometric study comprising individuals aged 1–18 years. For the present analysis, only data corresponding to 18-year-old participants were selected to represent adult craniofacial dimensions. The contemporary sample consisted of 143 participants, including 72 males and 71 females. Historical data were obtained by measuring cranial specimens from the historical osteological collection of the Institute of Anatomy and Anthropology. These specimens are estimated to be approximately 100 years old. In total, six skulls were suitable for bigonial width measurements and fifteen for bizygomatic width measurements. All measurements were performed using a digital vernier caliper to ensure measurement accuracy. Data processing and descriptive statistical analysis were conducted using Microsoft Excel and IBM SPSS Statistics.

Results

In the historical dataset, bigonial width was measured to be $9,82 \pm 0,41$ cm, while in the modern-day dataset it was $10,56 \pm 0,37$ cm, representing an increase of approximately 7.5%. The mean bizygomatic width of the historical dataset was $12,34 \pm 0,95$ cm while the modern-day average bizygomatic value was $13,55 \pm 0,45$ cm, corresponding to an increase of approximately 9.8%.

Conclusions

The results demonstrate notable differences between historical and modern-day bizygomatic and bigonial widths, suggesting a trend toward wider craniofacial dimensions in the contemporary Latvian population. These findings contrast with several reports in the literature describing a general narrowing of craniofacial dimensions over time. The observed discrepancy may reflect population-specific characteristics, methodological differences, or limitations related to the small size of the historical sample.

SIGNIFICANCE OF SCAPULAR MEASUREMENT IN SEX DETERMINATION AND ASSESSMENT OF STATURE ASYMMETRY IN PIEBALGA

***Ms. Linda Elva Andersone**¹*

1. Riga Stradins University, Latvia

Keywords

scapula, measurements, sex-related difference, stature, asymmetry

Objectives

The scapula is a unique upper-limb bone that plays a critical role in shoulder mobility. Its dimensions vary due to multiple factors and can help estimate sex and stature. This study calculates longitudinal scapular length (LSL) using data from the Piebalga research collection, compares these measurements, evaluates differences in scapular size by sex and LSL-to-stature ratio groups, and examines their association with upper-body asymmetry.

Methods

Anthropometric measurements of shoulder and scapular height were collected from 571 adults (215 males, 356 females) in the 2024 Piebalga research cohort in Latvia. Scapular dimensions were measured using an anthropometer. Statistical analyses were conducted with IBM SPSS Statistics version 31.0. Non-parametric data were evaluated using Spearman's correlation, Mann-Whitney U, Kruskal-Wallis and Wilcoxon tests.

Results

Men consistently exhibit larger scapular dimensions than women. Specifically, male scapular heights averaged 17.40 cm on the left and 16.99 cm on the right, while female measurements were notably smaller at 14.59 cm and 14.39 cm, respectively. Beyond absolute size, the study found that men also have a higher scapula-to-body height ratio, meaning their shoulder blades are larger in proportion to their total height than women's. A significant finding involved bilateral asymmetry and dominance. Interestingly, the study observed that left-sided dominance was more prevalent in men (58%), whereas right-sided dominance was more common in women (57%). Despite differences in dominance, a strong correlation ($\rho = 0.851$; $p < 0.001$) was observed between the left and right sides, and moderate positive correlations were found between scapular height and overall body height.

Conclusions

Scapular measurements are valuable tools for anthropological and forensic assessments, particularly in sex estimation. While the findings provide a clear baseline for the Latvian population, the researchers suggest that future studies should include a wider variety of measurements to better understand the diverse factors that influence scapular variation.

THE CORRELATION BETWEEN MARSH I TYPE CHANGES IN THE DUODENUM AND H. PYLORI PRESENCE IN GASTRIC BIOPSY.

Ms. Leticija Karele¹, Ms. Sofija Bella Ķeruze¹, Ms. Alina Vančuka¹, Ms. Paula Luīze Rātfeldere¹, Ms. Madara Ķeze¹

1. Riga Stradins University, Latvia

Keywords

Celiac disease, *H. pylori*, gastritis, Marsh classification, reactive gastropathy

Objectives

Celiac disease (ICD-10 K90.0) is characterised by gluten intolerance and the diagnostic classification of Marsh types I-IV based on duodenal biopsy material. *Helicobacter pylori* is a common cause of gastritis. Both diseases may have duodenal villous atrophy and increased intra-epithelial lymphocytes. Marsh I type changes should be interpreted together with serology and clinical symptoms to avoid celiac hyperdiagnostic.

Methods

50 fibrogastroscopy cases with Marsh I type changes in the duodenum from the Academic Histology Laboratory were analysed. All cases had the ICD-10 code K29 (gastritis and duodenitis). Biopsy material was stained with hematoxylin and eosin, Giemsa, CD3 immunohistochemistry.

On 03.02.2025, the RSU ethics committee approval with the Nr. 2-PĒK-4/223/2025 was obtained.

Results were analysed statistically with SPSS – Shapiro-Wilk, Chi-Square, etc.

Results

9 patients were male, and 41 were female. The patients' ages varied from 14 to 77 years (the mean age 38,78). 38% of patients (n=19) were *H.pylori* positive. In all cases, Marsh I changes were found in the duodenum (>30 intraepithelial lymphocytes, normal duodenal villi). Chronic active gastritis was present in 18 cases (36%), chronic nonactive gastritis in 9 cases (18%). Chronic gastritis with atrophy was found in 42 cases (84%). Intestinal metaplasia was found in 8 cases (16%). 23 patients (46%) had reactive gastropathy. There is a statistically significant association between *H. pylori* infection status and chronic active gastritis ($p<0,001$), as well as *H. pylori* and reactive gastropathy ($p<0,001$).

Conclusions

1. Celiac diagnostic methods should include serology, clinical symptoms, and duodenal biopsy with histology.
2. *H.pylori* infection and celiac disease can cause similar histological Marsh I type changes in the duodenum.

In our study, 38% of cases were *H. pylori* positive. A repeat FGS and duodenal biopsy are necessary for celiac diagnostic clarification after *H. pylori* eradication.

The Impact of Blood Ethyl Alcohol on Carboxyhemoglobin Concentration: A Post-mortem Analysis of Fire-related Fatalities

Ms. Atene Znamenskaite¹, Ms. Karolina Michailovska¹

1. Vilnius University, Lithuania

Keywords

carboxyhemoglobin, ethanol, autopsy, fire – related deaths, forensic pathology

Objectives

Ethanol intoxication is a well-recognised risk factor for fire-related fatalities. The behavioural effects of ethanol on fire risk are well recognised, however the interaction with carboxyhemoglobin remains unclear. This study aims to examine the concentrations of post-mortem blood carboxyhemoglobin (COHb) and ethanol (EA) in fire victims to evaluate potential interaction between these substances and other contributing variables.

Methods

A retrospective study of 155 fire-related accident victims was conducted in State Forensic Medicine Service of Lithuania between 2005 and 2024. Post-mortem blood carboxyhemoglobin (COHb) and ethyl alcohol (EA) concentrations in fire victims were examined to assess potential interactions between these substances and COHb variation in relation to sex, age, aortic stenosis, and place of death.

Results

The mean blood COHb concentration was $58.10 \pm 17.4\%$ (median 62.20%). Ethyl alcohol was detected in 78% of cases. Mean COHb concentration was $49.67 \pm 19.86\%$ (median 55.10%) in ethanol-undetected cases and $60.48 \pm 16.42\%$ (median 64.80%) in ethanol-detected cases. The study population ($n = 155$) had a mean age of 56.27 ± 14.46 years (median 55 years), 54.39 ± 13.18 years for males and 62.71 ± 16.84 years for females. Cases occurred at houses (63%), apartments (19%), and other locations (18%). Coronary artery stenosis between 25 and 50 %, the mean carboxyhemoglobin concentration was $59.12 \pm 16.86\%$, median 62.25%. For stenosis between 50 and 75 %, the mean was $56.82 \pm 20.57\%$, with a median of 65.20 %. In cases with stenosis greater than 75 %, the mean carboxyhemoglobin concentration was $55.21 \pm 18.09\%$, with a median of 58.75 %.

Conclusions

Ethanol has no significant effect on carboxyhemoglobin levels. Carboxyhemoglobin levels correlated with age and varied by place of death.

Oncology & Hematology

ASSESSMENT OF HEALTH-RELATED QUALITY OF LIFE WITH THE PEDSQL 3.0 CANCER MODULE IN LATVIAN PAEDIATRIC ONCOLOGY PATIENTS

***Ms. Dārta Valdovska**¹*

1. Riga Stradins University, Latvia

Keywords

Health-related quality of life; Cancer; Children; Parents

Introduction

-

Case Description

-

Summary

-

Objectives

Health-related quality of life (HRQoL) assessment is an essential component of paediatric oncology care. The Paediatric Quality of Life Inventory (PedsQL) 3.0 Cancer Module is widely used to evaluate disease-specific HRQoL in children aged 2–18 years. This study assessed the reliability of the Latvian version of the module and examined HRQoL across age, gender, diagnosis, and therapy intensity subgroups.

Methods

A methodological, descriptive, cross-sectional study was conducted at the Children's Clinical University Hospital (CCUH), in Riga, from February to July 2025. Seventy-five paediatric oncology patients (2–18 years) and their parents completed the PedsQL 3.0 Cancer Module, which consists of patient self-report and parent proxy-report questionnaires. Socio-demographic and clinical data were obtained from medical records.

Results

A total of 75 children and their families were included and participated in this study. Overall, 74 parents and 51 patients provided responses. Most domains demonstrated acceptable internal consistency, with higher reliability in proxy-reports, especially for younger children. No significant differences emerged between self- and proxy-reports; however, proxy-reporters generally reported lower HRQoL than the children themselves. Lower HRQoL scores were noted for procedural anxiety in the youngest cohorts, communication and worry in 8–12-year-olds, nausea and cognitive problems in adolescents. Proxy-reports showed significantly lower physical appearance scores for CNS tumours versus haematological malignancies. In self-reports, higher treatment intensity was associated with lower procedural anxiety scores.

Conclusions

The Latvian PedsQL 3.0 Cancer Module is a reliable tool for assessing HRQoL in paediatric oncology patients. Subgroup differences were modest, supporting its broad applicability in clinical and research settings. Based on these preliminary findings, a structured plan has been established for administering this instrument to children with cancer and defined time intervals have been specified to ensure its systematic and routine implementation.

ASSESSMENT OF INDUCTION CHEMOTHERAPY RESPONSE IN PATIENTS WITH LOCALLY ADVANCED ORAL CAVITY SQUAMOUS CELL CARCINOMA

***Ms. Linda Kalnīte*¹**

1. University of Latvia, Latvia

Keywords

Oral cavity squamous cell carcinoma; Induction chemotherapy; Survival outcomes

Objectives

Oral cavity squamous cell carcinoma (OCSCC) is one of the most common head and neck cancers, and treatment of locally advanced forms often requires aggressive local therapy with significant functional disability. This study aimed to evaluate the effectiveness of induction chemotherapy (ICT) in patients with OCSCC by analyzing progression-free survival (PFS), overall survival (OS) and identifying factors influencing treatment outcomes.

Methods

A retrospective cohort study was conducted at Pauls Stradiņš Clinical University Hospital and included 17 patients with OCSCC treated between 2020 and 2022. Data was obtained from the hospital medical archive and included tumor localization and stage (TNM classification), type and number of ICT, surgical treatment status, presence and timing of local recurrence, and development of metastases. Statistical analysis was performed using IBM SPSS.

Results

The mean age of patients was 57 years (range 35–75), and most had stage IV disease (64.8%). Patients received a mean of 3 (range 1-6) ICT courses, and 47.1% underwent surgical treatment. Following ICT, 47.1% achieved partial response, 5.8 % had stable disease, and 47.1% progressed. Overall mortality reached 76.5%. Median PFS was 2.6 months without surgery and 28.6 months with surgery, while median OS was 8.3 and 35.3 months, respectively. Mean OS increased from 6.9 months to 41.9 months in favor of surgical treatment. Surgery following ICT was significantly associated with longer PFS ($p = 0.866$, $p < 0.001$) and OS ($p = 0.842$, $p < 0.001$). The number of ICT courses and tumor stage were not significantly associated with survival outcomes.

Conclusions

Surgical treatment following induction chemotherapy was the only factor significantly associated with improved survival outcomes in patients with locally advanced OCSCC, whereas the number of ICT courses and tumor stage showed no significant impact on progression-free or overall survival.

CARDIAC FOLLOW-UP IN CHILDHOOD CANCER SURVIVORS: A RETROSPECTIVE ANALYSIS OF SINGLE CENTER LONG-TERM OBSERVATION

Mr. Žygimantas Migauskas¹, Mr. Ernestas Iljin², Ms. Paulina Stočkūnaitė²

1. Lithuanian University of Health Sciences, Lithuania, 2. Hospital of Lithuanian University of Health Sciences Kaunas Clinics, Lithuania

Keywords

Cardiac follow-up; Childhood cancer; Cardiotoxicity.

Objectives

To investigate the frequency of cardiac follow-up after cancer treatment, and to quantify the long-term effects on the cardiovascular system.

Methods

Retrospective analysis of patients (aged 1mo to 16yrs at time of diagnosis) treated in the paediatric oncology department (from May 2017 to December 2025) was performed using an electronic database system. Demographic, treatment, and cardiac follow-up (including electrocardiogram (ECG) and transthoracic echocardiogram (TTE)) data was collected.

Results

44 patients (24 male/20 female) with a mean age of 5.25yrs were included in the study. They were treated for 15 different cancer types, with the most common(N=7) being nephroblastoma. 6 patients with neurofibromatosis were not treated, and had no follow-up data. Out of the remaining sample size(N=38), majority(58%) received only chemotherapy, while the rest were split between only radiotherapy(13%) and a combination of both(24%). Two patients received treatment, but available documentation did not indicate what type. 36 patients(95%) had at least one cardiac follow-up visit, 26 patients(68%) had 2 or more visits, with an average of 14.1mo between visits (range 4-40mo). Observation period for the majority of cohort(79%) was less than 5yrs. All patients had at least one ECG and 94%(N=34) had at least one TTE done during follow-up. Ejection fraction stayed within normal parameters (median 70%, range 56-85%). One patient had abnormal ECG findings (premature ventricular contractions) that required treatment, only three patients had pathological valve regurgitation above the third degree (two patients with isolated tricuspid and two patients with both tricuspid and pulmonary valve regurgitation).

Conclusions

This data demonstrates that paediatric cancer survivors receive timely cardiac follow-up right after treatment at our center. We did not identify significant short term cardiovascular sequelae for majority of patients. Further studies and longer observation period are needed to demonstrate the efficiency of the current observation model and thoroughness of evaluation.

CLINICAL AND EPIDEMIOLOGICAL CHARACTERISTICS OF NEWLY DIAGNOSED LUNG CANCER PATIENTS: A SINGLE-CENTER STUDY AT PAULS STRADIŅŠ CLINICAL UNIVERSITY HOSPITAL.

***Ms. Džiliāna Heinrihsone**¹*

1. Riga Stradins University, Latvia

Keywords

Lung cancer, newly diagnosed, epidemiology, smoking

Objectives

Lung cancer remains a leading cause of cancer-related mortality worldwide, largely due to late-stage diagnosis. The aim of this study was to analyse real-world clinical and epidemiological data from patients newly diagnosed with lung cancer over a one-year period at a tertiary care centre.

Methods

This retrospective, single-centre study included patients with newly diagnosed, histologically confirmed lung cancer who were treated at a tertiary care centre in 2025. Demographic characteristics, smoking history, tumour histology, disease stage according to the TNM 9th edition, tumour localisation, diagnostic procedures and initial treatment modalities were analysed descriptively from electronic medical records.

Results

A total of 239 patients with newly diagnosed, histologically confirmed lung cancer were included in the study (23% women and 77% men), with a mean age of 68.3 years. Overall, 80% of patients had a history of smoking (48% of women versus 90% of men). Adenocarcinoma was the most common histological subtype, particularly among women, while squamous cell carcinoma predominated in men. According to the TNM 9th edition, 31.5% of patients had early-stage disease (stages I–II), while 68.5% had advanced-stage disease (stages III–IV), including 38.5% with stage IV disease. Tumours were more frequently located in the right lung (59.4%). PET/CT was performed in 46% of cases. Surgery was performed on 31.5% of patients; 45.6% received chemotherapy; and 15% received symptomatic or palliative care. Radiotherapy, targeted therapy, and immunotherapy were also used.

Conclusions

This study shows that most lung cancer patients in Latvia are diagnosed at an advanced stage of the disease, primarily with adenocarcinoma, which limits their eligibility for radical treatment. These findings highlight the need for further research and implementation of lung cancer screening and early diagnostics, including development of novel biomarkers, to enable earlier detection and improve treatment opportunities and patient outcomes in Latvia.

CRITICAL CARE MANAGEMENT OF PATIENTS RECEIVING CAR T-CELL THERAPY

Ms. Gerda Kisielytė¹, Ms. Benita Jonušaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

CAR T-cell therapy, Cytokine release syndrome, ICANS, Immunotherapy

Objectives

The aim of this systematic review is to evaluate critical care aspects of CAR T-cell therapy, with emphasis on the pathophysiology of immune-mediated toxicities, major intensive care complications, and principles of intensive care management in patients receiving this treatment.

Methods

A systematic review of 33 peer-reviewed studies published within the last five years was conducted using structured searches of major medical databases. Studies were selected according to predefined inclusion criteria and reviewed following PRISMA guidelines.

Results

CAR T-cell therapy-related toxicities arise from immune-mediated systemic inflammation, endothelial dysfunction, and coagulation dysregulation [1–10]. Cytokine release syndrome occurs in 70–90% of patients and may progress to vasodilatory shock and multiorgan failure, requiring early recognition and severity-guided management [11–16]. Immune effector cell-associated neurotoxicity syndrome affects 23–68% of patients, typically developing within 5–6 days after infusion and often necessitating intensive supportive care [17–21]. Respiratory failure occurs in approximately 10% of patients, frequently in association with severe CRS, and may require invasive mechanical ventilation [22–25]. Overall, 27–35% of patients require ICU admission, with shock and acute kidney injury being the leading causes; high-grade CRS and elevated SOFA scores predict mortality, although short-term outcomes remain acceptable with timely standardized ICU care [26–33].

Conclusions

CAR T-cell therapy is highly effective but frequently associated with life-threatening toxicities requiring intensive care. Early recognition of CRS and ICANS, prompt organ support, and standardized ICU management are essential to reduce morbidity and mortality while preserving the therapeutic benefit of this advanced immunotherapy.

IMPACT OF FIRST-LINE PALLIATIVE CHEMOTHERAPY ON PROGRESSION-FREE SURVIVAL IN PATIENTS WITH METASTATIC GASTRIC CANCER AT PSKUS (2020-2024)

Ms. Katrina Andrejeva¹

1. University of Latvia, Latvia

Keywords

Metastatic gastric cancer, progression-free survival, palliative chemotherapy, first-line treatment

Objectives

Gastric cancer is frequently diagnosed at an advanced stage, when curative treatment is no longer possible and palliative chemotherapy remains the main therapeutic option. Progression-free survival (PFS) is an important indicator of treatment effectiveness in metastatic disease.

The aim of this study was to evaluate PFS and treatment outcomes after first-line palliative chemotherapy in patients with metastatic gastric cancer.

Methods

A retrospective cohort study was performed using medical records of patients with histologically confirmed metastatic (stage IV) gastric adenocarcinoma. Data were obtained from oncology multidisciplinary team decisions and medical documentation. PFS was defined as the time period from initiation of first-line palliative chemotherapy to radiologically confirmed disease progression or death and was calculated in months.

Results

A total of 94 patients with metastatic gastric adenocarcinoma were included in the study. The cohort consisted of 40 women (42.6%) and 54 men (57.4%). The most common site of distant metastases was the liver, and poorly differentiated tumours (grade 3) predominated. First-line palliative chemotherapy was administered to 39 patients. The most frequently used chemotherapy regimens were FLO (5-fluorouracil, leucovorin, oxaliplatin) and FOLFOX (oxaliplatin, leucovorin, 5-fluorouracil), FLOT (5-fluorouracil, leucovorin, oxaliplatin, docetaxel) was used less frequently. Median progression-free survival differed between treatment groups: 4.9 months with FLO, 6.7 months with FOLFOX and 6.2 months with FLOT. The overall median PFS among patients receiving chemotherapy was 6.5 months.

Conclusions

Progression-free survival after first-line palliative chemotherapy in metastatic gastric cancer remains limited. FOLFOX and FLOT regimens were associated with longer PFS compared to FLO. Real-world data from PSKUS provide valuable insights into first-line treatment effectiveness in metastatic gastric cancer.

PERIOPERATIVE ANESTHETIC CONSIDERATIONS IN PATIENTS RECEIVING MODERN CANCER THERAPIES: A SYSTEMATIC REVIEW

Ms. Gerda Kisielytė¹, Ms. Benita Jonušaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Perioperative anesthesia, Cancer therapies, Chemotherapy, Immunotherapy, Anesthetic risk.

Objectives

The aim of this systematic review is to evaluate perioperative anesthetic considerations in patients receiving modern cancer therapies, with emphasis on therapy-related multisystem toxicities, organ-specific perioperative risks, drug–drug interactions, and implications for anesthetic management and patient safety.

Methods

A systematic review of 29 peer-reviewed studies published within the last five years was conducted using a structured search of major medical databases. Studies were selected based on predefined criteria and reviewed in accordance with PRISMA guidelines.

Results

Modern cancer therapies are associated with significant perioperative risks affecting multiple organ systems. Cardiovascular toxicities include cardiomyopathy, arrhythmias, hypertension, QT prolongation, ischemia, and immune-mediated myocarditis [1-3]. Pulmonary complications occur in 15.0–38.3% of cases and are exacerbated by bleomycin, immune checkpoint inhibitors, and tumor- or radiation-related airway distortion [4-8]. Immune-related complications, including autoimmune reactions and severe inflammatory syndromes, may be worsened by surgery and anesthesia [9-13]. Hematological abnormalities such as anemia, leukopenia, thrombocytopenia, bleeding, and thrombotic risk are common [14-19]. In addition, drug–drug interactions and surgical timing significantly influence anesthetic planning and perioperative safety [20-29].

Conclusions

Modern cancer therapies substantially increase perioperative anesthetic risk through multisystem toxicities. Awareness of these effects, thorough preoperative assessment, multidisciplinary collaboration, and individualized anesthetic planning are essential to optimize perioperative safety and outcomes in oncology patients.

PRE-TREATMENT IMMUNE MEDIATORS PREDICT POST-TREATMENT CLINICAL BIOMARKERS IN BREAST CANCER SURVIVORS

*Ms. Deina Vilite*¹

1. Riga Stradins University, Latvia

Keywords

Breast cancer survivors; Immune biomarkers; Metabolic outcomes; Biomarker prediction

Objectives

Breast cancer (BC) survivorship is often accompanied by persistent metabolic and inflammatory disturbances. While clinical predictors such as hsCRP, metabolic parameters, and tumour markers are commonly used to monitor survivors, they mainly reflect downstream changes. It remains unclear whether baseline immune mediators underlying tumour–host interactions can predict post-treatment metabolic and oncological outcomes. Therefore, this study aimed to examine whether pre-treatment levels of IL-6, IL-27, M-CSF, CXCL9, EGF, and sCD40L predict metabolic, inflammatory, endocrine, and tumour-related parameters after therapy in BC survivors.

Methods

This exploratory subgroup analysis (n=17) was conducted within a longitudinal BC cohort. Pre-treatment inflammatory biomarkers (IL-6, IL-27, M-CSF, CXCL9, EGF, and sCD40L) were assessed, and clinical parameters (hsCRP, cortisol, insulin, glucose, HbA1c, alpha-fetoprotein, CA 15-3, CA 19-9, CEA, IGF-1, and lipid profile) were measured 18 months after treatment. Linear mixed models (LMMs) with AIC-based model selection were used to examine associations between baseline inflammatory biomarkers and post-treatment clinical outcomes.

Results

LMMs identified four baseline markers as predictors of post-treatment outcomes. Baseline IL-6 was positively associated with hsCRP, whereas M-CSF showed an inverse association (both $p < 0.001$). Post-treatment cortisol levels were positively associated with baseline IL-27 and negatively associated with baseline IL-6 ($p < 0.01$). In addition, baseline CXCL9 was a significant positive predictor of both CA 15-3 ($p = 0.048$) and triglyceride levels ($p = 0.001$).

Conclusions

This investigation identifies baseline levels of IL-6, IL-27, M-CSF, and CXCL9 as predictive markers of post-treatment inflammatory, endocrine, and metabolic profiles in BC survivors. These findings suggest that specific baseline immune mediators may uncover long-term systemic alterations following BC therapy and help guide targeted survivorship interventions.

PROGNOSTIC FACTORS OF PROGRESSION-FREE SURVIVAL TIME OF NON-SMALL CELL BRONCHOPULMONARY CANCER PATIENTS UNDERGOING TARGETED THERAPY

Mr. Sebastian Pintilie¹

1. Iuliu Hațieganu University of Medicine and Pharmacy, Romania

Keywords

Osimertinib, EGFR, NSCLC, prognostic factors

Objectives

The first-line treatment for EGFR+ metastatic non-small cell bronchopulmonary cancer is Osimertinib, a tyrosin kinase (TK) inhibitor which specifically targets the EGFR TK. The aim of this study was to assess possible prognostic factors for the progression-free survival time (the time elapsed from the beginning of treatment to either disease progression or death) of patients under treatment with Osimertinib.

Methods

A retrospective collection of available data from patients who had begun treatment between November 2020 and July 2024 was performed; these patients were afterwards prospectively followed until January 2025 to assess survival time. Multiple prognostic factors were collected, when available. The Kaplan-Meier method was used for analyzing survival time, and the Log-Rank test was employed to test for differences between survival time. Data was analyzed using Jamovi.

Results

A total of 79 eligible patients were included in the study, with a median progression-free survival time of 651 days (95% CI: 545-848 days). Survival time was not significantly different depending on sex ($p=0.356$), tumor size (T) ($p=0.077$), lymph node involvement (N) ($p=0.389$), PDL1 expression ($p=0.245$) or the EGFR mutation site ($p=0.205$). There was no difference in survival between the main metastasis locations ($p=0.089$), although taken independently, patients presenting respiratory system metastases presented a significantly lower survival time ($p=0.002$) when compared to patients with any other metastasis location.

Conclusions

This study has not shown any statistically significant prognostic factor for the progression-free survival time of the investigated patients, with the exception of the presence of respiratory system metastases as compared to any other localization. This partially agrees with other findings in literature. Further prospective studies on larger samples are necessary, especially to accurately pinpoint the usefulness of tumor size and metastatic site as the most likely prognostic factors.

PROLIFERATION OVER MUTATION: INDEPENDENT PROGNOSTIC VALUE OF MITOTIC INDEX IN MELANOMA

Mr. Valters Vēgelis¹

1. Riga Stradins University, Latvia

Keywords

melanoma, survival, mitotic index, BRAF, NRAS

Objectives

Histopathological and molecular features are widely used for risk stratification in melanoma patients, yet their relative prognostic significance remains incompletely defined. This study aimed to evaluate the association between melanoma driver mutations and histopathological phenotypes, and to assess their independent prognostic value with respect to patient survival.

Methods

A retrospective cohort of melanoma patients with known BRAF and NRAS mutation status was analyzed for mitotic index, lymphocytic infiltration, and giant cell count. Associations between categorical and ordinal variables were assessed using chi-square and trend analysis. Overall survival was evaluated by Kaplan-Meier analysis and compared by log-rank testing. Independent prognostic factors were identified using multivariable Cox proportional hazards regression.

Results

Within the observed cohort, a significant phenotype-phenotype association was found between the mitotic index and the giant cell count ($p = 0.004$). Kaplan-Meier analysis demonstrated significantly worse survival in individuals with a greater mitotic index ($p < 0.001$). In multivariable Cox regression, neither BRAF nor NRAS mutation status was independently associated with survival ($p = 0.718$ and $p = 0.897$, respectively) when adjusted for mitotic index, demonstrating mitotic index as an independent prognostic factor ($p = 0.002$).

Conclusions

Mitotic index is an independent prognostic factor in melanoma patients, while BRAF and NRAS mutation status may influence survival indirectly through its association with tumor proliferation.

RADIOLOGICAL AND CYTOLOGICAL CORRELATION OF LYMPH NODE ASSESSMENT IN BREAST CANCER PATIENTS

***Ms. Nameda Mancēviča*¹**

1. Riga Stradins University, Latvia

Keywords

Breast cancer; lymph nodes; diagnostic accuracy

Objectives

Although radiological imaging is widely used to identify suspicious lymph nodes, imaging features do not always correlate with malignancy. This study aimed to assess the correlation between radiological assessment and cytological findings of suspicious lymph nodes in breast cancer patients.

Methods

This retrospective study included 706 patients with stage I–III breast cancer treated at Pauls Stradiņš Clinical University Hospital between 2023 and 2025. Diagnostic agreement and accuracy were evaluated using contingency tables. Sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and Cohen's kappa coefficient were calculated. Statistical analysis was performed using IBM SPSS Statistics.

Results

The study population consisted of 703 female (99.6%) and 3 male (0.4%) patients. The median age at diagnosis was 60 years (range 26–98). Cytological examination of lymph nodes was performed in 318 patients (45.0%) and was not performed in 388 patients (55.0%). Among cytologically positive lymph nodes ($n = 184$), radiological assessment was positive in 162 cases (88.0%) and negative in 22 cases (12.0%). In cytologically negative cases ($n = 134$), radiological findings were negative in 93 cases (69.4%) and positive in 41 cases (30.6%). Using cytology as the reference method, radiological assessment demonstrated a sensitivity of 88.0% and a specificity of 69.4%. The PPV was 79.8%, and the NPV was 80.9%. A statistically significant moderate agreement between radiological and cytological findings was observed (Cohen's $\kappa = 0.586$, $p < 0.001$). In patients who did not undergo cytological examination, radiological findings were predominantly negative (95.6%).

Conclusions

Radiological assessment of lymph nodes in breast cancer patients showed high sensitivity and moderate agreement with cytology. Cytological verification may help identify false-positive imaging findings, supporting a selective combined diagnostic approach.

SEPSIS AND SEPTIC SHOCK IN PATIENTS WITH HEMATOLOGICAL MALIGNANCIES

Ms. Gerda Kisielytė¹, Ms. Benita Jonušaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Sepsis, Hematological malignancies, Immunosuppression, Antimicrobial resistance

Objectives

The aim of this systematic review is to evaluate sepsis in patients with hematological malignancies, with emphasis on epidemiology, pathophysiology, microbiological spectrum, clinical presentation, diagnostic challenges, and management strategies in this high-risk population.

Methods

A systematic review of 30 peer-reviewed studies published since 2021 was conducted using structured searches of major medical databases. Studies were selected according to predefined inclusion and exclusion criteria and analyzed in accordance with PRISMA guidelines.

Results

Sepsis affects approximately 9.1% of hospitalized cancer patients and occurs more frequently in those with hematological malignancies, particularly acute leukemia and severe aplastic anemia [1-5]. Incidence increases following hematopoietic stem cell transplantation, reaching 10.2% compared with 2.5% in non-transplanted patients [6]. Major risk factors include neutropenia, myelosuppressive chemotherapy, invasive devices, and prior infections, while septic shock and active disease status predict mortality [7–10]. Pathophysiology is characterized by immune dysregulation, cytokine imbalance, and progression to immune exhaustion [11–14]. Gram-negative bacteria predominate, with high rates of antimicrobial resistance [15–22]. Diagnosis is complicated by atypical presentations and limited accuracy of conventional markers, whereas advanced biomarkers improve diagnostic performance [23–29]. Despite declining mortality, outcomes remain poor in patients with septic shock or organ failure [30–32].

Conclusions

Sepsis in patients with hematological malignancies remains a severe and life-threatening condition. Early recognition, advanced diagnostic strategies, and timely multidisciplinary intensive care management are essential to reduce morbidity and mortality in this vulnerable population.

SINGLE-CELL RNA-SEQUENCING REVEALS DYNAMIC AND DIVERGENT IMMUNE REMODELING IN RESPONSE TO THERAPY IN CHRONIC LYMPHOCYTIC LEUKEMIA

Ms. Aysha Rafeeqe¹, Ms. Arta Adele Pore¹

1. Riga Stradins University, Latvia

Keywords

Chronic lymphocytic leukemia; single-cell RNA sequencing; immune remodeling; therapy response

Objectives

Chronic lymphocytic leukemia (CLL) is characterized by the accumulation of CD5⁺ B cells in secondary lymphoid organs, blood, and bone marrow. Disease course and treatment response vary widely and are associated with immunoglobulin heavy chain variable (IGHV) mutational status. However, how immune cell states and intercellular programs vary across treatment contexts and relate to treatment response remains incompletely understood. Here, we aimed to define treatment-associated immune remodeling in CLL by integrating and re-analyzing publicly available single-cell RNA-seq datasets spanning diverse therapeutic exposures and response contexts.

Methods

Public CLL single-cell RNA-seq datasets (GSE165087, GSE161610, GSE111014), comprising peripheral blood mononuclear cells from 18 patients across heterogeneous clinical and treatment contexts (including IGHV-mutated and unmutated disease, watch-and-wait, post-chemoimmunotherapy relapse, and ibrutinib-treated states), were reprocessed in Seurat. After quality control, doublet removal, and exclusion of erythrocyte and platelet contamination, datasets were normalized per dataset using SCTransform. We then integrated them using RPCA-based anchor finding (3,000 integration features and the first 30 dimensions). The integrated assay was used for downstream analyses.

Results

Cell-type annotation and gene signature scoring delineated distinct and dynamic leukemic cell-intrinsic and immune compartment programs across treatment conditions. Patient-aware pseudobulk differential expression analyses identified therapy-associated transcriptional changes. Pathway enrichment revealed these to involve altered immune activation and exhaustion-related pathways, quantifying divergent immune and leukemic remodeling.

Conclusions

Leveraging publicly available single-cell RNA-seq datasets offers a powerful approach for understanding therapy-driven leukemic and immune remodeling in CLL.

TAXONOMIC DYNAMICS OF THE GUT MICROBIOME IN LATVIAN PEDIATRIC HEMATO-ONCOLOGY PATIENTS UNDERGOING CHEMOTHERAPY

*Mr. Valters Dumpis*¹

1. Riga Stradins University, Latvia

Keywords

pediatric hemato-oncology; gut microbiome; dysbiosis; chemotherapy; longitudinal analysis

Objectives

Hemato-oncological treatment in pediatric patients is associated with pronounced alterations in the gut microbiome, including reduced microbial diversity and rapid compositional shifts during early treatment phases. These changes occur in the context of intensive therapy and disease-related physiological stress, while longitudinal microbiome dynamics in pediatric hemato-oncology remain insufficiently characterized. This study aimed to describe the taxonomic composition and longitudinal dynamics of the fecal microbiome in children with newly diagnosed hemato-oncological malignancies undergoing chemotherapy.

Methods

Children aged 0–17 years with confirmed hemato-oncological malignancies receiving chemotherapy at a single tertiary pediatric center were enrolled. Fecal samples were collected longitudinally at four predefined timepoints: before chemotherapy initiation (T1), 3 days (T2), 7 days (T3), and 1 month (T4) after therapy start. Microbial DNA was extracted using standardized automated workflows and analyzed by shotgun metagenomic sequencing on the DNBSEQ-G400RS platform (≥ 20 million reads per sample). Quality control, host-read removal, and taxonomic profiling were performed using fastp, bowtie2, and Kraken. Alpha and beta diversity metrics, community structure, and differential taxonomic abundance were analyzed in R using vegan, PERMANOVA, and limma-voom frameworks.

Results

Preliminary analyses demonstrated significant alterations in gut microbiome composition during chemotherapy, with reduced alpha diversity and pronounced early shifts following treatment initiation. Decreases in *Bacteroides uniformis*, *Bacteroides thetaiotaomicron*, and *Agathobacter rectalis* were observed, alongside increases in *Clostridium innocuum*, *Faecalibacterium prausnitzii* (subgroup C), and *Alistipes shahii*. Microbial community structure showed substantial divergence from baseline at early timepoints, with only partial recovery over the observed period.

Conclusions

Pediatric hemato-oncology patients exhibit marked baseline and therapy-associated gut microbiome alterations that persist during early chemotherapy. These preliminary findings highlight dynamic taxonomic restructuring during treatment and support further longitudinal analyses integrating additional clinical and environmental factors.

Ophthalmology

ARTIFICIAL INTELLIGENCE FOR EARLY DETECTION OF DIABETIC RETINOPATHY

Mr. Kazimieras Kaušyla¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Diabetic retinopathy; Artificial intelligence; Retinal imaging; Clinical validation

Objectives

The aim of this systematic review is to evaluate the role of artificial intelligence in the early detection of diabetic retinopathy, with emphasis on diagnostic performance, retinal imaging modalities, clinical validation, and real-world implementation in screening programs.

Methods

A PRISMA-guided systematic review of 32 peer-reviewed studies published between 2021 and 2025 was conducted using PubMed-indexed literature. Included studies evaluated AI-based retinal imaging systems for early diabetic retinopathy detection, reporting diagnostic accuracy metrics and clinical validation outcomes.

Results

Diabetic retinopathy (DR) was identified as a major microvascular complication of diabetes associated with systemic vascular damage and increased cardiovascular and renal risk, with disease severity closely related to glycemic control [1-6]. Retinal imaging modalities, including fundus photography and optical coherence tomography, remain central to early DR detection, while AI-based systems demonstrated superior accuracy for identifying subtle early retinal lesions [7–12]. AI-driven diagnostic approaches achieved high performance, with reported accuracy up to 99.18%, sensitivity of 98.15%, and specificity reaching 100% for vision-threatening disease [13]. Meta-analyses reported pooled sensitivity of 87.7% and specificity of 90.6%, with real-world negative predictive values $\geq 96\%$ and positive predictive values $\geq 90\%$ [14–16]. Clinical validation studies demonstrated AUROC values ranging from 0.88 to 0.99 for referable DR detection, with performance comparable or superior to ophthalmologists [17,18]. Evidence from real-world studies and meta-analyses supports the clinical reliability and readiness of AI-based DR screening systems [19,20].

Conclusions

Artificial intelligence represents an effective and clinically validated approach for early diabetic retinopathy screening. Integration of AI with retinal imaging improves early detection and screening efficiency, particularly in resource-limited settings, although challenges related to implementation, ethics, and clinical integration remain.

ASSOCIATION BETWEEN PANRETINAL PHOTOCOAGULATION COVERAGE AND ANTI-VEGF INJECTION THERAPY RESULTS IN DIABETIC MACULOPATHY PATIENTS

Mr. Jānis Tikmers¹

1. Riga Stradins University, Latvia

Keywords

Diabetic maculopathy; Anti-VEGF injections; Laser photocoagulation; Peripheral retina

Objectives

Diabetic maculopathy (DM) is the root cause of visual impairment in diabetic patients, particularly type 2. Nowadays the main monotherapy for this condition is considered anti-VEGF injections intravitreally, which have replaced laser retinal photocoagulation- a well-proven therapeutic option. However, recent studies have shown that combining these two approaches improves patient outcomes. The aim of the study was to determine whether a larger untreated retinal area after laser photocoagulation (LP) is associated with change in the response to anti-VEGF treatment, and whether findings in this study align with previous studies.

Methods

This retrospective study analyzed medical records, OCT and fundus camera images from 11 eyes of patients with DM undergoing therapy with intravitreal anti-VEGF injections. Images were taken using Clarus 700 fundus camera both in widefield (133°) and ultra-widefield (200°) mode. The untreated retinal area was quantified using each patient's optic disc area as a reference. For data analysis Microsoft Excel, Image J and IBM SPSS were used.

Results

8 out of 11 patients underwent LP. The mean macular thickness change after 1 year in eyes with LP was $-13,0 \pm 64,8 \mu\text{m}$, compared to $21,3 \pm 69,1 \mu\text{m}$ in eyes without LP. Furthermore, untreated peripheral retinal area was calculated in 6 out of 8 patients who underwent LP, the maximum being 267.1 disc areas. The point-biserial correlation revealed extremely weak, insignificant negative correlation between reduction in macular edema and untreated peripheral retinal area ($r = -0.145$, $p = 0.78$, $n = 6$).

Conclusions

Patients who underwent LP and received anti-VEGF injections experienced slight mean macular oedema reduction over 1 year, as opposed to those with anti-VEGF monotherapy. Untreated retinal area was found to have no statistical correlation with macular oedema reduction. However, the chosen sample size limits statistical power, highlighting the need for further studies with more patients.

ASSOCIATION BETWEEN PANRETINAL PHOTOCOAGULATION COVERAGE AND ANTI-VEGF INJECTION THERAPY RESULTS IN DIABETIC MACULOPATHY PATIENTS.

Mr. Janis Tikmers¹

1. Riga Stradins University, Latvia

Keywords

Diabetic maculopathy; Anti-VEGF injections; Laser photocoagulation; Peripheral retina

Objectives

Diabetic maculopathy (DM) is the root cause of visual impairment in diabetic patients, particularly type 2. Nowadays, the main monotherapy for this condition is considered anti-VEGF injections intravitreally, which have replaced laser retinal photocoagulation- a well-proven therapeutic option. However, recent studies have shown that combining these two approaches improves patient outcomes. The aim of the study was to determine whether a larger untreated retinal area after laser photocoagulation (LP) is associated with change in the response to anti-VEGF treatment and whether findings in this study align with previous studies.

Methods

This retrospective study analyzed medical records, OCT and fundus camera images from 11 eyes of patients with DM undergoing therapy with intravitreal anti-VEGF injections. Images were taken using Clarus 700 fundus camera both in widefield (133°) and ultra-widefield (200°) mode. The untreated retinal area was quantified using each patient's optic disc area as a reference. For data analysis Microsoft Excel, Image J and IBM SPSS were used.

Results

8 out of 11 patients underwent LP. The mean macular thickness change after 1 year in eyes with LP was $-13,0 \pm 64,8 \mu\text{m}$, compared to $21,3 \pm 69,1 \mu\text{m}$ in eyes without LP. Furthermore, untreated peripheral retinal area was calculated in 6 out of 8 patients who underwent LP, the maximum being 267.1 disc areas. The point-biserial correlation revealed extremely weak, insignificant negative correlation between reduction in macular edema and untreated peripheral retinal area ($r = -0.145$, $p = 0.78$, $n = 6$).

Conclusions

Patients who underwent LP and received anti-VEGF injections experienced slight mean macular oedema reduction over 1 year, as opposed to those with anti-VEGF monotherapy. Untreated retinal area was found to have no statistical correlation with macular oedema reduction. However, the chosen sample size limits statistical power, highlighting the need for further studies with more patients.

AUTOIMMUNE RETINOPATHIES: DIAGNOSTIC CHALLENGES AND MISDIAGNOSIS

Mr. Kazimieras Kaušyla¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Autoimmune retinopathies; Diagnostic delay; Misdiagnosis; Electroretinography; Antiretinal antibodies

Objectives

The aim of this systematic review is to analyze the diagnostic challenges of autoimmune retinopathies, with emphasis on clinical presentation, limitations of diagnostic testing, common misdiagnoses, and the clinical consequences of delayed or incorrect diagnosis.

Methods

A PRISMA-guided systematic review of 31 peer-reviewed studies published between 2021 and 2025 was conducted using PubMed and related biomedical databases. Included studies addressed clinical presentation, diagnostic evaluation, differential diagnosis, and outcomes associated with delayed recognition of autoimmune retinopathies.

Results

Autoimmune retinopathies (AIR) are rare immune-mediated disorders characterized by progressive photoreceptor degeneration and rapid bilateral visual loss, often complicated by subtle early fundus findings and overlapping clinical features [1–3]. AIR is classified into paraneoplastic and non-paraneoplastic forms, with disease severity associated with antibody burden, inflammatory activity, complement activation, and immune checkpoint inhibitor exposure [4–11]. Clinical presentation is heterogeneous, with early funduscopy findings frequently appearing normal despite abnormal electroretinography (ERG) demonstrating rod, cone, or bipolar cell dysfunction [12–15]. Diagnostic evaluation is limited by poor test specificity and lack of standardized criteria, with antiretinal antibody testing showing false-positive rates of up to 93% in controls [15–19]. Diagnostic delays are substantial, with a median time to diagnosis of 36 months, while referral-related errors reach 49% and are associated with patient harm in 26% of cases [20–22]. Delayed diagnosis is linked to poor outcomes, with 61% of patients showing worsening visual acuity and no ERG improvement, and delayed cancer detection reported in paraneoplastic forms [23–25].

Conclusions

Autoimmune retinopathies pose significant diagnostic challenges due to heterogeneous clinical presentation, limited test specificity, and frequent misdiagnosis. Diagnostic delay is common and associated with irreversible visual loss and missed paraneoplastic disease. Early, multimodal, and clinically integrated diagnostic strategies are essential to improve visual and systemic outcomes.

Changes in tear osmolarity in the treatment of Meibomian gland disease using eyelid massage.

***Ms. Laura Petersone**¹*

1. Riga Stradins University, Latvia

Keywords

MGD; osmolarity; eyelid massage, dry eye syndrome

Objectives

To evaluate changes in tear osmolarity in the treatment of Meibomian gland dysfunction in patients with dry eye syndrome by comparing standard topical therapy with combined therapy including eyelid massage, and to analyze changes in the number of non-functioning Meibomian glands in the temporal region of the lower eyelid.

Methods

This retrospective analytical study included 12 eyes of patients with dry eye syndrome treated in 2025 at Pauls Stradiņš Clinical University Hospital, Latvia. The control group consisted of 5 eyes treated with standard topical therapy using levofloxacin eye drops Oftaqui 5 mg/ml (Levofloxacinum), while the group treated with eyelid massage included 7 eyes that, in addition to topical therapy, underwent eyelid massage once daily for a total of three sessions with one-day intervals. Tear osmolarity measurements and the number of non-functioning Meibomian glands in the temporal part of the lower eyelid were assessed before and after treatment. Data were obtained from outpatient medical records. Statistical analysis was performed using IBM SPSS Statistics version 29.

Results

In the control group without eyelid massage, changes in the number of non-functioning meibomian glands were not statistically significant ($p = 0.250$), although no increase in the number of non-functioning glands was observed in any eye. In the eyelid massage group, a statistically significant improvement was observed ($p = 0.016$), with a reduction in the number of non-functioning meibomian glands in all 7 eyes and no cases of deterioration. Tear osmolarity normalization was not statistically significant in the control group ($p = 0.63$), whereas a statistically significant decrease in tear osmolarity was observed in the eyelid massage group ($p = 0.016$).

Conclusions

The results of the study show that combined therapy with eye drops and eyelid massage provides significant improvement in tear osmolarity as a single treatment.

CORRELATION BETWEEN FILTRATION BLEB DIMENSIONS AND INTRAOCULAR PRESSURE IN PATIENTS AFTER GLAUCOMA SURGERY

Ms. Polina Braževiča¹, Ms. Anna Braževiča¹

1. Riga Stradins University, Latvia

Keywords

Glaucoma; Intraocular Pressure; Filtration Bleb; PreserFlo MicroShunt; Sinus Trabeculectomy

Objectives

Glaucoma remains a leading cause of irreversible blindness worldwide, and surgical intervention is often required when intraocular pressure (IOP) cannot be controlled with medication alone. As a result of such surgery, a filtration bleb is formed, the structure of which can significantly influence postoperative IOP stability. The aim of this study is to determine whether there is a statistically significant correlation between filtration bleb dimensions and IOP in patients after glaucoma surgery.

Methods

A retrospective study included 18 patients (22 eyes), who attended follow-up consultations after glaucoma surgery, either PreserFlo MicroShunt implantation or sinus trabeculectomy. Filtration bleb dimensions were assessed using fundus oculi photography. Collected data included patient age, type of surgery, use of antiglaucoma eye drops, time since surgery, bleb dimensions, and IOP. Data were compiled in Microsoft Excel and analyzed with IBM SPSS software.

Results

The mean IOP was 15.36 ± 2.54 mmHg. Spearman correlation analysis demonstrated a statistically significant strong negative correlation between filtration bleb width and IOP ($r = -0.45$, $p = 0.034$). No statistically significant correlation between bleb length and IOP was found ($p = 0.074$). Additionally, there was a statistically significant strong negative correlation between months since surgery and filtration bleb length ($r = -0.47$, $p = 0.028$).

Conclusions

The results of this study indicate larger filtration bleb width is associated with lower intraocular pressure, highlighting its potential role in surgical success. Bleb length did not show a significant correlation with IOP, but it decreases over time, suggesting progressive bleb remodeling after surgery. Further studies with larger sample sizes and additional bleb morphology parameters are required to better evaluate the impact of filtration bleb characteristics on surgical outcomes in glaucoma patients.

EFFICACY OF INTRAVITREAL ANTI-VEGF IN WET AGE-RELATED MACULAR DEGENERATION DEPENDING ON INITIAL CENTRAL RETINAL THICKNESS

Mr. Sergejs Katinskis¹

1. Riga Stradins University, Latvia

Keywords

Wet age-related macular degeneration, anti-VEGF, central retinal thickness, optical coherence tomography, prognosis.

Objectives

Wet age-related macular degeneration (AMD) is a leading cause of irreversible vision loss. While anti-VEGF therapy is the gold standard, individual anatomical responses vary significantly. This study aimed to evaluate the dynamics of central retinal thickness (CRT) changes after first intravitreal bevacizumab injection and to determine the correlation between baseline edema severity and the probability of achieving anatomical central fovea macular thickness norms success.

Methods

A retrospective cohort study analyzed medical records and optical coherence tomography (OCT) data of 37 wet AMD patients at Pauls Stradins Clinical University Hospital. CRT (μm) was measured at baseline and post-injection. Patients were stratified by median baseline CRT into moderate ($\leq 402 \mu\text{m}$) and severe edema ($> 402 \mu\text{m}$) groups. Anatomical success was defined as reaching CRT $< 260 \mu\text{m}$. Data were analyzed using IBM SPSS 29.0 (t-tests, Pearson correlation).

Results

In 37 patients (mean age 79), therapy significantly reduced CRT ($p < 0.001$). A strong positive correlation was found between baseline and post-treatment CRT ($r = 0.81$). The severe edema group showed significantly greater absolute reduction (mean $-131 \mu\text{m}$) compared to the moderate group (mean $-43 \mu\text{m}$; $p = 0.021$). However, this did not translate to success: the probability of reaching anatomical central fovea macular thickness norms ($< 260 \mu\text{m}$) was 42.1% in the moderate group versus 0% in the severe group. Notably, no patient with baseline CRT $> 384 \mu\text{m}$ achieved anatomical thickness success after the first injection.

Conclusions

Baseline CRT is a critical prognostic factor. While eyes with massive initial edema show a larger absolute response to bevacizumab, they fail to reach anatomical central fovea macular thickness norms after the first dose. To maximize the likelihood of achieving an anatomical thickness norms, therapy should initiate before CRT exceeds $384 \mu\text{m}$.

INDICATIONS FOR CORNEAL TRANSPLANTATION AND POSTOPERATIVE OUTCOMES AT P. STRADIŅŠ CLINICAL UNIVERSITY HOSPITAL, 2021–2025

Mr. Roberts Patriks Ausmanis¹

1. Riga Stradins University, Latvia

Keywords

corneal transplantation; postoperative outcomes; indications for transplantation

Objectives

Corneal transplantation is one of the most frequently performed tissue transplants in the world. Transplantation is a major solution for restoring vision in patients with corneal diseases. Only few studies have analysed the indications for corneal transplantation and postoperative outcomes in Latvia, especially over an extended time period. P. Stradiņš Clinical University Hospital is one of the few healthcare institutions in Latvia where corneal transplantation is performed, and the data obtained provide valuable insight into national-level clinical practice.

Methods

The retrospective study included patients who underwent corneal transplantation at P. Stradiņš Clinical University Hospital between 2021 and 2025. Data on the number of corneal transplantation procedures, indications for corneal transplantation, preoperative visual acuity, postoperative visual acuity, and time since surgery to last follow-up were obtained. Microsoft Excel and SPSS were used to analyse the data.

Results

Of 155 corneal transplantations, the main indication was severe ulcerative/inflammatory corneal disease with descemetocoele or impending/established perforation (79/155, 51.0%). Ulcer/keratitis without documented perforation accounted for 35/155 cases (22.6%). Ulcer-related indications totalled 114/155 (73.5%). The remaining indications were corneal ectasia (keratoconus/keratoglobus/hydrops) (16/155, 10.3%), bullous keratopathy/erosions (16/155, 10.3%), optical rehabilitation for leucoma/scarring (6/155, 3.9%), rare dystrophic/degenerative disease (2/155, 1.3%), and neurotrophic keratitis (1/155, 0.6%). Repeat transplantation was recorded in 20 cases (12.9%). Corneal neovascularisation, keratolysis, and chronic uveitis were common co-findings in ulcer cases. Of 155 cases, 119 had a minimum follow-up of 12 months. By 12 months, 23/119 grafts had failed (19.3%), defined clinically as an opaque, oedematous cornea, while 96/119 (80.7%) remained clear.

Conclusions

Corneal transplantation at P. Stradiņš Hospital was mainly due to ulcerative keratitis with perforation risk. Most grafts remained clear at 12 months, while one-year graft failure rate was 19.3%.

NEAR VISION IN PATIENTS AFTER MONOFOCAL INTRAOCULAR LENS IMPLANTATION

Ms. Karina Antonova¹, Mrs. Agita Arbidāne-Rupaine¹

1. Riga Stradins University, Latvia

Keywords

Monofocal; Intraocular lens(IOL); Spherical equivalent(SE); Near-vision.

Objectives

Cataract surgery is recognized as one of the most frequently performed and successful ophthalmic procedures worldwide. Monofocal intraocular lenses (IOLs) provide high-quality visual acuity at a single focal distance, typically targeting distance emmetropia, however near-vision frequently remains suboptimal.

Methods

This retrospective study included 14 eyes of 12 patients who underwent cataract surgery with monofocal IOL implantation at Pauls Stradiņš University Clinical Hospital from 2024 to 2026. Implanted lens power and postoperative distance visual acuity were obtained from medical records. Near-vision acuity was assessed at a standard reading distance of 40cm. Biometric parameters, including axial length (AL), anterior chamber depth (ACD), and mean keratometry (Kavg), were measured by ZEISS IOLMaster 700. IOL power and target refraction were calculated using Barrett Universal II formula. Patients were grouped by postoperative refractive target: emmetropia group (n=12 eyes) targeting distance vision and near-vision group (n=2 eyes) targeting uncorrected near-vision. SPSS 31.0.1.0 was used for statistical analysis.

Results

The median age of the patients was 67 years (range:42–79). In the near-vision group, all eyes achieved J1(N5) uncorrected near visual acuity. The calculated IOL power was increased by 4.0D and 4.5D, targeting predicted refractions of –3.00D and –3.36D, yielding postoperative SE outcomes of –3.25D and –2.50D, respectively. In the emmetropia group, mean postoperative SE value was -0.15 ± 0.47 D, with mean near-vision correction of $+2.11 \pm 1.07$ D. Spearman's correlation demonstrated a significant negative correlation between the difference in calculated vs implanted IOL power and near vision correction (Spearman's $\rho = -0.667$, $p = 0.018$), with a stronger association observed in patients achieving better near-vision ($\leq +2.5$ D correction, $\rho = -0.882$, $p = 0.009$). No statistically significant associations were observed in ocular biometric parameters (AL, ACD, Kavg) and near-vision outcomes ($p > 0.05$).

Conclusions

A slight myopic shift in IOL power selection may reduce postoperative near-vision correction requirements. Further research including more patients is required to confirm the results.

Peripheral retinal changes in patients with geographic atrophy.

Mrs. Agita Arbidāne-Rupaine¹, Ms. Karina Antonova¹

1. Riga Stradins University, Latvia

Keywords

Age-related macular degeneration; Geographic atrophy (GA); Peripheral retinal degeneration.

Objectives

Age-related macular degeneration (AMD) is a leading cause of irreversible vision loss in the elderly population. Although this disease primarily affects the central retina, peripheral retinal changes may also be associated with AMD.

Methods

A retrospective study was performed, involving 42 eyes from 22 patients with age-related macular degeneration. In 34 eyes, geographic atrophy (GA) was observed. Ultra-widefield color fundus images were obtained for all eyes using the CLARUS 700 ultra-widefield retinal imaging system. Peripheral retinal changes were classified into hypopigmentation, hyperpigmentation, atrophy, drusen, microcystoid degeneration, and were analysed in relation to the presence and size of geographic atrophy. The size of geographic atrophy was quantified using each patient's optic disc diameter as a reference. Data were analysed by SPSS 31.0.1.0.

Results

Geographic atrophy was observed in 34 of 42 eyes. The mean age of the patients was 79.38, SD=5.71. Spearman's rank correlation analysis demonstrated a weak positive association between peripheral changes and the extent of geographic atrophy, however, this correlation did not reach statistical significance (Spearman's $\rho = 0.251$, $p = 0.109$). Peripheral changes were observed in eyes with as well as without geographic atrophy. No statistically significant association was found between the presence of geographic atrophy and the grade of peripheral changes (Chi-square $p=0.258$). A statistically significant difference in visual acuity was observed between eyes with and without geographic atrophy, with lower visual acuity values recorded in the GA group (Mann-Whitney U test, $Z=-3.217$, $p=0.001$). Independent-Samples Kruskal-Wallis Test also showed that visual acuity and the size of the geographic atrophy area differed significantly ($p<0.001$).

Conclusions

Although peripheral changes were not directly associated with the presence or size of geographic atrophy, their frequent occurrence in this patient group with age-related macular degeneration supports the concept of age-related macular degeneration as a panretinal disease.

Prevalence of Dry Eye Syndrome and Environmental Risk Factors Among Screen Users: Analysis of Subjective Symptoms and Schirmer Test Data

Ms. Arta Irmīna Kučinska¹, Ms. Nanija Dzjadzina¹, Mr. Kristers Avotiņš¹

1. Rīga Stradiņš University, Latvia

Keywords

Dry eye syndrome; Schirmer test; Screen time

Introduction

Long-term use of digital devices has become an integral part of everyday life, raising concerns about the development of dry eye syndrome. This study evaluates the relationship between objective tear secretion and subjective complaints.

Objectives

To investigate the prevalence of dry eye syndrome among screen users and analyze the association between subjective symptoms, environmental factors, and Schirmer test results.

Methods

The study included 100 respondents (n = 100). Data were collected using a subjective symptom questionnaire and a Schirmer test. Statistical analysis was performed in SPSS software, using Spearman's rho correlation (rs), Mann–Whitney U test and chi-square tests. Research Ethics Committee approval (No. 2-PĒK-4/783/2025).

Results

A trend was observed showing an increase of dry eye syndrome prevalence in the right eye with longer screen time: 26.1% among respondents using screens up to 5 hours per day and 37.7% among those exceeding 5 hours. The prevalence in the left eye was nearly identical in both groups (34.8% and 35.1%). Overall, 77% of respondents reported screen use exceeding 5 hours per day, forming the dominant risk group within the study sample. There is a tendency that in the group with the least amount of sleep (less than 5 hours), is the highest prevalence of dry eye syndrome (66.7%, $p > 0.05$). Respondents who sleep more than 5 hours showed a significantly lower incidence of dry eye syndrome (on average 22.2% in the “>5 h” group).

Conclusions

The intensity of digital device screen use and lack of sleep negatively affect eye health and the development of dry eye syndrome in this population. Subjective complaints are not always an accurate indicator of objective tear secretion deficiency. Future studies should measure the indoor environment and use a larger sample size.

RETINOBLASTOMA AND ENUCLEATION: A 20-YEAR RETROSPECTIVE STUDY FROM LATVIA

Ms. Elina Radzina¹

1. Riga Stradins University, Latvia

Keywords

Retinoblastoma; Enucleation; Pediatric tumors; RB1 gene

Objectives

Retinoblastoma is the most common primary intraocular malignancy in childhood. Although eye-preserving modalities have improved, enucleation remains necessary in selected advanced cases. This study aimed to analyze retinoblastoma patients over a 20-year period in Latvia, with emphasis on enucleated cases.

Methods

A retrospective review was conducted of all patients diagnosed with retinoblastoma between March 2005 and March 2025. Clinical data included sex, laterality, presenting symptoms, age at diagnosis, timing of enucleation, and RB1 testing (if performed). Tumor stage was classified per eye using the International Classification of Retinoblastoma (ICRB). Descriptive statistics were applied.

Results

Seventeen patients were identified: 11 (64.7%) male and 6 (35.3%) female. Unilateral disease occurred in 10 patients (58.8%) and bilateral disease in 7 (41.2%). Bilateral retinoblastoma was diagnosed significantly earlier than unilateral disease (7.9 ± 9.2 vs. 28.0 ± 13.0 months; $p = 0.002$). Enucleation was performed in 11 patients, from which unilateral presentation in 6 (54.5%), bilateral in 5 (45.5%) cases. Among staged eyes ($n = 16$), advanced disease was common, with stage E being most frequent (43.7%). In patients later undergoing enucleation, leukocoria was the most common initial symptom (7/11), frequently accompanied by concurrent symptoms such as strabismus, changes in vision, eyeball size or behavior. In 90.9% of cases, abnormalities were first noticed by family members. Age at diagnosis in enucleated patients ranged from 2 to 47 months (mean 22.7 ± 17.3 months). Time from diagnosis to enucleation ranged from 3 to 229 days (mean 47.1 ± 66.4 days). RB1 mutations were detected in 57.1% of genetically tested enucleation cases.

Conclusions

Retinoblastoma cases in Latvia show a high proportion of advanced-stage disease among enucleated eyes, highlighting the need for stronger healthcare professional involvement in early detection. Nationwide guidelines and a genetic risk family database should be implemented to improve patient outcomes.

SAFETY AND EFFECTIVENESS OF IMPLANTABLE COLLAMER LENS (ICL) IMPLANTATION FOR MYOPIA: A RETROSPECTIVE COHORT STUDY

Ms. Uva Veja¹

1. Riga Stradins University, Latvia

Keywords

Keywords: Implantable Collamer Lens; myopia; visual acuity; vault; IOP.

Objectives

Objectives: To evaluate the effectiveness and safety of ICL implantation for myopia correction and to identify factors associated with postoperative outcomes.

Methods

Methods: A retrospective review included 97 patients (73 females, 24 males) and 191 operated eyes (OD 97, OS 94). Effectiveness was assessed by comparing preoperative uncorrected visual acuity (UCVA) with postoperative visual acuity (VA) and by calculating the efficacy index (postoperative VA/preoperative best-corrected visual acuity, BCVA). Safety outcomes included vault (μm), intraocular pressure (IOP, mmHg), and complications. Data are reported as median (IQR). Paired changes were tested with the Wilcoxon signed-rank test. Multivariable linear regression with patient-level cluster-robust standard errors was used to account for correlation between two eyes of the same patient.

Results

Results: UCVA improved from 0.05 (0.03–0.10) preoperatively to 1.20 (1.00–1.20) postoperatively; the median change was +1.00 (0.92–1.16), bootstrap 95% CI 0.98–1.10; $p < 0.001$. UDVA ≥ 1.0 was achieved in 87.4% of eyes. Median vault was 470.5 μm (350–638.5; $N=164$); 6.1% had vault $< 250 \mu\text{m}$ and 13.4% $> 750 \mu\text{m}$. Median IOP was 14 (11–17) mmHg; 3.7% of eyes had IOP > 21 mmHg. Complications occurred in 6.2% of patients. In regression, higher preoperative spherical equivalent was associated with better postoperative UDVA ($\beta = +0.0246$ per 1 D; $p = 0.033$). Vault increased with ICL size ($\beta = +236 \mu\text{m}$ per 1 mm; $p = 0.0018$) and decreased with white-to-white ($\beta = -205 \mu\text{m}$ per 1 mm; $p = 0.0149$).

Conclusions

Conclusions: ICL implantation provided a large improvement in uncorrected visual acuity with low complication and ocular hypertension rates. More severe preoperative myopia (more negative SE) was associated with slightly lower postoperative UDVA, while vault was primarily related to ICL size and white-to-white, supporting careful sizing to optimize safety.

Surgical treatment outcomes and prognostic factors after retinal detachment surgery: Pauls Stradins Clinical University Hospital (2023-2025)

Ms. Laura Petersone¹

1. Riga Stradins University, Latvia

Keywords

Retinal detachment, PPV, retinal redetachment, surgical outcomes

Objectives

Determine the incidence of postoperative retinal redetachment, to identify clinical and surgical factors associated with primary surgical failure, and to evaluate clinical and surgical outcomes influencing primary retinal reattachment results in a consecutive series of patients who underwent retinal detachment surgery at Pauls Stradins Clinical University Hospital.

Methods

This study retrospectively reviewed medical records of patients undergoing pars plana vitrectomy for primary retinal detachment at Pauls Stradins Clinical University Hospital (2023–2025). Analysis included patient demographics, preoperative conditions, surgical techniques, and postoperative outcomes. Preoperative data comprised age, sex, affected eye, detachment type, macular involvement, and presence of proliferative vitreoretinopathy. Postoperative data included tamponade type (C₂F₆ gas, silicone oil, or air) and rates of retinal redetachment.

Results

During the study period, a total of 504 retinal detachment surgeries were performed by three surgeons. The mean patient age was 61.9 ± 12.5 years, ranging from 22 to 87 years. The study population consisted of 45.8% females and 54.2% males. Among the retinal detachment cases, 54.8% were macula-on, while 45.2% were macula-off. Successful primary retinal reattachment was achieved in 93.3% of eyes, whereas 6.7% (34 cases) required repeat surgery. In eyes that experienced redetachment, a statistically significant difference was observed between patients with proliferative vitreoretinopathy (PVR), of whom 73% experienced redetachment compared with 27% that remained attached, and patients without PVR, in whom 94.9% of eyes remained attached and 5.1% experienced redetachment ($\chi^2(1) = 26.1$, $p < 0.001$, $\Phi = 0.228$).

Conclusions

PVR was the strongest predictor of postoperative failure, while other demographic and clinical factors had no significant impact. The consistently high primary reattachment rate reflects reliable surgical performance. Early detection and management of PVR remain critical for improving retinal detachment prognosis.

TEAR FILM OSMOLARITY IN PATIENTS AFTER PENETRATING KERATOPLASTY WITH AND WITHOUT THERAPEUTIC CONTACT LENSES

***Ms. Liza Loce**¹*

1. Riga Stradins University, Latvia

Keywords

Tear film osmolarity; Penetrating keratoplasty; Therapeutic contact lenses; TearLab

Objectives

Penetrating keratoplasty (PKP) is associated with tear film instability and postoperative ocular surface inflammation. Tear film osmolarity is an objective marker of tear film homeostasis and reflects inflammatory changes of the ocular surface. This study aimed to evaluate tear film osmolarity after PKP, compare patients wearing therapeutic contact lenses with those without contact lenses, and assess its association with time since the last corneal transplantation.

Methods

A total of 17 patients after PKP from the Ophthalmology Department of Pauls Stradiņš Clinical University Hospital were included in the study. Tear film osmolarity (mOsm/L) was measured using the TearLab system at the beginning of the visit, before instillation of any eye drops. In patients wearing contact lenses, osmolarity was measured prior to contact lens removal. Postoperative time was calculated from the date of the most recent keratoplasty. Statistical analysis was conducted using SPSS.

Results

Patients were divided into two groups: Group A (without therapeutic contact lenses, n=10) and Group B (with therapeutic contact lenses, n=7). Tear film osmolarity was higher in Group B compared to Group A. The mean osmolarity was 333.1 mOsm/L (range 329–339) in Group B and 294.0 mOsm/L (range 283–318) in Group A, showing a statistically significant difference ($p<0.001$). A statistically significant negative association was observed between tear film osmolarity and postoperative time since the most recent keratoplasty, with higher osmolarity values recorded closer to the surgical intervention ($p<0.001$).

Conclusions

Tear film osmolarity was higher in patients wearing therapeutic contact lenses after PKP compared to patients without contact lenses and decreased with increasing postoperative time. Elevated osmolarity may reflect greater ocular surface stress and inflammatory activity in the early postoperative period and in patients requiring therapeutic contact lenses. Tear film osmolarity may therefore be a useful objective parameter for postoperative monitoring after keratoplasty.

TEAR OSMOLARITY CHANGES AFTER CATARACT SURGERY AND THEIR ASSOCIATION WITH SELF-REPORTED ARTIFICIAL TEAR USE

Mr. Oļģerts Haralds Brūveris ¹

1. Riga Stradins University, Latvia

Keywords

Cataract surgery; tear osmolarity; artificial tears

Objectives

Cataract surgery may be followed by an increase in tear osmolarity in the postoperative period. Many patients use artificial tears daily to prevent or relieve symptoms of dry eye syndrome and ocular discomfort. The aim of this study was to evaluate tear osmolarity changes after cataract surgery and to explore their association with self-reported regular artificial tear use.

Methods

This retrospective cohort study included 23 eyes from 20 patients who underwent cataract surgery at the Department of Ophthalmology, Pauls Stradiņš Clinical University Hospital. Tear osmolarity was measured preoperatively and postoperatively one week after the surgery using the TearLab Osmolarity System. Patients were grouped according to self-reported regular use of artificial tears in everyday life. Continuous data were summarized as median (interquartile range, IQR). Data processing and analysis were performed using IBM SPSS Statistics and Microsoft Excel.

Results

Twenty-three eyes were analysed. Overall, tear osmolarity increased after cataract surgery: median preoperative osmolarity was 298 mOsm/L and median postoperative osmolarity was 306 mOsm/L (+8 mOsm/L; IQR 4,5-13). In artificial tear users (n=13 eyes), median osmolarity increased from 302 to 310 mOsm/L (+8 mOsm/L; IQR 7-13). In non-users (n=10 eyes), median osmolarity increased from 291 to 298,5 mOsm/L (+9,5 mOsm/L; IQR 2,25-17,5). The magnitude of change was similar between groups, but variability was higher in non-users, reflected by a wider IQR.

Conclusions

Tear osmolarity increased after cataract surgery. The magnitude of change was similar in both groups. However, non-users demonstrated greater variability. These findings suggest that regular artificial tear use may be associated with more stable tear osmolarity dynamics after cataract surgery, and larger prospective studies are needed to confirm this association.

USE OF THE IMMUNOMODULATORY PROPERTIES OF DOXYCYCLINE IN OPHTHALMOLOGY: A SYSTEMATIC REVIEW

Ms. Agilė Kučinskaitė¹

1. Vilnius University, Lithuania

Keywords

Doxycycline; ocular rosacea; Meibomian gland dysfunction; lymphatic malformations; exudative age-related macular degeneration.

Objectives

Doxycycline is a second-generation tetracycline antibiotic with bacteriostatic activity against Gram-positive and Gram-negative bacteria. In addition to its antimicrobial indications, it is also used for malaria prophylaxis and exhibits immunomodulatory properties that enable its use in various inflammatory and immune-mediated conditions, such as asthma, rheumatoid arthritis and rosacea. The objective of this study is to review the latest scientific literature on the use of the immunomodulatory properties of doxycycline in ophthalmology, to systematize the available information, and to describe the findings.

Methods

A systematic literature review was conducted using the PubMed and ScienceDirect databases, with additional sources identified through Google Scholar. Studies published in English and Lithuanian between 2015 and 2025 were included in the analysis.

Keywords “doxycycline” and “ophthalmology” were used for data retrieval. Only human studies published in English with full-text availability were included. Of the 257 results obtained, 19 sources were selected for the final analysis (11 clinical studies, 6 case reports, and 2 systematic reviews/meta-analyses).

Results

Doxycycline is a tetracycline-class antibiotic that exhibits immunomodulatory properties. Based on the reviewed studies, doxycycline is an effective agent in the treatment of ocular rosacea and Meibomian gland dysfunction. The literature also reports its effectiveness in the treatment of endocrine ophthalmopathy and recurrent corneal erosion, in the management of exudative age-related macular degeneration in combination with vascular endothelial growth factor inhibitors, as well as its use as a sclerosing agent in the treatment of periorbital lymphatic malformations.

Conclusions

Doxycycline, due to its immunomodulatory properties, is used in the treatment of ocular rosacea and Meibomian gland dysfunction. Doxycycline may also be effective in the treatment of recurrent corneal erosion, endocrine ophthalmopathy, the exudative form of age-related macular degeneration, and periorbital lymphatic malformations.

**Gynecology,
Gynaecological surgery,
Obstetrics, Perinatology**

Capturing Climate Impact: Advanced Statistical Modelling of Temperature Exposure and Preterm Birth in Latvia

***Ms. Julia Kottmann**¹*

1. Riga Stradins University, Latvia

Keywords

Preterm birth, Heat exposure, Climate change, Pregnancy outcomes

Objectives

Climate change is driving more frequent and intense summer heat in Northern and Baltic countries, raising concerns about pregnancy outcomes. This study aimed to quantify the impact of thermal stress on perinatal health in Latvia, specifically assessing the exposure-response relationship between high ambient temperatures and preterm birth (PTB) risk using advanced epidemiological modelling.

Methods

We performed a nationwide retrospective cohort study including all singleton births recorded in the Latvian Newborn Registry from 2004–2023. Daily minimum and maximum temperatures from the Latvian Environment, Geology and Meteorology Centre were linked to the mother's municipality and grouped into five statistical regions.

For summer days (May–September), we modelled region-specific associations between temperature percentiles and PTB using distributed lag non-linear models (DLNM) with lags 0–4 days and quasi-Poisson regression, adjusting for maternal and temporal confounders. The analysis followed a two-stage approach: first estimating region-specific associations adjusted for temporal trends, seasonality, and maternal confounders, followed by a multivariate meta-analysis to derive a pooled national exposure-response curve.

Results

The study population comprised about 400,000 singleton births, of which around 6% were preterm (<37 weeks). Across mid-range summer temperatures, PTB risk remained stable, but at higher temperature percentiles there was a gradual increase in risk. On very hot days (approximately the 90–95th percentile of regional summer temperature), PTB risk was 5–12% higher compared with the minimum-risk temperature, although confidence intervals widened at the extremes.

Conclusions

In Latvia's Baltic temperate climate, short-term exposure to hotter summer days appears to modestly increase PTB risk. These results highlight preterm birth as a climate-sensitive outcome and support integrating heat-related risk awareness into antenatal counselling and public health adaptation strategies.

CONTEMPORARY CHALLENGES IN THE DIAGNOSIS OF ENDOMETRIOSIS: A LITERATURE REVIEW

Mrs. Ana Gorbunova¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Endometriosis, diagnostic delay, imaging, laparoscopy, clinical challenges.

Objectives

Endometriosis is a chronic gynecological disease with a significant negative impact on quality of life, reproductive health and long-term clinical outcomes. Diagnostic delay remains a major clinical issue, with many patients experiencing years between symptom onset and definitive diagnosis. The objective of this literature review is to synthesize current evidence on the challenges in diagnosing endometriosis and to highlight key factors contributing to diagnostic delays.

Methods

A systematic literature review was conducted focusing on studies published since 2018 that report on time to diagnosis, diagnostic methods and barriers in endometriosis diagnosis. Databases searched included PubMed and Embase. Observational studies documenting diagnostic timelines, clinical practices and diagnostic modalities were included. Definitions of diagnostic delay and regional variations in diagnostic intervals were examined.

Results

Studies consistently showed prolonged diagnostic delays, with time between symptom onset and confirmed diagnosis frequently ranging from 0.3 to 12 years, depending on definitions and study populations. Many women see multiple healthcare providers before diagnosis, reflecting gaps in early recognition and referral to specialists. Diagnostic delay was driven primarily by clinician-related factors, such as low disease awareness and under-recognition of symptoms, as well as variability in access to imaging and specialist care. Traditional imaging techniques like transvaginal ultrasound and MRI improve detection of some endometriosis forms but have limitations, especially for superficial lesions. Laparoscopy with histological confirmation remains the gold standard despite its invasiveness.

Conclusions

Despite improved clinical guidelines and increased awareness, endometriosis diagnosis still faces significant challenges, including substantial delays influenced by both healthcare provider and system-related factors. Standardized diagnostic criteria, enhanced educational efforts among clinicians, earlier use of appropriate imaging techniques and research into reliable non-invasive biomarkers are crucial to shorten diagnostic pathways and improve patient outcomes.

FERTILITY-SPARING TREATMENT IN EARLY-STAGE GYNECOLOGIC CANCERS: A SYSTEMATIC LITERATURE REVIEW

Ms. Benita Jonušaitė¹, Ms. Gerda Kisielytė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Fertility-sparing, treatment, ovarian cancer, cervical cancer, endometrial cancer.

Objectives

The aim of this review was to comprehensively evaluate the oncologic safety, reproductive outcomes, and clinical applicability of fertility-sparing treatment strategies in patients with early-stage gynecologic cancers.

Methods

This PRISMA-based systematic review analyzed 54 studies published within the last decade on fertility-sparing management in early-stage endometrial, cervical, and ovarian cancers, focusing on patient selection, treatment, safety, reproductive outcomes, and ethical considerations.

Results

Fertility-sparing treatment is a viable option for carefully selected patients with early-stage gynecologic cancers, allowing preservation of reproductive potential without compromising oncologic safety in low-risk disease [1–3]. In endometrial cancer, the highest complete response rates are reported with levonorgestrel-releasing intrauterine device-based therapy compared with oral progestins, although recurrence after initial response remains frequent, particularly in dMMR/MSI-H tumors [4–8]. In cervical cancer, conservative surgical approaches for stage IA–IB1 disease demonstrate very low recurrence and disease-related mortality, while offering superior reproductive outcomes compared with radical procedures in low-risk patients [2,9–15]. In ovarian tumors, fertility-sparing surgery is safe in stage I borderline and selected early-stage invasive cancers, with no excess mortality and favorable survival and pregnancy outcomes when strict staging criteria are applied [16–18]. Across tumor types, successful outcomes depend on rigorous patient selection, accurate staging, and close surveillance, highlighting the importance of multidisciplinary management and patient-centred decision-making [19–20].

Conclusions

Fertility-sparing treatment is a safe and ethical option for carefully selected early-stage gynecologic cancers, preserving reproductive potential without compromising oncologic outcomes in low-risk disease. Its success depends on strict selection, multidisciplinary care, shared decision-making, and long-term surveillance.

INTRAVENOUS LABOR AUGMENTATION AND PERINEAL TEAR SEVERITY: ASSOCIATIONS WITH OBSTETRIC RISK FACTORS

Ms. Goda Kupraitytė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Labor augmentation; Perineal tears; Vaginal delivery.

Objectives

To evaluate perineal tear severity in the context of intravenous labor augmentation and to characterize associated maternal and neonatal factors.

Methods

A retrospective cohort study was conducted using Birth Registry data from the Obstetrics and Gynecology Department at the Lithuanian University of Health Sciences Kauno Klinikos for deliveries in 2024. Vaginal singleton deliveries at ≥ 37 gestational weeks were included. A total of 744 cases were analyzed and divided into augmented (n=372) and non-augmented deliveries (n=372; selected by random sampling to match the size of the augmented group). Perineal tear degree (I–IV), maternal obesity, primiparity, labor induction, neonatal birth weight, and Apgar scores at 1 and 5 minutes were analyzed.

Results

The distribution of perineal tear degrees did not differ significantly between augmented and non-augmented deliveries ($p=0.938$). In both groups, first-degree perineal tears were the most frequent, accounting for 77.7% of all cases. However, augmented deliveries were characterized by several secondary maternal and obstetric factors: maternal obesity (68.5% vs. 46.1%, $p<0.001$) and primiparity (60.2% vs. 40.3%, $p<0.001$) were more prevalent in the augmented group, as was labor induction (69.7% vs. 30.3%, $p<0.001$). Neonatal birth weight did not differ significantly between groups. Likewise, the assessment of Apgar scores did not differ significantly, with identical median values observed in both groups (9 at 1 minute and 10 at 5 minutes).

Conclusions

Intravenous labor augmentation was not associated with increased perineal tear severity but was more commonly observed in deliveries characterized by multiple maternal and obstetric risk factors.

MANAGEMENT OF GENITOURINARY SYNDROME OF MENOPAUSE IN WOMEN WITH BREAST CANCER: A LITERATURE REVIEW

Mrs. Ana Gorbunova¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Genitourinary syndrome of menopause; breast cancer; vaginal estrogen, laser therapy; non-hormonal treatment.

Objectives

Genitourinary syndrome of menopause (GSM) is frequent in women with breast cancer receiving endocrine therapy, where maximal estrogen suppression may exacerbate urogenital atrophy and related symptoms, adversely affecting quality of life and sexual function. This review aimed to summarize evidence-based GSM management options for breast cancer survivors, with emphasis on efficacy and safety in the context of hormone-sensitive disease.

Methods

A narrative literature review was conducted using UpToDate, PubMed, ScienceDirect, and ClinicalKey. Search terms included “genitourinary syndrome of menopause,” “breast cancer,” “vaginal estrogen,” “non-hormonal treatment,” and “laser therapy.” English-language studies and reviews from the last decade addressing GSM treatment safety in women with breast cancer were included.

Results

Non-hormonal measures (vaginal lubricants and moisturizers, hyaluronic acid preparations, topical anesthetics such as lidocaine for dyspareunia, and selected adjuncts including probiotics/vitamins) consistently provide symptomatic relief, particularly for mild-to-moderate GSM, though benefits often diminish after discontinuation. Emerging regenerative approaches (intravaginal laser therapy and platelet-rich plasma injections) show short-term improvements in dryness, dyspareunia, and indices of vaginal health with generally good tolerability; however, long-term safety, standardized protocols, and high-quality comparative data remain limited. When non-hormonal therapy is insufficient, low-dose local vaginal estrogen may be considered in collaboration with oncology; available observational evidence and recent meta-analytic data suggest no clear association with increased breast cancer recurrence or mortality, although careful individualized risk–benefit assessment is required. Ospemifene and intravaginal DHEA demonstrate potential efficacy for vulvovaginal symptoms; nevertheless, long-term safety data in endocrine-treated patients are still evolving.

Conclusions

For breast cancer survivors with GSM, first-line management should be non-hormonal therapy and lifestyle measures. In refractory cases, low-dose local vaginal estrogen and selected alternatives (ospemifene, vaginal DHEA) may be appropriate with multidisciplinary decision-making. Regenerative therapies are promising but should currently be viewed as adjunctive options pending stronger long-term evidence.

Menstrual hygiene practices, accessibility of menstrual products, and adolescent girls' attitudes towards menstrual products.

Ms. Elīna Butka¹

1. Rīga Stradiņš University, Latvia

Keywords

Menstrual hygiene practices, products, adolescent girls, Latvia.

Objectives

Determine the menstrual hygiene habits of adolescent girls, the availability of menstrual products and their attitudes towards them.

Methods

This study applied a mixed-methods design combining a quantitative cross-sectional survey with a qualitative phenomenological approach. The participants were adolescent girls aged 14–18 years in Latvia.

Quantitative data were collected from approximately 382 participants using convenience sampling, while qualitative data were obtained through semi-structured interviews with six adolescents.

Data collection included an adapted version of the Menstrual Practice Needs Scale (MPNS-36) and additional author-developed questions on menstrual product accessibility, as well as in-depth interviews exploring experiences and attitudes.

The study was observational with no intervention. Quantitative data were analyzed using descriptive statistics, normality testing, and correlation analyses, while qualitative data were analyzed using phenomenological thematic analysis.

Results

The results show notable limitations in menstrual product affordability and accessibility. Thirteen percent of participants reported being unable to afford menstrual hygiene products, while 70.07% perceived menstrual products as expensive. A total of 70.6% indicated that menstrual products were not available at school, despite national regulations requiring free access. Nearly half of respondents (49%) reported concern about how to obtain additional products if they ran out during the day. Statistically significant differences were observed between experiences at home and at school. The mean MPNS-36 score was 2.22, indicating partially unmet needs. The lowest-scoring items related to leakage concerns, product stability, storage, and changing conditions at school, with a combined mean score of 1.53 ($p < 0.05$).

Conclusions

The study shows that many adolescents have partially unmet menstrual needs, especially at school. Limited product availability, high perceived costs, and inadequate facilities contribute to worry, leakage concerns, delayed hygiene practices. Findings highlight gaps in policy implementation and school-based menstrual health support, with negative effects on adolescents' well-being, dignity, and school participation.

Missed Abortion in Latvia: Evaluation of Patients' Experience Following Outpatient Gynaecologist Consultations

***Mrs. Anna Drozdecka**¹*

1. Riga Stradins University, Latvia

Keywords

Missed abortion. Patients' experience.

Objectives

A missed abortion is a type of spontaneous abortion in which embryonic tissue is not expelled from the uterus after embryo demise. Symptoms such as vaginal bleeding, lower abdominal pain are rare. Most women have no noticeable signs, and the diagnosis is often made unexpectedly during routine ultrasound (Rezeberga D., 2016). In Latvia, missed abortion is the second most common type of abortion, accounting for nearly 30% of all cases (SPKC, 2025).

The study aimed to evaluate patients' satisfaction with the information provided by outpatient gynaecologists regarding the nature and management of missed abortion, as assessed through a questionnaire.

Methods

The study utilized a 16-item questionnaire, which was administered to patients admitted to the gynaecology emergency department at Riga East University Hospital with a diagnosis of missed abortion. After applying the exclusion criteria, a total of 16 completed questionnaires were included in the analysis. Descriptive statistics were used to analyze the data in IBM SPSS Statistics.

Results

The mean age of participants was 32 years and the median age was 33 years. Most (63%) had higher education, and only 44% had one or more children. The maximum number of abortions in life, including the current episode, was five. Nearly all (94%) described their outpatient gynaecologist's attitude as professional and empathetic. However, 63% expressed a desire for a more thorough explanation of the nature and management of missed abortion, and 56% indicated they would appreciate additional visual materials, such as brochures, on the topic. One patient commented: "It would be very nice to get information about psychological and emotional support after missed abortion."

Conclusions

Almost all patients were satisfied with outpatient gynaecologists' attitudes, but most requested additional information on missed abortion for better understanding. Some patients emphasised the need for guidance on psychological and emotional support.

PARP INHIBITORS IN BRCA-MUTATED OVARIAN CANCER: A SYSTEMATIC LITERATURE REVIEW

Ms. Benita Jonušaitė¹, Ms. Gerda Kisielytė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

PARP inhibitors, BRCA, Ovarian cancer

Objectives

The aim of this systematic literature review is to evaluate the clinical efficacy, safety, and therapeutic role of PARP inhibitors in BRCA-mutated ovarian cancer, with focus on treatment outcomes, mechanisms of resistance, and factors influencing patient selection and clinical benefit.

Methods

This literature review was conducted according to PRISMA guidelines using a PICOS-based search of the PubMed database (2016–2025) to identify studies on PARP inhibitors in BRCA-mutated ovarian cancer. Following predefined eligibility criteria, 49 studies were included in the analysis.

Results

Ovarian cancer is a major cause of gynecologic cancer mortality [1]. In BRCA-mutated tumors with defective DNA repair, PARP inhibitors induce lethal DNA damage and have become central to treatment, especially as maintenance therapy [2,3]. PARP inhibitors demonstrate clinical efficacy in BRCA-mutated ovarian cancer, with the greatest benefit observed as maintenance therapy following first-line platinum-based chemotherapy. Randomized trials and meta-analyses consistently show marked prolongation of progression-free survival and durable disease control, with long-term follow-up indicating a favorable trend toward improved overall survival in the first-line setting [1–8]. In platinum-sensitive recurrent disease, PARP inhibitors significantly extend progression-free survival and outperform alternative maintenance strategies, particularly in BRCA-mutated tumors [9–14]. Across studies, olaparib, niraparib, and rucaparib show broadly comparable antitumor efficacy, with treatment selection driven mainly by clinical setting and patient characteristics rather than intrinsic differences between agents [15–17]. Resistance to PARP inhibitors in BRCA-mutated ovarian cancer most often arises from restoration of homologous recombination via BRCA reversion mutations, alongside additional molecular escape mechanisms, resulting in heterogeneous resistance and reduced durability of treatment benefit [18–21].

Conclusions

PARP inhibitors have transformed the management of BRCA-mutated ovarian cancer by providing a significant progression-free survival benefit. The greatest therapeutic advantage is observed in tumors with homologous recombination deficiency, while treatment resistance and optimal patient selection remain major clinical challenges.

PD-L1 EXPRESSION AS A PREDICTIVE BIOMARKER FOR IMMUNOTHERAPY RESPONSE IN CERVICAL CANCER

Ms. Benita Jonušaitė¹, Ms. Gerda Kisielytė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

PD-L1, Cervical cancer, Immunotherapy, Predictive biomarkers

Objectives

The aim of this systematic review is to evaluate the biological basis and clinical relevance of PD-L1 expression as a predictive biomarker for immunotherapy response in cervical cancer, with emphasis on its assessment methods, association with treatment outcomes, and limitations as a standalone marker.

Methods

This PRISMA-guided systematic review included peer-reviewed studies published since 2021, with 57 articles selected for final analysis. The review evaluated PD-L1 expression in cervical cancer and its association with response to immunotherapy.

Results

Cervical cancer remains a major global health burden, particularly in advanced disease, and immune check-point inhibitors targeting the PD-1/PD-L1 pathway have expanded treatment options, with PD-L1 expression emerging as a potential predictive biomarker for immunotherapy response [1–5]. PD-L1 expression prevalence is varying by tumor type and evaluation method. Using the combined positive score (CPS $\geq$ 1), PD-L1 positivity is reported in approximately 55–85% of cases, with higher expression in squamous cell carcinoma than in adenocarcinoma [18–28]. PD-L1 is primarily assessed by immunohistochemistry, most often using the 22C3 or SP263 clones, and CPS is preferred over tumor proportion score due to higher sensitivity [10–17]. Clinical evidence shows that PD-L1–positive tumors derive greater benefit from PD-1–based immunotherapy. Pembrolizumab monotherapy demonstrates modest responses in pretreated disease, enriched in PD-L1–positive tumors, while first-line pembrolizumab plus chemotherapy significantly improves progression-free and overall survival [4,29–34]. However, tumor heterogeneity, methodological variability, and responses in PD-L1–negative disease limit PD-L1 as a standalone biomarker [41–49]. Emerging markers such as tumor mutational burden, MSI/dMMR status, and immune cell infiltration provide complementary predictive value and support combined biomarker strategies [50–57].

Conclusions

PD-L1 is an important biomarker in cervical cancer, as PD-L1–positive tumors benefit more from PD-1–based immunotherapy, especially in combination regimens, but its use alone is limited by tumor and methodological variability, supporting the need for combined biomarker approaches.

PROGNOSING PERINEAL TRAUMA USING TRANSPERINEAL ULTRASOUND IN WOMEN WITH FULL TERM PREGNANCIES

Ms. Vija Nazere¹, Ms. Marija Nikola Jansone¹

1. Riga Stradins University, Latvia

Keywords

Perineal trauma, perineal tears, transperineal ultrasound

Objectives

The study aimed to evaluate if it is possible to predict the perineal trauma using transperineal ultrasound. A prospective cohort study was conducted to evaluate the relationships between the pelvic floor dimensions measured prior labor, with obstetric trauma, including spontaneous obstetric laceration and/or episiotomy.

Methods

Women were examined with transperineal ultrasound after the 36th week of pregnancy and levator ani muscle anteroposterior diameter (APD) was measured during rest and during Valsalva maneuver. It was calculated whether muscle coactivation- negative diameter difference between Valsalva maneuver and rest, occurred. After birth a questionnaire was sent to them about the birth outcomes whether or not they had lacerations or episiotomy.

Data was analysed using IBM SPSS Statistics to determine whether there was a significant relationship between perineal muscle dimensions and occurrence of perineal trauma during birth.

Results

Twelve women participated in the study, of whom nine delivered vaginally. Among these, six women sustained first- or second-degree perineal lacerations, while three women did not experience birth-related perineal trauma.

In women who experienced perineal trauma (group A), the median anteroposterior diameter (APD) during the Valsalva maneuver was higher (40.85 mm; IQR 21.9–43.9) compared with women without perineal trauma (group B; 33.6 mm; IQR 32.8–33.6). However, this difference was not statistically significant (Mann–Whitney U = 6.0, $p = 0.548$, $r = 0.26$).

Muscle coactivation was observed in both groups. No statistically significant difference was found between the groups (Mann–Whitney U = 8.0, $p = 0.905$, $r = 0.03$).

Conclusions

The results showed no significant association between pelvic floor muscle length during the Valsalva maneuver or pelvic floor muscle coactivation and the occurrence of obstetric trauma.

These findings underscore the multifactorial nature of obstetric injury and indicates that antenatal transperineal ultrasound alone is unlikely to be sufficient for risk prediction.

SELF-SAMPLING FOR HUMAN PAPILLOMAVIRUS AS AN ALTERNATIVE TO CONVENTIONAL CERVICAL CANCER SCREENING: A LITERATURE REVIEW

Ms. Gabrielė Navakauskaitė¹, Mrs. Ana Gorbunova¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Cervical intraepithelial neoplasia, cervical cancer, human papillomavirus, self-sampling screening.

Objectives

Cervical cancer is largely preventable through effective primary (HPV vaccination) and secondary (screening) prevention, yet screening coverage remains insufficient in Lithuania due to psychological, social, and logistical barriers. This literature review aimed to evaluate HPV self-sampling as an alternative to conventional clinician-collected cervical cancer screening, focusing on diagnostic performance, acceptability, and strategies to increase participation.

Methods

A narrative literature review was conducted using English-language publications identified in UpToDate, PubMed, ScienceDirect, and ClinicalKey. Search terms included cervical intraepithelial neoplasia, cervical cancer, cervical cancer screening, human papillomavirus, and self-sampling. Full-text quantitative and qualitative studies, systematic reviews/meta-analyses, reports, and relevant policy documents addressing HPV self-sampling, screening uptake, and implementation approaches were included. Evidence was synthesized using descriptive analysis.

Results

The reviewed literature demonstrates that HPV DNA testing provides higher sensitivity than conventional cytology, supporting its use as a primary cervical cancer screening method. Multiple studies and meta-analyses show that self-collected high-risk HPV samples achieve diagnostic sensitivity and specificity comparable to clinician-collected samples, particularly when PCR-based assays are used. Self-sampling was widely perceived as acceptable and preferable due to increased privacy, reduced discomfort, and convenience. Screening participation was consistently higher when self-sampling kits were sent directly to women compared with reminder letters or opt-in approaches. Studies reported significant increases in uptake, especially among previously under-screened women. Although concerns regarding correct sample collection were reported, these were reduced by clear instructions and healthcare professional support. Clinician recommendation was identified as a key factor influencing participation and follow-up adherence.

Conclusions

HPV self-sampling is a feasible, acceptable, and diagnostically comparable alternative to clinician-collected screening and may help overcome major participation barriers. Integrating self-sampling into national screening—especially via direct mailing and strong primary care engagement—could increase coverage and reduce cervical cancer burden.

THE PATH TO DIAGNOSIS FOR ENDOMETRIOSIS PATIENTS AND THE IMPACT OF ENDOMETRIOSIS ON PATIENTS' QUALITY OF LIFE

Mrs. Katrīna Tomiņa¹

1. Riga Stradins University, Latvia

Keywords

Endometriosis; Diagnostic delay; Quality of life; EHP-30; FSFI

Objectives

Endometriosis is a chronic gynaecological condition often associated with delayed diagnosis and significant impact on women's quality of life. Objectives of this study were to explore patients path to diagnosis and assess how endometriosis affects quality of life.

Methods

A mixed-methods design was applied, combining quantitative and qualitative approaches. The quantitative cross-sectional component was based on the Endometriosis Health Profile-30(EHP-30) and the Female Sexual Function Index(FSFI). The qualitative component consisted of semi-structured interviews focusing on patients experiences during the diagnostic process, perceived barriers within the healthcare system, symptoms related to endometriosis, and the impact of endometriosis on daily life. The study population included 30 women of reproductive age(24–43 years) with histologically confirmed endometriosis. Quantitative data were analyzed using descriptive statistics, while qualitative data were analyzed using thematic analysis.

Results

EHP-30 scores indicated the greatest impact in Control and Powerlessness(median 50, IQR 8-75) and Social Support(median 40.75, IQR 12.5-56), with moderate effects in Pain(24, IQR 2-52), Emotional Well-being(37.5, IQR 12.5-58), and Self-image(37.5, IQR 8-75). FSFI median total was 24.1(IQR 21-30.5); among 24 sexually active patients, median was 25.4(IQR 23.1-30.5), 62.5% scored ≤ 26.55 , indicating reduced sexual function. Qualitative analysis revealed prolonged diagnostic pathways(1-17 years) and common symptoms including severe dysmenorrhea(93%), heavy menstrual bleeding(57%), dyspareunia(37%), gastrointestinal(57%) and urinary(23%) symptoms. Infertility(30%), emotional distress(40%), anxiety(20%), and sense of helplessness(27%) were frequently reported, negatively affecting daily functioning, relationships, and overall quality of life.

Conclusions

Endometriosis has a considerable negative impact on women's quality of life and sexual health, as well as on their overall well-being. Patients experiences highlight the need for earlier diagnosis, improved awareness of endometriosis symptoms and better support within the healthcare system. Addressing these issues may contribute to improved patient-centered care and health outcomes.

TRENDS IN OBSTETRIC LABOUR-ASSOCIATED TEARS OVER A 50-YEAR PERIOD

Ms. Laima Borisovaite¹, Ms. Gabija Varkulevičiūtė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Vaginal delivery; Labour-associated tears; Newborn weight

Objectives

Vaginal deliveries can cause tears that may lead to complications such as sexual dysfunction, dyspareunia, prolonged pain, and fecal incontinence, reducing quality of life. This study aims to examine changes in labour-associated tears from 1970 to 2020.

Methods

Data was collected from the Hospital of the Lithuanian University of Health Sciences, Kaunas Clinics, birth records of July–September 1970 (297 births) and 2020 (211 births), including singleton gestations and vaginal deliveries. Women were grouped by age: ≤ 35 years ($n=432$) and >35 years ($n=71$). Newborns were grouped by weight: <2500 g ($n=26$), 2500–3999 g ($n=395$), ≥ 4000 g ($n=87$). Chi-square test was used to identify differences, $\alpha = 0.05$.

Results

Labour-associated tears were more common in 2020 (47.9%) than in 1970 (19.2%, $p<0.001$), especially in women ≤ 35 years. No significant difference was observed in women >35 ($p=0.142$). There was an increase in tears in newborn weight groups 2 and 3, with an increase in incidences from 19% to 49% ($p<0.001$) and 21.1% to 43.3% ($p=0.029$) respectively. The cervix was the main documented site of tearing in 1970 (78.9%, $n=45$), while in 2020, perineal lacerations predominated (50.5%, $n=51$). Among vaginal deliveries the incidence of episiotomies between 1970 (33%, $n=98$) and 2020 (29.9%, $n=63$, $p=0.454$) did not change significantly. However, episiotomies shifted from lateral (49%) and midline (51%) in 1970 to lateromedial (95.2%) in 2020. Among women with applied episiotomies, tears were more prevalent in 1970 (30.6%, $n=30/98$) compared to 2020 (9.5%, $n=6/63$, $p=0.002$).

Conclusions

The incidence of labour-associated tears increased significantly in the records from 1970 to 2020, particularly among women under 35 and in deliveries of newborns weighing 2500–3999 g, with a smaller increase observed in those >4000 g. The predominant tear location shifted from the cervix in 1970 to perineal lacerations in 2020.

Paediatrics

SEVERE CONGENITAL LIVER DISEASE ASSOCIATED WITH BIALLELIC FOCAD VARIANTS: A CASE REPORT

Ms. Elija Jančiauskaitė¹, Ms. Žavinta Laikūnaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

FOCAD, congenital liver disease, neonatal cholestasis, hepatic fibrosis.

Introduction

Biallelic FOCAD mutations are linked to an extremely rare congenital liver disorder, with around 14 cases reported worldwide. Affected infants present with progressive liver failure, cholestasis, poor weight gain, gastrointestinal symptoms, abdominal distention, metabolic abnormalities and various extrahepatic findings. The condition carries a high infant-mortality risk, and management is supportive and multidisciplinary, aiming to stabilise liver function and monitor disease progression.

Case Description

A female was born at 37 weeks of gestation (2640 g) with antenatally detected right-hand dysplasia. Soon after birth she developed impaired thermoregulation, respiratory distress and metabolic acidosis, requiring NICU admission. Early metabolic testing showed elevated tyrosine levels consistent with secondary hypertyrosinemia due to hepatic dysfunction. At two months of age, she was hospitalised with ascites and received supportive treatment. Genetic testing identified two pathogenic FOCAD variants, confirming the diagnosis. Follow-up imaging demonstrated hepatomegaly, heterogeneous liver and moderated fibrosis (F2 – F3 on elastography). Persistent cholestasis (elevated GGT and ALP) and markedly increased AFP were noted, with gradual improvement over time. Weight gain stabilised with no ascites recurrence. At six months she was admitted with *Staphylococcus aureus* gastroenterocolitis complicated by dehydration and metabolic acidosis. After recovery she temporarily refused solid foods but tolerated formula well. The patient continued treatment with ursodeoxycholic acid, adjusted-dose spironolactone and vitamin D supplementation for deficiency. Multidisciplinary follow-up included gastroenterology, genetics and paediatric subspecialties. Gradually, her condition and liver function stabilised, ascites resolved, weight gain improved, medications were discontinued and she is monitored on an outpatient basis.

Summary

This case demonstrates a rare form of FOCAD-associated congenital liver disease, marked by early hepatic dysfunction, severe infectious complications and congenital limb malformation.

Conclusions

FOCAD-related disease should be considered in infants presenting with unexplained hepatopathy and accompanying extrahepatic features. Early genetic testing enables timely diagnosis, family counselling and coordinated long-term care.

**Traumatology,
Orthopedics, Trauma &
Orthopedic Surgery,
Radiology**

Application of cardiac magnetic resonance imaging in patients under one year of age

Mr. Pauls Kristiāns Osipovs¹

1. Riga Stradins University, Latvia

Keywords

Magnetic resonance imaging, pediatrics, MRI sequences.

Objectives

The need for a new and optimized cardiac MRI protocol that would shorten examination time and cover the most common pathologies in this anatomic region is crucial in newborn and neonatal populations because this imaging method has many advantages compared to other imaging methods in this anatomic region and has been studied very little - there is no optimized protocol or sequence set for cardiac MRI yet.

Methods

Retrospective workflow analysis involved 4 pediatric patients (2 girls and 2 boys) under one year of age, with MRI examination details retrieved from the Children's Clinical University Hospital's information systems. Inclusion criteria: patients up to 12 months of age with cardiac disorders or suspected anatomical abnormalities and no contraindications to MRI, and MRI scans performed between January and September 2025 using the hospital's 1.5 T MRI scanner.

Results

The results of the study show that the most optimal set of cardiac MRI sequences includes eight sequences. This set makes it possible to identify the most common cardiac pathologies typical for this age group and takes about 18 minutes, which is significantly shorter than the standard MRI examination that usually lasts at least 40 minutes. The data were processed and analyzed using Microsoft Excel for initial tabulation and Python (pandas library) for calculating sequence durations and descriptive statistics.

Conclusions

This study aims to create an optimal cardiac MRI protocol for patients under one year of age which would be a very good aid in the selection of neonatal imaging diagnostic methods and improve the selection of sequences during cardiac MRI examinations. This would help specialists more accurately predict the expected results of this examination compared to other diagnostic methods while also reducing the time this examination would take.

ARTIFICIAL INTELLIGENCE (AI) IN RADIOLOGY: ASSISTANCE OR COMPETITION FOR A DOCTOR?

Mr. Domantas Ivanauskas¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Artificial Intelligence in Radiology; Benefits and Limitations; Application of AI.

Objectives

Artificial intelligence (AI) in radiology has been developing quickly, especially in image recognition and automatic anomaly detection. AI algorithms can now detect problems with X-ray, CT, and MRI scans. This raises the question of whether radiologists will benefit from AI or if it will eventually compete with them. The purpose of this essay is to examine potential uses of AI in radiology and speculate on how it can impact radiologists' roles in medical diagnosis.

Methods

We conducted a systematic review of scientific articles published between 2016 and 2025 in ScienceDirect, PubMed and MDPI. Inclusion criteria focused on open-access randomised clinical trials, systematic reviews and meta-analyses. More than 100 articles were analyzed. These studies researched how accurate AI programs are for diagnosis, how they can be used in clinics, and the ethical issues they raise in radiology. The main search term was „AI in radiology”.

Results

According to what we discovered in the literature, AI can improve the accuracy of radiological tests, decrease error rate, and speed up the reading of images. AI is especially useful for automating repetitive operations and for systems that prioritise cases (triage). However, the effectiveness of these systems is often determined by the quality of the data they use. It may find it hard solving unusual medical situations, and the fact that their “black box” conclusions might occasionally be imprecise raises questions about their dependability and responsibility.

Conclusions

1. Rather than viewing AI as a replacement for radiologists, we should view it as a tool to help them do their jobs more effectively.
2. The radiologist's medical judgement, responsibility, and capacity to integrate imaging data with patient data remain crucial.
3. The role of a radiologist will probably evolve in the future, with a stronger emphasis on utilising AI technologies.

ASSOCIATION BETWEEN PERIVASCULAR SPACE BURDEN AND COGNITIVE PERFORMANCE IN PARKINSON'S DISEASE

Ms. Evelina Stagiša¹

1. Riga Stradins University, Latvia

Keywords

Parkinson's disease; perivascular spaces; cognitive impairment; MoCA; MRI biomarkers

Objectives

Cognitive impairment is a frequent non-motor manifestation of Parkinson's disease (PD). Enlarged perivascular spaces (PVS) visible on MRI may reflect impaired glymphatic clearance and microvascular pathology contributing to cognitive decline. This study aimed to evaluate the relationship between MRI-based PVS burden and cognitive performance in PD patients.

Methods

25 PD patients (12 females, 13 males) and 25 healthy controls (13 females, 12 males) underwent 3T brain MRI with T2-weighted imaging. Enlarged PVS were manually counted in the basal ganglia and centrum semiovale. The largest number of PVS on a single slice was recorded for each region. PVS severity was also graded using the Potter and Heier scales. Cognitive function was assessed using the Montreal Cognitive Assessment (MoCA). Associations between PVS metrics and MoCA scores were analyzed using Spearman correlation.

Results

PD patients exhibited significantly lower MoCA scores and higher PVS burden compared with controls ($p < 0.001$). Higher largest-per-slice PVS counts were significantly associated with lower MoCA scores in the right basal ganglia and bilaterally in the centrum semiovale (ρ ranging from -0.36 to -0.43 , $p < 0.05$). No significant correlation was observed for left basal ganglia PVS. Total PVS counts and visual rating scales showed weaker associations with cognition.

Conclusions

Increased PVS burden, particularly the largest-per-slice metric, in our patient group is associated with poorer cognitive performance in Parkinson's disease. These findings could suggest that focal PVS clustering rather than overall burden may be most relevant for cognitive dysfunction. MRI-based PVS assessment may serve as a simple, non-invasive imaging marker for identifying PD patients at increased risk of cognitive decline. Application of this marker together with clinical data could potentially yield higher diagnostic accuracy, which needs to be tested in larger groups.

Early functional results in patients with unicondylar knee replacement

Ms. Elisaveta Pisarenko¹

1. Riga Stradins University, Latvia

Keywords

Osteoarthritis; Unicondylar knee replacement (UKR); Functional results; Oxford knee score (OKS); Forgotten joint score – 12 (FJS-12)

Objectives

Osteoarthritis is the most common type of arthritis. Usually, osteoarthritis affects only one knee condyle that could be an indication to UKR. A retrospective study was carried out to analyse functional results in patients who underwent UKR.

Methods

85 patients who underwent UKR at Hospital of traumatology and orthopaedics in Riga between June 2023 and June 2025 were included in the study. Patient-reported outcomes were assessed using OKS and FJS-12. The obtained results were compared to the data taken from other studies regarding OKS and FJS-12 results in patients before and after UKR.

Results

The average result in OKS was 43,6 points, ranged from 28 to 48 points. The average result in FJS-12 was 90,7 points, ranged from 45 to 100 points. Both score results refer to satisfactory joint condition. Referring to another study on the topic, average result in FJS-12 in patients before UKR was 69,1 points while after surgery it improved to 83,3 points. Referring to another study, average result in OKS in patients before UKR was 23 points. Improvement to average 90,7 points in FJS-12 as well as improvement to average 43,6 points in OKS in this study can be interpreted as a significant improvement. Lowest results shown in the patients who had knee trauma after surgery. Patients with chronic back pain also reported knee discomfort, which negatively affected OKS and FJS-12 results.

Conclusions

OKS and FJS-12 results in patients who underwent UKR as well as comparison to other studies on the topic can be interpreted as satisfactory early postoperative results.

EFFICACY AND COMPLICATIONS OF ULTRASOUND-GUIDED PERCUTANEOUS CHOLECYSTOSTOMY: A RETROSPECTIVE ANALYSIS IN PATIENTS WITH ACUTE CHOLECYSTITIS

Ms. Valerija Jablonska¹, Ms. Emīlija Ezeriņa¹

1. Rīga Stradiņš University, Latvia

Keywords

Ultrasound-guided percutaneous cholecystostomy; Acute cholecystitis; C-reactive protein.

Objectives

Acute cholecystitis is a common gallbladder disease. Percutaneous cholecystostomy is an alternative minimally invasive treatment method to cholecystectomy, which is indicated for patients with high surgical risk or difficulties in performing surgical intervention. Our aim was to evaluate the effectiveness and possible complications of ultrasound-guided percutaneous cholecystostomy.

Methods

This retrospective study included 87 patients (44 males, 43 females) with acute cholecystitis who underwent percutaneous cholecystostomy in the Pauls Stradiņš Clinical University Hospital from June 2022 until July 2025. C-reactive protein and leukocyte levels were analyzed before the procedure and 72 hours after it, as well as the types and frequency of complications and the performance of subsequent cholecystectomy. Patients were analyzed in total and in subgroups depending on age (<75, ≥75 years), whether subsequent cholecystectomy was performed and clinical factors.

Results

The mean age of patients was 78 (±10) years. A statistically significant decrease in CRP levels (paired t-test, $p<0.001$) and leukocyte levels (related samples sign test, $p<0.001$) was observed within 72 hours after percutaneous cholecystostomy. In patients younger than 75 years, the reduction in CRP levels within 72 hours after percutaneous cholecystostomy was statistically significantly greater than in older patients (median 152.3 mg/L and 86.2 mg/L; Mann-Whitney U test, $p=0.036$). Complications were observed in 7 patients, the most common of which was drain dislocation. Patients without subsequent cholecystectomy after percutaneous cholecystostomy were statistically significantly older than patients who underwent surgery (median 82 and 75 years; Mann-Whitney U test, $p=0.014$).

Conclusions

Ultrasound-guided percutaneous cholecystostomy is an effective method in the treatment of acute cholecystitis, providing a statistically significant reduction in inflammatory markers within 72 hours after the procedure. A significantly greater reduction in CRP levels was observed in patients younger than 75 years compared with older patients. Complications were observed in 8% of patients.

Glasgow Coma Scale, imaging biomarkers, and D-dimer in outcome prediction after spontaneous intracerebral haemorrhage

Ms. Maruta Mazule¹

1. Riga Stradins University, Latvia

Keywords

Spontaneous intracerebral haemorrhage, outcomes, D-dimer, imaging biomarkers, neuroradiology

Objectives

Spontaneous intracerebral haemorrhage (ICH) carries high mortality and disability. Prognosis depends on radiological markers such as haematoma volume, intraventricular haemorrhage (IVH), and infratentorial origin. D-dimer, a marker of fibrinolysis, may additionally reflect disease severity, but its independent prognostic value remains uncertain.

Methods

We retrospectively analysed 124 patients with spontaneous ICH (mean age 66.8 ± 14.3 years; 58.9% male). Clinical severity was assessed using the Glasgow Coma Scale (GCS). Radiological data included haematoma volume ($A \times B \times C/2$), IVH, infratentorial origin, and the ICH score. Admission D-dimer levels were also collected. Statistical analyses included ANOVA, χ^2 tests, Spearman's correlations, and multivariable regression models.

Results

Patients were stratified by GCS: severe ($n=35$), moderate ($n=23$), and mild ($n=66$). Haematoma volume differed significantly across groups (59.7 mL in severe vs 12.0 mL in mild, $p<0.001$). IVH occurred in 40.3% and was strongly associated with lower GCS ($p<0.001$). Mean ICH score was 1.56 ± 1.38 , with marked group differences ($p<0.001$). D-dimer levels were higher in severe than mild cases ($p=0.019$) and correlated with haematoma volume ($p=0.264$), ICH score ($p=0.391$), and lower GCS ($p=-0.361$). Overall mortality was 41.9%, highest in severe cases (91.4%). Logistic regression identified GCS ($p=0.046$) and ICH score ($p=0.037$) as independent predictors of mortality, while D-dimer was not ($p=0.957$).

Conclusions

Haematoma volume, IVH, infratentorial origin, and ICH score are strong predictors of outcome in ICH. While D-dimer reflects haematoma burden, it does not add prognostic value beyond clinical and imaging measures.

MID-TERM OUTCOMES AFTER OPEN REDUCTION AND INTERNAL FIXATION OF AO/OTA 44B3-44C POSTERIOR MALLEOLAR ANKLE FRACTURES

Mrs. Elizabete Lauce¹, Ms. Laura Sabine Taurmane¹

1. Riga Stradins University, Latvia

Keywords

Posterior malleolus; Syndesmotic fixation; SMFA; Range of motion; AO classification

Objectives

Posterior malleolar fixation in unstable ankle fractures remains controversial regarding optimal fixation strategy and its influence on functional outcome. While posterior fixation is increasingly advocated, the relative impact of fixation approach versus associated procedures such as syndesmotic screw placement is not fully understood.

The objective of this study was to evaluate mid-term functional and objective outcomes after operative treatment of AO/OTA 44B3 and 44C ankle fractures involving posterior malleolus, focusing on the posterior fixation strategy and syndesmotic screw fixation.

Methods

A retrospective cohort study was conducted including 45 patients with surgically treated AO/OTA 44B3 and 44C ankle fractures. Functional outcomes were assessed using the Short Musculoskeletal Function Assessment (SMFA) dysfunction and bother indices. Objective outcome was measured as absolute ankle range-of-motion (ROM) deficit compared to the contralateral side. CT-based fragment morphology and reduction quality were not quantified.

Primary exposure variables included posterior fixation approach and syndesmotic screw placement. Multivariable linear regression models were adjusted for AO fracture group, age, sex, and follow-up duration. Stratified analyses by AO group were additionally performed.

Results

Posterior fixation approach was not independently associated with SMFA dysfunction, SMFA bother, or absolute ROM deficit after adjustment for confounders. AO fracture group (44C) was associated with increased ROM deficit but did not significantly affect patient-reported outcomes.

In contrast, syndesmotic screw fixation demonstrated an independent association with worse outcomes, including increased absolute ROM deficit (adjusted difference +6.22°, $p = 0.011$), higher SMFA dysfunction scores (+9.27, $p = 0.006$), and higher SMFA bother scores (+8.11, $p = 0.028$). These associations persisted after multivariable adjustment.

Conclusions

Posterior malleolar fixation strategy itself does not independently influence mid-term functional or objective outcomes following operative treatment of unstable ankle fractures. However, syndesmotic screw fixation is associated with increased ankle stiffness and worse patient-reported outcomes.

MORPHOLOGICAL VARIABILITY OF THE ACROMION AND ITS CLINICAL SIGNIFICANCE

Mr. Artjoms Kalmašņikovs ¹

1. Riga Stradins University, Latvia

Keywords

Acromion, Subacromial space, Morphometry, Variability, Imaging diagnostics.

Objectives

Variations in acromial morphology and coracoacromial spacing affect subacromial volume, shoulder stability, and the development of impingement syndromes. This study aimed to assess morphometric variability of the acromion and to evaluate it using normalized indices, that may support imaging-based diagnostics and guide conservative treatment strategies.

Methods

Fifty-four dry human scapulae (22 right, 32 left) of unknown age and sex were examined. Measurements included acromial chord length, curvature depth, distances from the anterior and posterior acromial margins to the superior glenoid cavity margin, and the acromion–coracoid distance. Acromial morphology was classified according to the Bigliani classification. The Relative Spacing Index (RSI) was calculated as the ratio of acromion–coracoid distance to acromial chord length, while the Relative Spacing Volume Index (RSVI) combined measurements to estimate overall subacromial space. All measurements were obtained using a caliper with ± 1 mm accuracy.

Results

The mean acromial chord length was 40 mm, with a mean curvature depth of 3.9 mm. Acromion types were predominantly type I, flat ($n = 48$), followed by type II, curved ($n = 5$) and type III, hooked ($n = 1$). The acromion–coracoid distance demonstrated the greatest variability (21–60 mm). Mean acromion–coracoid distances were 38.2 mm for type I and 32.6 mm for type II. Mean RSI was 0.97, and mean RSVI was 1.28, with higher values observed in type I compared to type II acromia, indicating relatively wider subacromial space.

Conclusions

Acromial shape and subacromial spacing showed wide variability. Detected normalized indices can be integrated into radiographic, CT, or MRI assessments to objectively evaluate certain cases. Identification of reduced RSI may support early diagnosis of shoulder impingement and help tailor conservative management, including physiotherapy, postural correction, and load modification, potentially reducing unnecessary surgical intervention.

PATIENT SATISFACTION WITH CARE FOUR WEEKS AFTER MAJOR JOINT ARTHROPLASTY USING A FAST-TRACK PROGRAM: A PILOT STUDY

Ms. Leticija Aelita Ločmele¹, Ms. Ilze Vindele²

1. Riga Stradins University, Latvia, 2. Hospital of Traumatology and Orthopaedics, Latvia

Keywords

Enhanced Recovery After Surgery (ERAS); Perioperative care; Multimodal analgesia; Early rehabilitation.

Objectives

The primary aim of this pilot study was to evaluate patient satisfaction among individuals undergoing elective hip and knee arthroplasty with implementation of elements of an Enhanced Recovery After Surgery (ERAS) program. The study was conducted at the Hospital of Traumatology and Orthopaedics in Riga, Latvia. A further aim was to assess patient satisfaction four weeks after surgery and examine its correlation with pain intensity at discharge.

Methods

Quantitative data were collected using structured checklists. Interventions were based on ERAS guidelines. Pain intensity was measured with the Numeric Rating Scale (NRS) from 0 to 10, where 0 indicated no pain and 10 indicated the worst imaginable pain. Patients were asked whether they used assistive mobility devices and pain-relieving medication in four weeks after surgery. Data were analyzed using IBM SPSS Statistics.

Results

Preliminary data include twenty-five participants aged 33–65 years. Outcomes were evaluated four weeks post-operatively. The mean patient satisfaction score was 9 out of 10. Thirteen of the twenty-five participants used crutches as an assistive device for daily mobility, and seven reported using analgesic medication for daily pain management. Spearman's rank correlation analysis showed a very weak negative association between patient satisfaction and pain at rest at discharge ($r_s = -0.111$, $p = 0.598$). This correlation was not statistically significant, indicating no meaningful association between the variables.

Conclusions

Overall, patient satisfaction was high. Although a weak negative correlation between satisfaction and pain at discharge was observed, it was not statistically significant, suggesting that satisfaction may be influenced by other factors. Further studies with larger patient groups are needed to confirm these findings.

PERCUTANEOUS CRYOABLATION FOR SMALL RENAL MASSES: FIRST PATIENT GROUP EFFICACY AND SAFETY ANALYSIS FROM LATVIAN REGISTRY

Ms. Evelina Rama¹

1. Riga Stradins University, Latvia

Keywords

Renal Cell Carcinoma; Cryoablation; Minimally Invasive; Interventional Radiology;

Objectives

The aim of this study was to report and evaluate the first attempts to implement percutaneous cryoablation for the treatment of T1a renal masses in Latvia, and to assess its effectiveness and safety. The study evaluated technical success, completeness of tumor ablation, procedure-related complications, renal function changes, and tumor characteristics, as part of the first experience implementing percutaneous cryoablation in Latvia, aiming to assess whether this technique is a clinically applicable and effective minimally invasive treatment option for selected patients with small renal masses.

Methods

This retrospective, single-center study analyzed the first experience with percutaneous renal cryoablation in Latvia. Patients treated between October 2024 and August 2025 were included. The study comprised 30 adult patients with a single unilateral T1a renal mass who were deemed unsuitable for surgical treatment. Data were obtained from electronic medical records following institutional approval. All procedures consisted of CT-guided percutaneous renal cryoablation performed under general anesthesia by an interventional radiologist. Statistical analysis was conducted using IBM SPSS Statistics.

Results

Technical success was achieved in all 30 cases. The mean patient age was 65.4 ± 7.3 , and the majority had significant comorbidities. Complications occurred in 6 patients (23.1%) and were mild to moderate, with no life-threatening events or need for nephrectomy. Mean preprocedural eGFR was 81.2 ± 21.9 mL/min/1.73 m² and slightly decreased to 77.5 ± 19.3 mL/min/1.73 m² at 30 days. Baseline and post-procedural eGFR showed a strong positive correlation ($r = 0.663$, $p = 0.0002$), indicating preserved renal function. Median hospital stay was 3 days, and no procedure-related mortality was observed.

Conclusions

In our initial Latvian experience, percutaneous cryoablation for T1a renal tumors proved safe, technically successful, and associated with good short-term renal function preservation, supporting its role as an effective nephron-sparing option for patients unsuitable for surgery.

RADIOLOGICAL FEATURES OF RENAL TRANSPLANT

Ms. Emīlija Ezeriņa¹, Ms. Valerija Jablonska¹

1. Rīga Stradiņš University, Latvia

Keywords

Kidney graft; Ultrasonography; Doppler; Transplantation; Resistive index.

Objectives

To evaluate radiological features of transplanted kidneys in Latvia, an analysis of ultrasonography (USG) and Doppler ultrasonography findings was conducted. The objectives were to perform descriptive analysis of graft morphological, vascular features, and post-transplantation complications. Additionally, we aimed to assess the association and potential clinical utility of the renal arterial resistive index (RI) in evaluating graft function.

Methods

This retrospective study included 363 renal transplant USG assessments from 91 patients (35 women; 56 men) performed between July 2014 and March 2025 in Pauls Stradiņš Clinical University Hospital. For each USG, the closest laboratory analysis of kidney function was found. For correlation analysis, an independent data set with 1 entry per patient was created.

Results

Mean age of patients was 48,6 ($\pm 14,9$) years, and mean age of renal transplants was 5,7 ($\pm 5,4$) years. Mean graft length was 11,6 ($\pm 1,6$) cm. Parenchyma thickness was reduced in 7,1% (25) of grafts. Hyperechoic transplants were found in 8,1% (28) examinations. Cysts were found in 20,4% (74), urosthesis/hydronephrosis in 14,9% (54) of examinations. Mean *aa.segmentariae* RI was 0,68 ($\pm 0,07$). Pearson correlation analysis between RI and glomerular filtration rate (GFR) found weak statistically non-significant ($p=0,095$) negative correlation. Mann-Whitney test showed that transplants with RI above the upper quartile ($RI>0,72$) had a statistically significantly longer time since transplantation (median 7,0 vs 4,0 years; $p=0,009$) and lower GFR (median 56,0 vs 63,0 ml/min/1.73 m²; $p=0,042$) than those with $RI<0,72$.

Conclusions

Most renal grafts had preserved parenchyma and normal echogenicity. Most common post-transplantation complications were cysts, urosthesis/hydronephrosis. Lack of statistically significant correlation between RI and GFR suggests that RI is not a reliable linear marker of transplant function, although RI above a certain threshold may identify grafts with impaired performance. This study contributes to the understanding of USG and Doppler features in renal transplant recipients.

The Role of CT-Derived Hounsfield Units in Assessing the Risk of Lumbar Vertebral Fractures

*Ms. Jekaterina Stepanova*¹

1. Riga Stradins University, Latvia

Keywords

Hounsfield units; computed tomography; lumbar vertebral fractures; osteoporosis

Objectives

Lumbar vertebral fractures are common, while imaging-based biomarkers for early fracture risk assessment are limited. Hounsfield unit measurements obtained from routine computed tomography have shown potential as an indirect indicator of bone quality. In this study, we evaluate the correlation between CT-derived HU values of lumbar vertebrae and the subsequent occurrence of vertebral fractures.

Methods

This retrospective observational study included 200 patients with a documented history of lumbar vertebral fracture. Clinical data were obtained from the medical record system used at Pauls Stradiņš Clinical University Hospital.

HU measurements were performed on the initial CT examination, focusing on lumbar vertebrae that were intact at the time of imaging but subsequently sustained fractures. Regions of interest (ROI) were placed within the trabecular bone of the vertebral body, and HU values were obtained using the Weasis software.

HU values were analyzed in relation to subsequent fracture occurrence using SPSS software, including Pearson correlation analysis, group comparisons, and receiver operating characteristic analysis to identify potential HU threshold values predictive of fracture risk.

Results

Mean HU values of lumbar vertebrae prior to fracture will be measured, followed by statistical analysis to assess their association with the risk of subsequent lumbar vertebral fracture occurrence.

Conclusions

HU measurements may serve as a readily available and clinically useful tool for assessing lumbar vertebral fracture risk. Incorporating HU assessment into routine CT evaluation could facilitate early identification of patients at high risk for vertebral fractures and improve preventive strategies.

UTERINE FIBROID EMBOLIZATION AS AN ALTERNATIVE TO SURGERY TREATMENT

Mr. Domantas Ivanauskas¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Uterine Fibroid Embolization; Alternative Uterine Fibroid Treatment; Radiology.

Objectives

With developing minimal-invasive approaches in various treatment guidelines, uterine fibroid treatment is no exception. The traditional surgical treatment for this disease is hysterectomy or myomectomy. However, because of various benefits, uterine artery embolisation (UAE) has become more common in recent years. The use of uterine artery embolisation in the treatment of uterine fibroids is analysed in this paper, along with its clinical efficacy and role in relation to surgical methods.

Methods

We conducted a systematic review of open-access scientific articles in English published between 2016 and 2025 in ScienceDirect, PubMed and Springer Nature Link. A total of 528 articles were identified, and more than 100 articles were analysed. These studies evaluated UAE's efficacy, rates of complications, and post-procedure quality of life for patients. Search terms included "Uterine Fibroid Embolisation" and "Alternative Uterine Fibroid Treatment".

Results

According to the studies, most of the patients who received UAE treatment had improved symptoms and reduced fibroid size by around 50%. It is a safer option in comparison to traditional surgical treatments, due to its minimal-invasive approach. It is associated with shorter hospital stays and a faster return to day-to-day activities. However, some people could require additional care as the procedure does not fully eliminate the problem. Furthermore, the treatment raises concerns about fertility.

Conclusions

1. Uterine artery embolization is an effective and safe alternative to surgical fibroid treatment.
2. Uterine artery embolization is a less-invasive method that reduces length of hospital stay and fastens the recovery.
3. It has been demonstrated that uterine artery embolisation considerably lowers fibroid volume.
4. The greatest clinical results depend on selecting the appropriate treatment approach depending on the patient's age, reproductive plans, and symptoms.

White matter hyperintensity burden and age-matched whole brain volume in patients with cognitive impairment

Mr. Arturs Titovs¹

1. Riga Stradins University, Latvia

Keywords

White matter hyperintensities, whole brain volume, cognitive impairment; automated volumetric quantification; quantitative neuroimaging biomarkers

Objectives

White matter hyperintensities (WMHs) on brain magnetic resonance imaging (MRI) are a prominent biomarker associated with cognitive decline. Automated lesion analysis allows objective volumetric assessment and evaluation of WMH burden in relation to whole brain (WB) volume and cognition. This study aimed to explore associations between WMH volumes, their regional distribution, whole brain volume metrics, and cognitive performance, and to assess the added value of the WMH-to whole brain volume ratio.

Methods

In this retrospective cross-sectional study, 41 adults referred for cognitive concerns underwent 3.0 tesla brain MRI. Icometrix software was utilised for WMH automatic segmentation, yielding total and regional volumes. Additionally, WB volume and WB volume percentiles were extracted. Cognitive performance was assessed using the Montreal Cognitive Assessment (MoCA) and categorized into high (≥ 26), moderate (18–25), and low (≤ 17) groups. Statistical analysis mainly included Spearman's correlation and Kruskal–Wallis test with Bonferroni–Holm correction.

Results

Higher WB volume and WB percentile were associated with higher MoCA scores and lower total WMH volume ($p < 0.001$). A higher WMH-to-WB volume ratio was associated with lower MoCA scores ($p = 0.009$). Significant differences in WB volume and WB volume percentiles were observed between MoCA groups ($p = 0.002$), remaining significant after correction. The WMH-to-WB volume ratio also differed significantly between groups ($p < 0.025$). Higher total WMH volume correlated with lower MoCA scores ($r = -0.392$, $p = 0.011$) and differed across cognitive groups ($H(2) = 6.998$, $p = 0.030$). Regional WMH volumes showed trends, but remained non-significant (e.g. periventricular $p = 0.074$).

Conclusions

Automated volumetric analysis of WMH and whole brain volume shows statistically significant associations with cognitive performance. This study demonstrates the potential of WMH as an objective and scalable radiological biomarker for cognitive impairment.

**Public & Global Health,
Occupational Medicine,
Nutrition, Digital
Medicine**

ANALYSIS OF GUT MICROBIOTA CONFIRMS DIFFERENCES IN ALPHA-DIVERSITY AND ABUNDANCE OF AKKERMANSIA MUCINIPHILA IN GISTAR STUDY PARTICIPANTS WITH OBESITY.

***Ms. Laura Balode*¹**

1. University of Latvia, Latvia

Keywords

Microbiota, Alpha diversity.

Objectives

This study investigates the variations of gut microbiota (GM) α -diversity and the relative abundance of specific microbial species - *Akkermansia muciniphila* (AM), *Christensenella minuta* (CM), *Parabacteroides distasonis* (PD), *Parabacteroides goldsteinii* (PG), *Megamonas hypermegale* (MH) - in relation to body mass index (BMI) among male and female cohorts.

Methods

The analysis included 548 individuals (391 females, 157 males), aged 40-64, from the GISTAR study. Participants were categorised into four groups: non-obese females (NoF, BMI < 30; n = 242), obese females (OF, BMI $\geq$ 30; n = 149), non-obese males (NoM, BMI < 30; n = 99), obese males (OM, BMI $\geq$ 30; n = 58). Shotgun metagenomic sequencing was used for GM analysis. A-diversity was measured using the Shannon index (SI) and the efficient number of species (ENS). Kruskal-Wallis test was used for data comparison. Data analysis was performed using Microsoft Excel, IBM SPSS Statistics 29.0.2.

Results

Both SI and ENS were significantly higher in NoF than OF ($p < 0.001$) and NoM vs OM ($p < 0.001$). The SI in NoF ranges from 0.60 to 1.54 (median 0.99), in OF: 0.58 - 1.40 (median 0.95), NoM: 0.51 - 1.38 (median 0.99), OM: 0.54 - 1.29 (median 0.90). For the ENS, NoF: 1.82 to 4.69 (median 2.70), OF: 1.78 - 4.09 (median 2.58), NoM: 1.67 - 3.98 (median 2.69), OM: 1.71 - 3.63 (median 2.45). No significant differences were observed for PD, PG, CM, MH. The relative abundance of AM was significantly higher ($p < 0.001$) in NoF (from 0 to 13.29 (median 0.26)) than OF (0 - 12.52 (median 0.04)), and NoM (0 - 2.68 (median 0.02)) than OM (0 - 3.79 (median 0.002)) ($p < 0.001$).

Conclusions

The findings indicate that α -diversity and the relative abundance of *A.muciniphila* are both significantly higher in non-obese individuals of both genders.

ASSOCIATION BETWEEN UPPER TRAPEZIUS MUSCLE MECHANICAL PROPERTIES MEASURED BY MYOTONOMETRY AND PAIN PRESSURE THRESHOLD

Mr. Ričards Gudelis¹, Ms. Guna Skuja¹, Mr. Ričards Ļevčiks¹, Ms. Darja Allemane¹

1. Riga Stradins University, Latvia

Keywords

algometry, muscle stiffness, myotonometry, pain pressure threshold, upper trapezius muscle

Objectives

Upper trapezius pain is common and is frequently evaluated by palpation or instrumentally by muscle tone and pain-sensitivity testing. However, the relationship between these approaches remains insufficiently defined. This study aimed to examine associations between muscle mechanical properties and pain pressure threshold within the upper trapezius muscle.

Methods

A cross-sectional study was conducted in healthy young adults (n=41). Upper trapezius muscle tone, dynamic stiffness, and elasticity were measured bilaterally using the myotonometer MyotonPRO. Pain pressure threshold was assessed bilaterally in symmetrical points using a digital algometer. Mean values from 15 repeated myotonometer measurements and 3 repeated algometer measurements were used for statistical analysis. Associations between myotonometry parameters and pain pressure threshold were examined using Spearman correlation (two-tailed), and side-to-side differences by Wilcoxon signed-rank tests. Statistical significance was set at $p < 0.05$.

Results

On the left upper trapezius, muscle tone demonstrated a strong positive correlation with stiffness ($r_s = 0.899$, $p < 0.001$), and stiffness moderately correlated with elasticity ($r_s = 0.524$, $p < 0.001$). Correlations between pain pressure threshold and myotonometry parameters on the left side were weak and non-significant. Similar findings were observed on the right side, with a strong correlation between tone and stiffness ($r_s = 0.919$, $p < 0.001$) and a moderate correlation between stiffness and elasticity ($r_s = 0.568$, $p < 0.001$). Associations between pain pressure threshold and myotonometry parameters on the right side were weak and non-significant. No significant side-to-side difference was observed for stiffness, while pain pressure threshold demonstrated a borderline side difference ($p = 0.053$).

Conclusions

Within the upper trapezius muscle in young healthy adults, myotonometry parameters demonstrate strong internal interrelationships but do not show significant associations with pain pressure threshold. For a better understanding of these parameters' interplay, in future studies number of participants should be expanded and include individuals with marked neck pain.

CARPAL TUNNEL SYNDROME AND UPPER-EXTREMITY WORK-RELATED MUSCULOSKELETAL DISORDERS IN LATVIAN DENTAL STUDENTS AND DENTAL HEALTHCARE WORKERS: A CROSS-SECTIONAL STUDY

Mr. Georgs Alberts Pimanovs¹

1. Riga Stradins University, Latvia

Keywords

Carpal tunnel syndrome; Work-related musculoskeletal disorders; Dental students; Dental personnel; Ergonomics

Objectives

This study aimed to determine the prevalence of carpal tunnel syndrome (CTS) and other work-related upper-extremity musculoskeletal disorders (MSDs) among Latvian dental students and personnel, and to identify associated sociodemographic and occupational factors.

Methods

A self-administered anonymous questionnaire was distributed to dental clinicians (dentists, hygienists, assistants) and dental students. A total of 421 participants were included in the study (107 students and 314 professionals), 85.7 % were women, and the overall mean age was 34.6 ± 13.3 years. Participants provided demographic and work-related information, and completed the validated Nordic Musculoskeletal Questionnaire (NMQ) and Boston Carpal Tunnel Questionnaire (BCTQ). Outcome measures included the 12-month prevalence of neck, shoulder, elbow and wrist/hand symptoms, self-reported physician-diagnosed carpal tunnel syndrome and CTS-related symptom severity and functional status scores.

Results

CTS was reported by 37 participants (8.8 %), significantly more often among women than men (10.0 % vs. 1.7 %, $p < 0.05$). Over the past 12 months, musculoskeletal pain was commonly reported in the neck (82 %), and shoulder (70 %), followed by the wrist/hand (69 %) and elbow/forearm (37 %). Mean BCTQ Symptom Severity Scale and Functional Status Scale scores were significantly higher in women ($p < 0.001$). Scores increased with older age and longer practice tenure ($p < 0.001$). Notably, over 90 % reported daily exposure to hand-held vibrating instruments and other repetitive dental tasks. Symptoms were generally more frequent and severe among practicing personnel than dental students.

Conclusions

Upper-extremity MSDs and CTS symptoms were common among Latvian dental professionals and students. Female gender, older age, higher body mass index, longer work tenure and repetitive dental tasks were associated with higher burden. These findings highlight the need for prevention, including ergonomics training in dental education and practice, to reduce upper-limb MSD risk.

CHANGES IN WORK-RELATED HEALTH PROBLEMS AND PSYCHOSOCIAL RISKS IN LATVIA, 2005–2015 (EWCS DATA)

Ms. Nadina Judeika¹

1. Riga Stradins University, Latvia

Keywords

Work-related health; Psychosocial risks; Physical workload; Occupational health; European Working Conditions Survey

Objectives

Work-related health problems remain an important public health issue as work organisation and occupational risks change. While physical workload still affects workers health, psychosocial risks have become more important. Evidence on these changes in Latvia remains limited.

Methods

Data from the European Working Conditions Survey (EWCS) Integrated File 1991–2015 was used. Employed respondents from Latvia in 2005, 2010 and 2015 were included. Work-related health problems were assessed using a self reported indicator of whether work affected health during the past 12 months. Psychoemotional and sleep related outcomes (anxiety, fatigue, sleep disturbances) were available for 2010 and 2015 and were analysed accordingly. Physical workload factors included tiring work positions, heavy loads and lifting people. Prevalence estimates were calculated using survey weights. Associations were examined using binomial logistic regression.

Results

The prevalence of work-related health problems was 64.0% in 2005 and 64.1% in 2010, decreasing to 51.2% in 2015. In 2010, fatigue and anxiety were reported by 61.9% and 22.1% of workers, declining to 41.9% and 15.0% in 2015. In 2015, 10–12% of workers reported frequent sleep-related problems. Tiring work positions were the strongest predictor of reporting that work affected health (OR = 0.72, 95% CI 0.69–0.75), followed by heavy loads (OR = 0.89, 95% CI 0.83–0.93) and lifting people (OR = 0.93, 95% CI 0.87–1.00).

Conclusions

The decline in work-related health problems by 2015 may be related to labour market changes after the economic crisis, including reduced physical workload and improved occupational safety practices. However, physical workload (particularly tiring work positions) remains strongly associated with adverse health outcomes. Although psychoemotional symptoms declined, persistent sleep problems suggest ongoing psychosocial strain and highlight the need for integrated occupational health prevention strategies.

COMPARATIVE ANALYSIS OF SEXUAL AND REPRODUCTIVE HEALTH OF WOMEN IN ESTONIA AND LATVIA

Mrs. Marta Luiza Ziverte¹

1. Riga Stradins University, Latvia

Keywords

sexual and reproductive health, contraception, sexuality education, gynecological care

Objectives

Sexual and reproductive health (SRH) is an essential public health component reflecting health equity and access to services. Estonia and Latvia, two neighbouring countries with shared sociohistorical backgrounds, conducted national SRH surveys within a close period. This study aims to analyse differences in women's SRH behaviours and healthcare, and to assess how sexuality education (SE) and access to SRH services contribute to these differences.

Methods

Data were derived from national representative SRH surveys: the 2024 Estonian Women's Health Survey (n=5,443 women aged 16–59) and the 2023 study on the factors and habits affecting SRH in Latvia (2,167 female respondents aged 15–64). Estonia used an online self-administered questionnaire (REDCap), while in Latvia survey was conducted with stratified random sample at the respondents' places of residence. Both surveys captured comparable domains including SE, age at first intercourse, contraceptive practices, sexual satisfaction, use of healthcare services, exposure to violence.

Results

Estonian women reported earlier sexual initiation and higher uptake of modern contraception, consistent with SE and comprehensive, publicly funded SRH services. They also reported higher satisfaction with sexual life and better overall health. Preventive gynecological care has been widely accessed. Latvian women demonstrated a greater reliance on contraceptive methods with low-effectiveness and significant financial barriers. Access to specialist care was lower than in Estonia. Both surveys showed high lifetime exposure to violence. Estonia reported higher levels of sexual violence, while Latvian women exhibited very low help seeking patterns.

Conclusions

Observed differences reflect variations in SRH system organisation, including the scope of publicly funded services, availability of youth friendly clinics, and the consistency of school based SE. The findings highlight opportunities for Latvia to draw on effective elements of Estonia's approach especially comprehensive SE, integrated SRH services, and reduced financial barriers to strengthen women's sexual and reproductive health.

DYNAMICS OF MEDICATION REPACKAGING FOR F30-39 DIAGNOSES (MOOD DISORDERS): BEFORE AND AFTER THE COVID-19 PANDEMIC

Ms. Patrīcija Kaņepāja¹

1. Rīga Stradiņš University, Latvia

Keywords

Covid-19 pandemic; F30-39; N06AB; N06AX; N05AH

Objectives

The aim of the study is to reveal changes in medication repackaging for F30-39 diagnoses before and after the Covid-19 pandemic.

Methods

The information was obtained from the electronic database of the National Health Service. It includes the number of patients (with an assigned population register code) who received pharmacotherapy for F30-39 diagnoses (according to ICD-10) before the Covid-19 pandemic (in 2019) and after the pandemic (in 2024). The analysis was performed using "Descriptive statistics" functions in the IBM SPSS Statistics and MS Excel programs.

Results

In 2019, medications for the treatment of F30-39 diagnoses underwent repackaging for 13,217 patients, but in 2024 - for 19,710 patients. Thus, the increase is 49.11%. For F30-39 diagnoses, medications from the N06AB, N06AX, N05AH ATC codes are most often repackaged. Of all medications repackaged for F30-39 diagnoses in 2019, medications were repackaged from the N06AB ATC code for 8,149 patients, but N06AX and N05AH for 4,535 and 3,296 patients, respectively. In turn, in 2024, N06AB - 12,039 patients, N06AX - 7,205 patients, N05AH - 5,453 patients. Thus, the increase in N06AB is 47.73%, N06AX - 58.88%, N05AH - 65.44%.

Conclusions

After the pandemic, the number of repackaged medications for the treatment of mood disorders (F30-39) has increased by 1.5 times. The TOP3 ATC groups most often repackaged for patients with mood disorders are N06AB, N06AX, N05AH or antidepressants and antipsychotics. The increase in medication consumption was most likely contributed by the pandemic, but probably also by other events during this period. Additional research would be required to identify these other events. It would be valuable to conduct a follow-up study on future trends of repackaging medications for F30-39 diagnoses to determine whether the observed increase in medication consumption improves or continues to rise.

EPIDEMIOLOGICAL CHARACTERISTICS AND SEASONAL TRENDS OF LEPTOSPIROSIS IN LATVIA

***Ms. Eva Lāce-Stalidzāne**¹*

1. Riga Stradins University, Latvia

Keywords

Leptospirosis; zoonotic diseases; epidemiology; Latvia; public health

Objectives

To analyze the incidence, seasonal and regional distribution of human leptospirosis in Latvia and its association with regional precipitation and hydrological patterns.

Methods

Data on registered human leptospirosis cases were obtained from the Centre for Disease Prevention and Control of Latvia. Additional information on retrospective weather and environmental hydrological conditions was collected from the Latvian Environment, Geology and Meteorology Centre. Descriptive and comparative statistical analysis were used to evaluate human leptospirosis cases by months of diagnosis, age, sex and occupation, regional distribution, as well as in connection with the regional amount of precipitation.

Results

By 1 December, a total of 50 leptospirosis cases (including three fatal outcomes) were registered in Latvia in 2025. This represents a marked increase compared with previous years ($p < 0.05$), which occurred in parallel with an increase in precipitation and moderate summer temperatures this year, which are favorable conditions for the survival of *Leptospiras* in the environment. Most cases were reported from August onward, indicating a seasonal rise in late summer and autumn. Infections were identified across multiple regions of Vidzeme, Zemgale, Kurzeme, and Latgale. The majority reported possible exposure to rodents or the environment potentially contaminated with rodent excreta, such as household gardening, swimming in water or cleaning farm buildings.

Conclusions

The results demonstrate a significant increase in leptospirosis incidence in Latvia, with clear seasonal, regional and hydrologic patterns. Results highlight the importance of improved disease surveillance, preventive measures, and awareness among healthcare professionals and at-risk populations.

Ergonomic Conditions and Gender Differences in Technical Equipment Use Among Remote and Hybrid Workers

Ms. Ance Eimane¹, Ms. Jekaterina Jeņenkova¹

1. Riga Stradins University, Latvia

Keywords

Ergonomics, gender gap, remote work, technical equipment

Objectives

To examine the relationships between work arrangement, ergonomic conditions, and the availability of ergonomic and technical equipment in remote and hybrid work settings.

Methods

An anonymous questionnaire was distributed electronically among employees in Latvia. The inclusion criteria were at least 18 years of age and working on a computer under a hybrid or remote work model. Data were analyzed using the SPSS software, applying descriptive statistics, Pearsons' Chi-Square test and the Fisher-Freeman-Halton exact test.

Results

A total of 72 respondents participated in the study; 72,2% were women and 26,6% men. Most participants worked in a hybrid format (73,6%), while 26,4% reported working exclusively remotely. The use of an ergonomic chair emerged as the primary predictor of workspace quality based on respondents' self-assessment of their ergonomic conditions. Specifically, 92,0% of respondents who rated their work environment as "ergonomic and comfortable" reported using an ergonomic chair, compared to only 22,2% among those who self-identified their workspace as "unsuitable" ($p < 0,001$). Employees with "fixed/specific working hours" are significantly more likely to have an ergonomic chair (80,8%) than those who "freely plan their start and end times" (36,4%) ($p = 0,047$). Male respondents were nearly twice as likely to use additional monitors (95,2% vs. 52,9%; $p < 0,001$) and three times as likely to use desktop computers (42,9% vs. 13,7%; $p = 0,012$) as their female counterparts.

Conclusions

The availability of an ergonomic chair is a key determinant of perceived computer-based workspace quality, particularly among employees with fixed working hours. Furthermore, a distinct gender gap exists in technical hardware, with women being significantly less equipped with monitors and desktops than men. Work organization and gender-related differences influence access to ergonomic and technical equipment, indicating a need for more equitable employer support.

EXPLORATORY ASSESSMENT OF A LATVIAN TRANSLATION OF THE NORDIC MUSCULOSKELETAL QUESTIONNAIRE

Ms. Madara Kivleniece¹, Ms. Jaroslava Govorova¹

1. Riga Stradins University, Latvia

Keywords

Nordic Musculoskeletal Questionnaire, musculoskeletal screening, upper limb disorders, occupational health

Objectives

The Nordic Musculoskeletal Questionnaire (NMQ) is a widely used screening instrument for musculoskeletal symptoms. A Latvian-language version of the NMQ was developed for use in local occupational health and research settings. This study aimed to perform a preliminary evaluation of the Latvian version of the NMQ in a working population.

Methods

Data were collected from 46 participants who completed the Latvian NMQ and provided basic demographic and occupational information. Laterality-coded 12-month NMQ items were dichotomized to indicate the presence or absence of symptoms, while 7-day items were analyzed in their original binary form. Composite symptom scores were calculated for upper body, upper limb, and total musculoskeletal symptom burden. Internal consistency was assessed using Cronbach's alpha. Convergent validity was evaluated by examining the association between 12-month and 7-day symptom scores. Construct validity was explored through correlations with years in profession and body mass index (BMI). Data analysis was performed using Jamovi.

Results

The upper body symptom scale (neck, shoulders, upper back) demonstrated acceptable internal consistency for exploratory analysis (Cronbach's $\alpha=0.59$). The upper limb scale (elbows and wrists/hands) showed modest internal consistency (Cronbach's $\alpha=0.49$), which was considered acceptable given the small number of binary items. Total musculoskeletal symptom burden over 12 months correlated strongly with symptoms reported in the past 7 days (Spearman's $\rho=0.676$, $p<0.001$), supporting good convergent validity. No significant associations were observed between total 12-month symptom scores and years in profession ($\rho=0.06$, $p=0.69$) or BMI ($\rho=-0.11$, $p=0.45$).

Conclusions

The Latvian version of the Nordic Musculoskeletal Questionnaire demonstrated acceptable internal consistency and good convergent validity in this exploratory sample. These findings support the use of the translated NMQ as a screening tool for musculoskeletal symptoms in Latvian-speaking working populations, while further studies in larger samples are needed.

FACTORS INFLUENCING ACCESS TO SEXUAL HEALTH SERVICES IN LATVIA.

Ms. Anna Niedra¹

1. Riga Stradins University, Latvia

Keywords

Woman; Sexual health; Sexual violence; Latvia

Objectives

Despite inclusion of sexual health in Millennium Development Goals, the concept of sexual health is still often associated with prejudice and stigma, limiting women's awareness of available support. Despite the 2023 study "Factors and habits affecting the sexual and reproductive health of the Latvian population", we initiated a study which aims to deeper evaluate the main barriers and enabling factors for accessing sexual health services.

Methods

A cross-sectional mixed-methods design was used. Data were collected through an anonymous online questionnaire distributed via social media from May 8 to September 2, 2025. The survey included a semi-structured questionnaire addressing women's perceptions of the accessibility of sexual health services, barriers to obtaining information and care, and experience and awareness related to sexual violence. Women aged 16–60 living in Latvia were invited to participate.

Results

A total of 389 women completed the questionnaire. Most respondents described sexual health information as moderately accessible (70.8%, n=274). Stigma was identified as the main barrier to accessing sexual health information (78.4%, n=305), whereas fear and embarrassment were among the most frequently reported barriers to accessing sexual health services (59.3%, n=229). Concerning sexual violence, 23.3% (n= 90) of participants reported having experienced it, and 34.5% (n = 133) of all respondents stated that they do not know where to seek help in such situations.

Conclusions

Stigma and shame remain the dominant obstacles preventing women from seeking sexual health information and professional care. These findings highlight the need for societal attitude change and improved public education. Despite existing awareness campaigns, reported cases of sexual violence and lack of knowledge on what could be and should be done in case of violence, remain high.

FACTORS INFLUENCING THE CHOICE OF ORTHODONTIC TREATMENT IN POLAND AMONG RESIDENTS OF ALYTUS COUNTY, LITHUANIA

Ms. Ugnė Dulskaitė¹

1. Vilnius University, Lithuania

Keywords

Orthodontic treatment; Reasons for choice; Cross-border care; Poland; Alytus County

Objectives

Limited access to orthodontic services may encourage patients to seek treatment abroad. This study aimed to assess the prevalence of orthodontic treatment abroad among residents of Alytus County, identify factors influencing treatment choice, and compare travel-related aspects and perceived treatment quality between patients treated in Poland and in Lithuania.

Methods

A cross-sectional quantitative study was conducted between June and October 2025 using an anonymous online questionnaire. A convenience sample of 284 residents of Alytus city and county was surveyed; respondents either required orthodontic treatment themselves or had children who required orthodontic treatment. Data were analysed using IBM SPSS version 31.0 using descriptive statistics, chi-square (χ^2) and Mann-Whitney tests. Statistical significance was set at $p < 0.05$.

Results

Of all participants, 210 (73.9%) reported that orthodontic treatment had been provided previously or was ongoing. Most respondents believed that the availability of orthodontists in Alytus County was limited or non-existent (90.1%). A total of 27 respondents (12.9%) chose orthodontic treatment abroad, exclusively in Poland. All patients treated in Poland cited lower treatment costs as the main reason, while 48.1% also reported shorter waiting times and favourable geographical location. Most respondents learned about treatment opportunities abroad from relatives or friends (59.3%) or through social media (25.9%). Travel time was significantly longer for patients treated in Poland ($p = 0.003$); however, they reported fewer transportation-related difficulties ($p = 0.023$). Satisfaction with treatment quality was slightly higher among patients treated abroad, without a statistically significant difference ($p = 0.323$).

Conclusions

Orthodontic treatment in Poland was primarily chosen due to lower costs. Despite longer travel times, patients experienced fewer transportation-related difficulties and reported comparable satisfaction with treatment quality. Limited local availability of orthodontic services and economic factors may drive cross-border orthodontic care.

FACTORS INFLUENCING UPTAKE IN COLORECTAL CANCER SCREENING PROGRAMME ACROSS EUROPE: A SYSTEMIC REVIEW.

Ms. Rojin Farasat ¹

1. Riga Stradins University, Latvia

Keywords

Colorectal cancer, screening participation, FIT, general practitioner.

Objectives

One of the leading causes of cancer mortality in Europe is colorectal cancer, all though colorectal cancer is highly preventable, through early detection. Organised, population-based screening programmes, using the faecal immunochemical test (FIT) are recommended across EU. Despite this, uptake rates vary widely between countries. Understanding and identifying determinants affecting CRC screening uptake is therefore essential. The aim of this research was to systematically analyse the factors influencing uptake of Gning (CRC) programmes across Europe. The objectives were to identify structural, socioeconomic, behavioural and health system determinants of screening participation.

Methods

A systematic literature review, covered 2015-2025, was conducted using PubMed, Scopus, Population Medicine and Web of Science. PICOS-based eligibility criteria were used. Twenty-one peer reviewed studies reporting participation rates or determinants of uptake in European CRC screening programmes were used.

Results

Participation was highest in countries with fully organised, population based FIT test programmes using mailed invitations and centralised coordination, particularly in mature programmes. Markedly lower uptake was seen in opportunistic or partially implemented systems. Socioeconomic inequalities persisted across all high performing programmes, with lower participation among individuals with low-middle income, immigrant backgrounds, younger age groups and residents of deprived areas. Behavioural and health-system factors were consistently associated with reduced uptake. General practitioner (GP) involvement and improved communication were associated with modest increases in uptake in some settings, while generic endorsement letters showed limited effect.

Conclusions

Combining centralised invitations and mailed FIT kits with targeted, equity-focused interventions and stronger GP engagement may offer the most effective strategy for improving uptake.

FEV₁, FVC AND FEV₁/FVC IN THE KURZEME POPULATION: A COMPARISON OF THREE CITIES

***Ms. Beatrise Gulbe**¹*

1. Riga Stradins University, Latvia

Keywords

FEV₁, FVC, FEV₁/FVC, spirometry, Kurzeme.

Objectives

Spirometry is the main method for assessing lung function using FEV₁, FVC, and the FEV₁/FVC ratio, however, regional population-based data in Latvia are limited. This study aimed to compare FEV₁, FVC and FEV₁/FVC parameters across different Latvian cities of the Kurzeme region, which were selected to capture variation in population size, climatic conditions, and level of industrialization.

Methods

The present study analyzed data from 1307 participants aged 11 months to 91 years collected in three Latvian cities in 2025. Differences in FEV, FVC and FEV/FVC ratio between cities were assessed using nonparametric the Kruskal-Wallis test with subsequent pairwise comparisons, and the test was considered statistically significant when $p < 0.05$. The data were analyzed using the IBM SPSS Statistics version 31.0.

Results

Analysis of FEV₁ revealed no significant differences in distribution between the studied cities (Kruskal-Wallis test, $H=0.994$, $p=0.608$). Similarly, no significant differences in FVC were observed between the cities ($H=2.839$, $p=0.242$). In contrast, statistically significant differences were found in the FEV₁/FVC ratio between the cities ($H=72.352$, $p < 0.001$). Pairwise comparisons revealed statistically significant differences between Liepaja and Ventspils ($p < 0.001$) and between Kuldiga and Ventspils ($p < 0.001$), while no statistically significant difference was observed between Liepaja and Kuldiga.

Conclusions

The results indicate that no significant urban differences were observed in FEV₁ and FVC values, as no statistically significant differences were found in the studied cities. However, differences in the FEV₁/FVC ratio suggest regional variations. These results highlight the potential impact of age distribution, smoking, environmental, or other factors on the indicators, as well as the need for further in-depth studies.

Further studies on the medical and epidemiological importance of ticks in the selected urban areas of Central Poland

Mrs. Kamila Tokarczyk¹, Mr. Damian Zieliński¹, Mrs. Karolina Sas¹

1. Medical University of Silesia, Poland

Keywords

Ticks, Ixodes ricinus, Dermacentor reticulatus, tick-borne infection

Objectives

The aim of the study was to assess the potential risk of human exposure to ticks and tick-borne infections with *Borrelia afzelii*, *Babesia* spp. and *A. phagocytophilum* in selected areas of the Mazovian voivodeship.

Methods

Ticks were collected by flagging method in Błonie and Pruszków. Then, the individuals were identified to species and developmental stages. DNA was extracted using the ammonia method, quantified spectrophotometrically, and analyzed for pathogens using PCR and nested PCR. To detect *B. burgdorferi* s.l. and *A. phagocytophilum* specific primers to the flaB and 16S rRNA genes were used, respectively. In turn, *Babesia* spp. was detected using specific primers for 18S rRNA gene. Amplification products were separated electrophoretically and visualized under UV light. Positive samples were isolated from gels and sequenced.

Results

Within 2 years a total of 263 ticks were collected from the studied areas: 124 *D. reticulatus*, and 139 *I. ricinus*. in 2024, 45 *D. reticulatus* females, 45 males, and 1 nymph, along with 4 *I. ricinus* females, 4 males, and 1 nymph; in 2025, 29 *D. reticulatus* females, 2 males, and 0 nymphs, and 15 *I. ricinus* females, 18 males, and 65 nymphs. *Borrelia afzelii* was detected in one male *I. ricinus* collected in 2024, while *A. phagocytophilum* and *Babesia* spp. was not found in the surveyed areas.

Conclusions

The new endemic presence of *D. reticulatus* was confirmed west of the Wisła River, with a high potential risk of human exposure in both studied areas with both species of ticks. The potential risk of human exposure to *B. afzelii* infection was low in Pruszków, whereas the presence of remaining pathogens was not confirmed, which does not indicate the lack of potential existence of them in the study area.

IMPACT OF INDOOR AIR QUALITY ON VITAL SIGNS IN LUNG DISEASE AND THORACIC SURGERY PATIENTS

Ms. Kristīne Belova¹, Ms. Angela Eleena Mathews¹, Mr. Juris Breidaks¹

1. Riga Stradins University, Latvia

Keywords

Indoor air quality, temperature, humidity, heart rate, blood pressure.

Objectives

Indoor air quality (IAQ) plays a crucial role in patient recovery, especially for those with lung diseases. Deviations in CO₂, temperature, humidity, and atmospheric pressure can influence respiratory and cardiovascular function and potentially increase infection risk. This study aimed to evaluate the association between IAQ indicators and vital signs (SpO₂, arterial blood pressure, heart rate, breathing frequency) in patients hospitalized in the Department of Lung Diseases and Thoracic Surgery.

Methods

A prospective cohort study was conducted from 01.12.2024 to 16.02.2024, including 31 patients aged 31–86 years. IAQ was continuously monitored in three patient rooms using Aranet4 loggers. Patients' vital signs were obtained from medical records. Data were analyzed using R Studio and MS Excel. Ethical approval was obtained from the RSU Ethics Committee.

Results

All IAQ indicators showed statistically significant ($p < 0.05$) but minor effects on vital signs. Blood pressure was negatively associated with air temperature, atmospheric pressure, CO₂, and humidity. Heart rate and breathing frequency slightly increased with rising atmospheric pressure, while age exerted a decreasing effect. SpO₂ (without supplemental oxygen) was modestly influenced by atmospheric pressure and CO₂, with patient age contributing to variation.

Conclusions

IAQ parameters have a slight but statistically significant impact on vital signs in patients with lung disease and post-thoracic surgery. Current IAQ monitoring in the department is primarily used for energy efficiency but could be leveraged to optimize patient care and recovery. These findings support integrating IAQ data into clinical management strategies to enhance patient outcomes.

Mental Health – Related Stigma in Acute Care Settings in Latvia: A Survey of Healthcare professionals' Beliefs and Awareness

Mrs. Paula Birzniece¹

1. University of Latvia, Latvia

Keywords

Mental health care; psychiatric disorders; stigma; emergency medicine; psychiatry

Objectives

Patients with mental health conditions are often first assessed by non-psychiatric healthcare professionals in acute care settings, where they may experience stigmatizing attitudes and systemic barriers to care (Dorning et al., 2015; Perry et al., 2020). This study aimed to assess healthcare professionals' beliefs and awareness related to mental health stigma in acute care contexts in Latvia.

Methods

A cross-sectional, anonymous Online survey was conducted among medical doctors working in acute care settings in Latvia, including emergency, admission and trauma departments. A self-administered questionnaire with Likert-scale items assessed stigmatizing attitudes and awareness of mental health-related stigma towards patients with psychiatric disorders. Descriptive statistics and group comparisons (independent-samples t-tests, ANOVA) were used to analyze differences across regions and medical specialties.

Results

The study included 54 respondents. Healthcare professionals working in the Vidzeme region (n=5) reported significantly higher stigmatizing beliefs ($M=3.04$, $p=.018$) and higher systemic awareness ($M=2.10$, $p=.035$) compared to other regions. Neurologists demonstrated the lowest awareness of stigma ($M=4.17$), whereas traumatologists ($M=2.43$) and emergency medicine doctors ($M=2.32$) reported higher awareness. Traumatologists showed the highest mean score for stigmatizing beliefs ($M=3.33$), while intern doctors ($M=4.38$) and general surgeons ($M=4.11$) reported the lowest. Emergency medical service professionals reported lower stigmatizing attitudes than non-EMS professionals ($M=4.04$ vs 3.40 , $p<.001$). Most respondents (98.1%, $n=53$) agreed that additional training could improve their approach to psychiatric patients. Over half (51.9%, $n=28$) reported feeling insufficiently prepared to manage psychiatry-related clinical situations at least monthly, 77.8% ($n=42$) felt their medical education inadequately prepared them to work with patients with psychiatric disorders.

Conclusions

Despite the limited sample size, the findings indicate the presence of psychiatric stigma in acute care settings in Latvia and highlight unmet needs for comprehensive stigma-reduction strategies among non-psychiatric healthcare professionals.

Occupational health and behavior in remote and hybrid work settings

Ms. Jekaterina Jeņenkova¹, Ms. Ance Eimane¹

1. Riga Stradins University, Latvia

Keywords

Remote and hybrid work, occupational health, behavior.

Objectives

To evaluate how hybrid and remote work models influence health-related habits, sedentary patterns, and perceived barriers to physical activity among office employees in Latvia.

Methods

An anonymous online survey targeted employed adults (18+) in Latvia working computer work in hybrid or remote formats. Data analysis was conducted in SPSS, utilizing descriptive statistics as well as Pearson's Chi-Square test and the Fisher-Freeman-Halton exact test, to analyze respondent variables.

Results

Among the 72 respondents (women n=51; men n=21), women more frequently worked in a hybrid format (76.5%) than fully remotely (23.5%), while among men 66.7% worked in a hybrid format and 33.3% worked fully remotely. Hybrid workers reported significantly higher difficulties maintaining work motivation after prolonged sitting (71.7%) compared to remote workers (42.1%) ($p=0.021$). Fatigue was identified as a major barrier to physical activity for women (78.4%) compared to men (52.4%, $p=0.027$). Remote workers reported longer sleep durations (8–9 hours; 63.2%), while hybrid workers typically slept 6–7 hours (67.9%, $p=0.007$). Fixed work schedules were associated with 9–10 hours of sitting during the day (65.4%), whereas flexible schedules reduced this to 7–8 hours (63.6%, $p<0.001$). Respondents working remotely more than 76% of the time invested personal resources in workplace equipment most frequently (80.0%, $p=0.003$). Health problems were most prevalent among those working remotely less than 25% of the time (42.9%) and least common among those in the 26–75% remote time range (7.1%, $p=0.018$).

Conclusions

Work format and the organization of remote work are associated with multiple health-related and behavioral outcomes, including the ability to maintain work motivation, physical activity, sleep duration, sitting time, and self-reported health problems. These findings highlight the importance of considering work structure and flexibility when designing hybrid and remote work models to support employee well-being.

PREVALENCE OF GASTROESOPHAGEAL REFLUX DISEASE SYMPTOMS AND RISK FACTORS AMONG MEDICAL STUDENTS IN LATVIA

Mr. Andrejs Pāvils Šēnbergs¹

1. Rīga Stradiņš University, Latvia

Keywords

GERD; Medical students; Latvia; Mental health; E-cigarettes.

Objectives

Gastroesophageal Reflux Disease (GERD) is increasingly prevalent in younger populations, yet medical students face unique risk factors including academic anxiety, sleep deprivation, and irregular dietary patterns. This study aims to determine the prevalence of GERD symptoms among medical students in Latvia and identify the strength and direction of associated biopsychosocial risk factors.

Methods

A cross-sectional study was conducted among medical students in Latvia. A total of 203 participants aged 18 – 40 years (mean = 22.08; SD = 3.27) were included in the study, composed of 168 females, 33 males, 2 participants identifying as other genders. Data were collected using an electronic survey assessing GERD symptoms, lifestyle habits, and self-reported psychiatric diagnosis. Statistical analysis was performed using IBM SPSS with Spearman's rank correlation r_s and Chi-Square tests to evaluate relationships between variables.

Results

The prevalence of at least one GERD symptom in the last 2 weeks was 60.1%, while 39.4% of participants met stricter clinical criteria for GERD (two or more concurrent symptoms). Significant positive correlation was found between mental health status (defined by self-reported presence of psychiatric diagnosis) and symptom presence ($r_s = 0.288$, $p < 0.001$), suggesting the involvement of the brain-gut axis in symptom mediation. E-cigarette use also showed a significant correlation with symptom prevalence ($r_s = 0.181$, $p = 0.01$). No significant differences in symptom prevalence were observed across years of study ($p = 0.999$), indicating that academic stress and symptom presence are constant throughout the curriculum.

Conclusions

The high prevalence of GERD symptoms among medical students in Latvia is strongly linked to mental health and lifestyle factors. These findings suggest that university support systems should integrate mental health counseling with physical health services to address these issues.

PREVALENCE OF PELVIC FLOOR DYSFUNCTION SYMPTOMS IN LATVIA: URINARY, BOWEL, PELVIC ORGAN PROLAPSE, AND SEXUAL SYMPTOMS

Mr. Ralfs Roberts Zītāns¹, Mrs. Marta Luiza Ziverte¹

1. Riga Stradins University, Latvia

Keywords

Pelvic floor dysfunction; Symptoms; Men; Women; Latvia.

Objectives

Pelvic floor dysfunction (PFD) is a prevalent condition worldwide and includes symptoms that negatively affect quality of life. The aim of this study was to determine the prevalence of urinary, bowel, pelvic organ prolapse, and sexual dysfunction symptoms in Latvia.

Methods

Questionnaires were administered to patients aged ≥ 35 years in primary care settings between October and December 2024. In addition, an online questionnaire was distributed to individuals of all age groups between October and December 2025. A total of 437 respondents participated in the survey, with a median age of 44 years (IQR: 35–58). The sample included 369 women with a median age of 44 years (IQR: 35–56) and 68 men with a median age of 48 years (IQR: 35–62). Data were collected using Microsoft Excel, and statistical analyses were performed using IBM SPSS software, including frequency analysis and exploratory data analysis.

Results

Overall, at least one symptom was reported by 72.65% of women and 61.80% of men. Urinary leakage during coughing, sneezing, laughing, or jumping was reported by 30.66% of respondents (36.31% of women and 0% of men). Straining during defecation was reported by 24.71% of respondents (26.56% of women and 14.71% of men), frequent urination by 22.65% (21.14% of women and 30.88% of men), and sexual dysfunction by 21.74% (22.76% of women and 16.18% of men). The prevalence of the remaining symptoms was below 20%.

Conclusions

PFD symptoms are highly prevalent in Latvia among both women and men, with a higher burden observed in women. As these symptoms are associated with impaired quality of life, the findings underscore the importance of improved screening, patient education, and timely intervention to reduce their impact on daily functioning and well-being.

PSYCHOLOGICAL RESILIENCE AS A PROTECTIVE FACTOR FOR PUBLIC HEALTH AND ITS CONNECTION TO ALTRUISM

Ms. Rusnė Šulniūtė¹, Ms. Miglė Stankevičiūtė¹

1. Vilnius University, Lithuania

Keywords

Psychological resilience; Altruism; Psychological health

Objectives

To assess psychological resilience in younger and older people's age groups and identify connections between psychological resilience, altruism, and psychological health.

Methods

A cross-sectional anonymous questionnaire survey was conducted. Participants were recruited through social media platforms (Facebook, Messenger, Instagram). Psychological resilience was measured using the 14-item Resilience Scale (RS-14), altruism using the shortened 9-item Self-Report Altruism scale (9-SRA), and psychological health using the Patient Health Questionnaire-9 (PHQ-9). Spearman's correlation coefficient, Mann-Whitney U test, and Kruskal-Wallis test were applied.

Results

A statistically significant positive association was found between psychological resilience and altruism (Spearman's $\rho = 0.299$, $p < 0.001$). Psychological resilience was moderately to strongly negatively correlated with psychological distress measured by PHQ-9 ($\rho = -0.506$, $p < 0.001$), indicating better psychological health among more resilient individuals. Psychological resilience showed a moderate positive correlation with age ($\rho = 0.300$). A weak positive correlation between altruism and age was identified ($\rho = 0.235$). Kruskal-Wallis analysis revealed significant differences in psychological resilience according to occupational status ($p = 0.026$), place of residence ($p < 0.001$), and education level ($p < 0.001$). Higher resilience was observed among respondents engaged in multiple activities, living in rural areas, and having a college-level education. Mann-Whitney tests showed higher resilience among respondents with a partner ($p < 0.001$). Altruism differed significantly by education ($p < 0.001$), gender ($p = 0.06$), and marital status ($p = 0.05$), with higher scores observed among women, respondents with a partner, and those with college education.

Conclusions

Psychological resilience is positively associated with altruism and closely linked to psychological health. Sociodemographic factors such as age, education, occupation, residence, and marital status play a role in resilience and altruistic behavior, highlighting their relevance for public health promotion.

QUANTITATIVE ASSESSMENT OF VOLATILE ORGANIC COMPOUND EMISSIONS FROM FIREARM MAINTENANCE: OCCUPATIONAL HEALTH RISKS

Mr. Sergejs Katinskis¹, Ms. Anastasija Ivančukova¹

1. Riga Stradins University, Latvia

Keywords

Occupational toxicology; Volatile Organic Compounds; Firearm maintenance; Inhalation hazard.

Objectives

Routine firearm maintenance utilizes complex chemical mixtures releasing Volatile Organic Compounds (VOCs), creating potential respiratory hazards in military and law enforcement environments. While Safety Data Sheets (SDS) provide general guidelines, they frequently overlook specific operational variables, such as simultaneous group cleaning tasks or the “bolus” exposure received when opening confined storage units. This study aimed to quantify real-time emission profiles of two common gun oils, WD-40 and Liqui Moly GunTec, to evaluate specific occupational risks against compound-specific exposure limits.

Methods

Real-time VOC concentrations were monitored using a photoionization detector (MiniRAE 3000) during simulated active (spray application) and passive (confined accumulation in a Markes μ -CTE250 micro-chamber) phases. Data were extrapolated to model exposure in a standard 30 m³ maintenance room assuming 20 mL usage per weapon. Risk assessment utilized compound-specific limits: 1200 mg/m³ for WD-40 and 800 mg/m³ for Liqui Moly.

Results

The solvents exhibited fundamentally opposing volatilization kinetics. In the active phase, Liqui Moly demonstrated high-intensity volatility, peaking at 367.6 mg/m³, which is 30.1 times higher than WD-40 (12.2 mg/m³) under identical conditions. Conversely, in the passive phase, WD-40 acted as a latent accumulator, stabilizing at >5000 mg/m³ (>4.2 times its safety limit). Liqui Moly reached a transient peak of 3914 mg/m³ but exhibited a rapid “flash-off” decay curve. Personnel density modeling reveals that the specific limit for Liqui Moly is breached with n=2 personnel cleaning simultaneously, whereas WD-40 exceeds limits at n=4.

Conclusions

Liqui Moly presents an acute inhalation hazard due to rapid volatilization and lower toxicity thresholds, necessitating respiratory protection (FFP2) even for small workgroups. WD-40 poses a chronic accumulation risk in confined storage, requiring mandatory post-storage ventilation to prevent systemic intoxication. Standard administrative controls are insufficient for simultaneous group maintenance activities.

SATISFACTION EVALUATION FOR PATIENTS AFTER HEART OR MAJOR VASCULAR SURGERY AFTER THE FIRST NIGHT IN INTENSIVE CARE

Mr. Oto Skrupskis¹

1. Riga Stradins University, Latvia

Keywords

Patient satisfaction, Cardiac surgery, Intensive care unit, Postoperative discomfort, Sleep quality

Objectives

This study evaluates patient satisfaction in the Heart Surgery Anesthesiology and Intensive Care Unit (Heart-ICU) at Paula Stradiņš Clinical University Hospital. The aim is to identify factors that negatively impact the ICU experience by analyzing postoperative pain, sleep quality, and various sources of discomfort to reveal gaps in care that negatively impact patient satisfaction.

Methods

This is quantitative and prospective study, it targets adults undergoing elective heart or major vascular surgery. Exclusion criteria are cognitive impairment, delirium, intubation exceeding 24 hours and poor Latvian language skills. After first postoperative day, patients completed a survey using Visual Analog Scales (VAS) for pain and satisfaction, Richards-Campbell Sleep Questionnaire (RCSQ), and IPREA-16 scale which is common discomfort factor evaluation tool. At this moment 20 patients were interviewed, total patient count will be 60.

Results

Preliminary analysis of 20 patients (mean age 64.9; males 70%, females 30%) showed high satisfaction, averaging 81.4/100. While the standard VAS pain score was low 25/100, the IPREA-16 assessment revealed nuances, patients ranked pain as the leading discomfort factor(mean 38.2), higher than sleep disruption (37.3/100) or thirst (35.0/100). The cumulative discomfort score was 14.8, and mean RCSQ sleep quality was 67.6. 95% of patients received paracetamol, while 25% received opioids and 20% metamizole. We anticipate a final sample of 60 participants.

Conclusions

Early findings show high general satisfaction with ICU care. A key discrepancy exists between low VAS pain scores and the high ranking of pain on the discomfort scale. This suggests that even well managed pain can cause substantial discomfort. Other gaps in care found in this study are poor sleep and thirst managing.

The potential Risk of Exposure of Residents and Tourists to Ticks and Selected Zoonosis in the Rabka Basin

Mr. Damian Zieliński¹, Mrs. Kamila Tokarczyk¹, Mrs. Karolina Sas¹

1. Medical University of Silesia, Poland

Keywords

Ixodes ricinus, *Toxoplasma gondii*, ticks, nested PCR, zoonosis

Objectives

The aim of this study was to assess the potential risk of human exposure to ticks and selected etiological agents of zoonosis in the Rabka basin.

Methods

Ticks were collected during the autumn activity seasons of 2024 and 2025 using the flagging method in southern Poland. Specimens were preserved in 70% ethanol and identified to species and developmental stage using stereomicroscopy. DNA was extracted from individual ticks using the ammonium hydroxide method. Detection of *Toxoplasma gondii*, *Borrelia burgdorferi* s.l., and *Anaplasma phagocytophilum* was performed using nested PCR with two pairs of primers specific for the B1 gene, flaB gene, and 16S rRNA gene, respectively. In turn, detection of *Babesia* spp. and *Coxiella burnetii* was carried out using single PCR with primers specific for the 18S rRNA gene and the com1 gene, respectively. PCR products were separated by agarose gel electrophoresis and visualized under ultraviolet light.

Results

A total of 58 ticks were collected, including 33 females, 24 males, 1 nymph, all identified as *Ixodes ricinus*. In 2024, 24 ticks were collected, whereas 34 specimens were collected in 2025. *T. gondii* DNA was detected exclusively in samples from 2024, in 6 males and 3 females, representing an overall prevalence of 15.5%. No DNA of *B. burgdorferi* s.l., *A. phagocytophilum*, *Babesia* spp., or *C. burnetii* was detected in the studied material.

Conclusions

The obtained results indicate that *I. ricinus* is the dominant tick species in the study area. A high potential risk of human exposure to *I. ricinus* was demonstrated in the Rabka Basin. The presence of *T. gondii* DNA in ticks may indicate their potential role in the environmental spread of this pathogen. In contrast, the failure to detect other etiological agents of zoonoses does not exclude the risk of tick-borne infections caused by these pathogens.

Workplace Impact on Body Metrics: A Study of Public vs. Private Sector Residents in Piebalga.

***Ms. Samanta Ozola**¹*

1. Riga Stradins University, Latvia

Keywords

Occupational health, postural asymmetry, ergonomics.

Objectives

This study compared anthropometric parameters between residents of Piebalga working in the public and private sectors. Parameters included scapular and shoulder asymmetry, body mass index (BMI), waist circumference, body weight, and height. While previous studies have examined differences in BMI and body weight across employment sectors, research on sector-specific differences in shoulder and scapular asymmetry remains limited.

Methods

A quantitative cross-sectional study was conducted in 2024 among 354 adults aged ≥ 18 years (public sector, $n=211$; private sector, $n=143$). The employment sector was self-reported. Measurements were taken in a relaxed standing position and included body height, body weight, waist circumference, acromion height, and scapular height. Shoulder and scapular asymmetry was defined as right-left measurement differences (cm). BMI was calculated as kg/m^2 . Data normality was assessed using the Shapiro-Wilk test, and group comparisons were performed using the Mann-Whitney U test. Data were analyzed using IBM SPSS and Microsoft Excel.

Results

No statistically significant differences were found between public and private sector employees in BMI, waist circumference, shoulder asymmetry, or scapular asymmetry, all $p>0.05$ (BMI: $p=0.933$; shoulder asymmetry: $p=0.967$; scapular asymmetry: $p=0.491$; waist circumference: $p=0.234$). Significant differences were found for body weight ($p=0.024$) and height ($p<0.001$) between the two groups. Private sector employees had a higher average body weight (mean rank=192.44) and were taller (mean rank=208.85) compared to public sector employees (body weight mean rank=167.38; height mean rank=156.25).

Conclusions

The employment sector did not show a significant impact on BMI, waist circumference, or shoulder and scapular asymmetry. Private-sector employees were taller and heavier, resulting in higher body weight without increasing BMI. This study addresses a gap in back asymmetry-specific research on anthropometric parameters across sectors and highlights the importance of occupational factors in workforce health and ergonomics.

**Emergency Medicine,
Anaesthesiology,
Reanimatology**

CAUSES OF READMISSION AMONG INTENSIVE CARE UNIT PATIENTS FOLLOWING CARDIAC SURGERY

Mr. Arturs Kļeščevņikovs¹

1. Riga Stradins University, Latvia

Keywords

Cardiac surgery; ICU readmission; Postoperative complications

Objectives

Readmission to the intensive care unit (ICU) remains a common problem among patients undergoing heart surgery and is associated with adverse outcomes. Although multiple predictors of ICU readmission have been reported, results remain inconsistent and patients undergoing emergency surgery are often analyzed. This study aimed to analyze the causes of ICU readmission, postoperative outcomes, and potential risk factors in patients undergoing elective cardiac surgery.

Methods

A retrospective case-control study was conducted including 118 patients who underwent elective open-heart surgery with cardiopulmonary bypass (CPB). The study group consisted of 59 patients requiring ICU readmission, while 59 patients without ICU readmission served as controls. Demographic data, comorbidities, ASA score, operative characteristics, causes of ICU readmission, length of ICU stay, and total hospital stay were collected. EuroSCOREII and Parsonnet risk scores were calculated. Statistical analysis was performed using IBM SPSS.

Results

Most frequently patients were readmitted after isolated valve surgery (n=19). The leading causes of ICU readmission were early postoperative complications requiring procedural or surgical intervention (40.7%, n=24), followed by pulmonary complications (25.4%, n=15). Readmitted patients were older than controls (71 vs. 66 years; $p<0.001$) and had higher EuroSCOREII (2.89% vs. 2.31%; $p=0.024$) as well as higher Parsonnet scores (12.08 vs. 8.41; $p=0.001$). In patients undergoing isolated valve surgery and isolated coronary artery bypass grafting, CPB time and total operative time were longer compared with the controls ($p<0.05$). EuroSCOREII demonstrated a positive correlation with total hospital length of stay in both groups ($p<0.05$). Mortality was observed in 12% (n=7) of patients in the study group, and ICU readmission was associated with increased mortality ($p=0.006$).

Conclusions

Advanced age and comorbidities are important contributors to ICU readmission and postoperative morbidity after elective cardiac surgery. These factors, reflected by higher EuroSCOREII values, are associated with prolonged hospital stay and increased mortality.

COGNITIVE FUNCTION CHANGES BEFORE AND AFTER ELECTIVE MAJOR CARDIAC SURGERY

Ms. Ilze Rudoviča¹

1. Riga Stradins University, Latvia

Keywords

cognitive function, MMSE, cardiac surgery, quality of life, perioperative assessment

Objectives

Cognitive decline after cardiac surgery remains a concern for both patients and clinicians. Large-scale studies have reported an increased risk of postoperative cognitive deterioration, particularly in specific postoperative periods. The aim of this study was to evaluate changes in cognitive function before and after elective major cardiac surgery.

Methods

This single-center study was conducted at the Latvian Centre of Cardiology and included patients undergoing elective major cardiac surgical procedures. Cognitive function was assessed using the Mini-Mental State Examination (MMSE) one day before surgery and at the time of hospital discharge (approximately 7–10 days postoperatively). MMSE scores obtained at these two time points were compared using statistical analysis.

Results

A total of 54 patients were included in the analysis. The mean age of the study population was 65.66 ± 14.4 years. Comparison of MMSE scores assessed one day before surgery and at hospital discharge showed no statistically significant difference ($p = 0.515$). Overall cognitive performance remained stable during the early postoperative period, and no clinically relevant short-term cognitive deterioration was observed.

Conclusions

Although large-scale studies indicate a risk of cognitive decline following cardiac surgery, particularly during certain postoperative time intervals, no clinically or statistically significant changes in cognitive function were detected in the present study when assessed preoperatively and at discharge. These findings represent preliminary data, and patient recruitment is ongoing. Further data collection will focus on patients aged ≥ 75 years, allowing stratification into two age groups and comparative analysis of postoperative cognitive outcomes. This approach is expected to improve the understanding of age-related risk and enhance the interpretability and generalizability of the results.

CRITICAL CARE CONSIDERATIONS IN CHEMOTHERAPY-INDUCED NEUTROPENIA: INFECTION MANAGEMENT AND OUTCOME OPTIMIZATION IN HEMATOLOGIC MALIGNANCIES

Ms. Gerda Kisielytė¹, Mr. Kazimieras Kaušyla¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Chemotherapy-induced neutropenia; Febrile neutropenia; Critical care; Infection management; Hematologic malignancies

Objectives

The aim of this systematic review is to evaluate critical care considerations in chemotherapy-induced neutropenia, with emphasis on infection risk, severity stratification, antimicrobial management, hematologic support, and clinical outcomes in patients with hematologic malignancies.

Methods

A PRISMA-guided systematic review of 23 peer-reviewed studies published between 2021 and 2025 was conducted using PubMed-indexed literature. Included studies addressed chemotherapy-induced neutropenia in hematologic malignancies, focusing on infectious complications, intensive care unit (ICU) management, antimicrobial strategies, and the use of granulocyte colony-stimulating factors (G-CSFs).

Results

Chemotherapy-induced neutropenia (CIN) was identified as a major complication of myelosuppressive treatment, frequently progressing to febrile neutropenia, severe infections, sepsis, and ICU admission, particularly in adult patients with hematologic malignancies [1–3]. Neutropenia severity, defined by absolute neutrophil count, strongly correlated with infection risk and critical illness, with severe neutropenia (ANC <500 cells/mm³) associated with the highest rates of ICU admission and mortality [3–6]. Bloodstream infections, predominantly caused by gram-negative pathogens, were a leading cause of critical deterioration, while repeated broad-spectrum antibiotic exposure contributed to antimicrobial resistance and treatment failure [7–9]. Early empirical antipseudomonal therapy and combination antimicrobial regimens were essential for infection control in critically ill neutropenic patients [10–13]. Adjunctive G-CSF therapy, including filgrastim and pegfilgrastim, was associated with accelerated neutrophil recovery, reduced infection-related complications, and improved critical care outcomes [14–18].

Conclusions

Chemotherapy-induced neutropenia represents a significant driver of severe infections and critical illness in patients with hematologic malignancies. Early risk stratification, prompt empirical antimicrobial therapy, and timely G-CSF support are essential components of intensive care management, reducing sepsis-related morbidity and mortality and supporting optimal oncologic treatment delivery in this high-risk population.

INCIDENCE OF POSTOPERATIVE DELIRIUM AFTER MINIMALLY INVASIVE CARDIAC SURGERY

Mr. Krišjānis Upenieks¹

1. Riga Stradins University, Latvia

Keywords

Minimally invasive cardiac surgery, postoperative delirium, delirium risk factors

Objectives

To determine the incidence of postoperative delirium (POD) among minimally invasive cardiac surgery patients and compare the incidence of POD between minimally invasive and conventional cardiac surgery populations. And to assess whether established risk factors for POD in conventional cardiac surgery apply to the minimally invasive cardiac surgery population.

Methods

A retrospective study was conducted including 76 cardiac surgery patients who underwent minimally invasive procedures between 2023 and 2025. POD was identified by reviewing medical records, including prescribed medications and descriptions of the patient's postoperative condition.

To identify possible risk factors for postoperative delirium, medical record data were analyzed regarding: patient age, malnutrition, preoperative albumin level, length of intensive care unit stay, left ventricular ejection fraction, duration of mechanical ventilation, cardiopulmonary bypass time, aortic cross-clamp time, number of blood component transfusions during surgery, postoperative hypotension and catecholamine requirement, need for additional analgesia, and comorbidities such as diabetes mellitus, prior depression, stroke or cognitive impairment, atrial fibrillation, carotid stenosis, and severe heart failure (NYHA III–IV).

Results

Overall, postoperative delirium developed as a complication in 6.6%(5) of all the patients (76).

Due to the low incidence of delirium, statistical analysis of risk factors was not recommended; therefore, each case was evaluated individually. Based on individual case assessments, potential risk factors may include low ejection fraction, prior stroke, and a history of depression. However, a larger patient population would be required to make definitive conclusions.

Conclusions

Comparing the postoperative delirium incidence in minimally invasive cardiac surgery (6.6%) with values reported in the literature (25.1–32%), the risk of postoperative delirium appears significantly lower in patients undergoing minimally invasive cardiac procedures.

Potential risk factors for postoperative delirium may include low ejection fraction, previous stroke, and a history of depression.

INCIDENCE, DIAGNOSIS, AND TREATMENT OF ANEMIA IN PATIENTS BEFORE ELECTIVE SURGERY AT THE HOSPITAL OF TRAUMATOLOGY AND ORTHOPAEDICS IN LATVIA

Ms. Ance Dudarenoka¹

1. University of Latvia, Latvia

Keywords

Preoperative anemia; Elective surgery; Orthopaedic surgery; Anemia management

Objectives

Preoperative anemia is a common but often unrecognized condition that increases the risk of perioperative complications. This study aimed to determine the prevalence of preoperative anemia in traumatology patients, identify independent risk factors, evaluate anemia classification patterns, and assess the adequacy of preoperative anemia management.

Methods

A prospective cohort study was conducted at Traumatology and Orthopedics hospital in Latvia. Data were collected during preoperative anesthesiologist visits in September 2025. The study included 150 patients scheduled for elective orthopedic surgery. Anemia was defined as hemoglobin <130 g/L according to WHO preoperative criteria. Collected variables included demographics, hemoglobin, mean corpuscular volume, comorbidities, and treatment patterns. Statistical analysis was performed using Jamovi statistical software.

Results

Preoperative anemia was identified in 30 patients (20%). The mean age of anemia patients was 71 years (range 53-88). Mean hemoglobin in anemic patients was 114 g/L (range 104-129 g/L). Normocytic anemia predominated (86.7 %). Independent risk factors were anticoagulant use (OR= 8.67, $p < 0.001$), chronic kidney disease (OR=4.67, $p < 0.001$), and female sex (OR=3.76, $p < 0.05$). 27 of anemia patients (90%) were unaware of their diagnosis. Only 7 patients (23.3 %) received preoperative recommendations for anemia management, of whom 2 (28.6%) followed through with treatment. 17 patients (56.7%) had hemoglobin 120-129 g/L.

Conclusions

Most orthopedic patients with preoperative anemia remain unaware of their condition and do not receive treatment before surgery. The discrepancy between laboratory threshold and guidelines results in systemic under-detection of mild anemia cases. Chronic kidney disease and anticoagulant use are the strongest independent risk factors. Adoption of evidence-based thresholds and systematic screening protocols would significantly improve preoperative care.

SEPSIS AND SEPTIC SHOCK IN PATIENTS WITH HEMATOLOGICAL MALIGNANCIES

Ms. Gerda Kisielytė¹, Ms. Benita Jonušaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Sepsis, Hematological malignancies, Immunosuppression, Antimicrobial resistance

Objectives

The aim of this systematic review is to evaluate sepsis in patients with hematological malignancies, with emphasis on epidemiology, pathophysiology, microbiological spectrum, clinical presentation, diagnostic challenges, and management strategies in this high-risk population.

Methods

A systematic review of 30 peer-reviewed studies published since 2021 was conducted using structured searches of major medical databases. Studies were selected according to predefined inclusion and exclusion criteria and analyzed in accordance with PRISMA guidelines.

Results

Sepsis affects approximately 9.1% of hospitalized cancer patients and occurs more frequently in those with hematological malignancies, particularly acute leukemia and severe aplastic anemia [1-5]. Incidence increases following hematopoietic stem cell transplantation, reaching 10.2% compared with 2.5% in non-transplanted patients [6]. Major risk factors include neutropenia, myelosuppressive chemotherapy, invasive devices, and prior infections, while septic shock and active disease status predict mortality [7–10]. Pathophysiology is characterized by immune dysregulation, cytokine imbalance, and progression to immune exhaustion [11–14]. Gram-negative bacteria predominate, with high rates of antimicrobial resistance [15–22]. Diagnosis is complicated by atypical presentations and limited accuracy of conventional markers, whereas advanced biomarkers improve diagnostic performance [23–29]. Despite declining mortality, outcomes remain poor in patients with septic shock or organ failure [30–32].

Conclusions

Sepsis in patients with hematological malignancies remains a severe and life-threatening condition. Early recognition, advanced diagnostic strategies, and timely multidisciplinary intensive care management are essential to reduce morbidity and mortality in this vulnerable population.

SKIN TEMPERATURE CHANGES FOLLOWING FEMORAL NERVE AND ADDUCTOR CANAL BLOCKS IN PATIENTS UNDERGOING TOTAL KNEE ARTHROPLASTY

Ms. Nikola Kligina¹, Ms. Elva Eglīte², Mr. Rūdolfs Spilva², Ms. Elza Romane²

1. Riga Stradins University, Latvia, 2. University of Latvia, Latvia

Keywords

Skin temperature; femoral nerve block; adductor canal block; peripheral nerve block; total knee arthroplasty

Objectives

To evaluate skin temperature changes as an indirect marker of sympathetic blockade following femoral nerve block and adductor canal block in patients undergoing total knee arthroplasty, and to compare the onset and distribution of these changes between the two techniques.

Methods

Patients undergoing elective total knee arthroplasty at the Hospital of Traumatology and Orthopaedics were randomly divided into two groups and received either a femoral nerve block or an adductor canal block as part of standard perioperative analgesia. All blocks were performed under ultrasound guidance using 30 mL of 0.375% ropivacaine prior to spinal anesthesia. Skin temperature of the lower limb receiving the nerve block was monitored using standard skin temperature probe connected to a patient monitor. Temperature values were recorded immediately before block administration and every 2 minutes for 30 minutes thereafter. Baseline temperature (T_0), maximum temperature (T_{max}), and total temperature change ($\Delta T = T_{max} - T_0$) were calculated for each patient. Time to a temperature increase of $\geq 1^\circ\text{C}$ was additionally assessed.

Results

40 patients met the inclusion criteria - 18 femoral and 22 adductor canal blocks. The mean maximal skin temperature increase was 0.43 after femoral nerve block and 0.40 after adductor canal block. A temperature increase of $\geq 1^\circ\text{C}$ was observed in a subset of patients in both groups. Among these patients, the mean time to temperature increase was 14 minutes for femoral nerve blocks and 9 minutes for adductor canal blocks.

Conclusions

Peripheral nerve blocks are associated with measurable skin temperature changes reflecting the variability in sympathetic response. While the overall magnitude of temperature increase was similar following femoral nerve and adductor canal blocks, onset timing differed among patients. Monitoring skin temperature may serve as a supplementary tool in the perioperative setting.

STRESS AND CORTISOL LEVELS IN MEDICAL STUDENTS PERFORMING AN EMERGENCY FRONT-OF-NECK AIRWAY PROCEDURE USING LOW- AND HIGH-FIDELITY MANIKINS

Ms. Everita Binde¹, Ms. Marta Aukone²

1. Riga Stradins University, Latvia, 2. University of Latvia, Latvia

Keywords

Clinical simulation, Cricothyrotomy, Stress response, Cortisol, Simulation fidelity

Objectives

Medical procedures performed in real-life emergencies differ from skills acquired during simulation-based training. This study aims to assess how low- and high-fidelity manikins influence medical students' psychophysiological stress responses.

Methods

The study included 20 medical students from Riga Stradiņš University and the University of Latvia. A low-fidelity and a high-fidelity simulation models were used. Prior to the simulation, all participants watched an instructional video on emergency cricothyrotomy and received standardized explanations. Baseline salivary cortisol samples were collected before simulation.

Participants were then randomly assigned to two groups. Group A performed the procedure first on the low-fidelity manikin followed by the high-fidelity manikin, whereas Group B completed the procedures in the reverse order. After each simulation, salivary cortisol samples were collected, and participants completed the NASA Task Load Index (NASA-TLX) and the short version of the Spielberger State-Trait Anxiety Inventory (STAI-6) to assess perceived workload and anxiety during the procedure.

Results

Mean cortisol levels were similar after low- and high-fidelity simulations (7.1 ± 5.2 nmol/L vs. 7.3 ± 4.9 nmol/L, $p=0.75$). In Group A, cortisol levels decreased from 8.08 nmol/L after low-fidelity to 7.52 nmol/L after high-fidelity simulation, whereas in Group B they increased from 6.27 nmol/L to 7.08 nmol/L. NASA-TLX scores differed significantly between Group A and Group B (139 ± 1 vs. 87 ± 16 ; $p = 0.04$). STAI-6 scores indicated higher positive than negative emotional responses following both simulations (41.5 vs. 24.25, $p=0.21$).

Conclusions

High- and low-fidelity cricothyrotomy simulations caused comparable physiological stress responses. Perceived workload differed significantly depending on the sequence of simulation. Despite measurable stress and workload, participants reported predominantly positive emotional responses.

The Effectiveness and Influencing Factors of Prehospital Stage Resuscitation

Mr. Pēteris Blūms¹

1. Riga Stradins University, Latvia

Keywords

Out-of-hospital cardiac arrest (OHCA). Cardiopulmonary Resuscitation (CPR); Automated External Defibrillator (AED); Bystander CPR; Return Of Spontaneous Circulation (ROSC).

Objectives

Sudden cardiac arrest is one of the leading causes of death all over the world. This study is aimed to investigate the relationship and effectiveness in cardiac arrest patients between bystander CPR, the use automated external defibrillators (AEDs) and the return of spontaneous circulation in the prehospital stage.

Methods

A retrospective cohort analysis using data obtained from the Latvian Emergency Medical Services (NMPD) electronic call records (EIK) of out-of-hospital cardiac arrest (OHCA) patients. The data extracted from the electronic call records include documentation of bystander CPR, the use of AEDs prior to the arrival of the Emergency Medical Service, as well as other influencing factors – time taken for Emergency Medical Services to arrive, rural and urban Emergency Medical Service call addresses, the age and gender of the patient. Statistical analyses was performed to assess the relationship between prehospital interventions, other influencing factors and ROSC.

Results

The early results show a statistically significant positive relationship between bystander Cardiopulmonary Resuscitation (CPR), the use of Automated External Defibrillators (AED) and the Return Of Spontaneous Circulation (ROSC). Early results also show an inverse relationship between the time of arrival of Emergency Medical Services, patients age and the Return Of Spontaneous circulation.

Conclusions

Cardiopulmonary Resuscitation and the use of Automated External Defibrillators performed by bystanders as well as Emergency Medical service arrival times plays a pivotal role for the Return Of spontaneous Circulation in out-of-hospital cardiac arrest patients.

THE IMPACT OF DIFFERENT EXTUBATION STRATEGIES ON THE DEVELOPMENT OF LUNG ATELECTASIS IN PATIENTS AFTER CARDIAC SURGERY

Mr. Krišjānis Upenieks¹

1. Riga Stradins University, Latvia

Keywords

Extubation technique, postoperative atelectasis, positive-pressure extubation

Objectives

To determine the incidence of pulmonary atelectasis as a postoperative complication among cardiac surgery patients and to compare the impact of different extubation techniques on the frequency of pulmonary atelectasis. And to evaluate the influence of additional risk factors on the development of pulmonary atelectasis.

Methods

A prospective study was conducted including 272 cardiac surgery patients who were randomly assigned to one of three extubation techniques routinely used in the center.

- Group 1: Negative-pressure extubation, with no positive pressure applied during extubation and suction used to remove tracheal and oral secretions.
- Group 2: Extubation without positive pressure and without tracheal suctioning.
- Group 3: Positive-pressure extubation, with tracheal suctioning performed five minutes prior to endotracheal tube removal.

Following extubation, chest X-rays were performed 12 hours after surgery to assess the presence of atelectasis. Blood gas analyses (SpO₂, PaCO₂, PaO₂) and pulse oximetry were also evaluated. Potential risk factors were analyzed, including age, sex, BMI, duration of surgery, duration of mechanical ventilation, cardiopulmonary bypass time, aortic cross-clamp time, PEEP, ventilation volume and frequency, and time to extubation.

Results

Pulmonary atelectasis developed as a complication in 17.3% (47) of all cases (271).

No statistically significant differences in atelectasis incidence were observed among the three extubation groups ($p = 0.296$).

Among the nine assessed risk factors—age, sex, BMI, duration of surgery, mechanical ventilation duration, ventilation volume, early reoperation, cardiopulmonary bypass time, and aortic cross-clamp time—only duration of surgery demonstrated a statistically significant association with atelectasis ($p = 0.016$).

Conclusions

Pulmonary atelectasis is a common postoperative complication in cardiac surgery.

The use of positive-pressure extubation did not significantly reduce the risk of atelectasis compared with other extubation methods.

Of the evaluated risk factors, only extended surgical duration was significantly associated with the development of atelectasis.

VANCOMYCIN PENETRATION INTO INTERVERTEBRAL DISCS DURING SPINE SURGERY: A POPULATION PHARMACOKINETIC ANALYSIS

*Ms. Sofja Grundane*¹

1. University of Latvia, Latvia

Keywords

vancomycin; perioperative prophylaxis; spine surgery; intervertebral disc; pharmacokinetics

Objectives

Vancomycin is commonly used for perioperative prophylaxis in spine surgery patients at increased risk of methicillin-resistant *Staphylococcus aureus* infection or with β -lactam allergy. However, data on vancomycin penetration into intervertebral disc (IVD) tissue remain limited. The aim of this study was to evaluate the penetration kinetics of preoperatively administered intravenous vancomycin into IVD by analyzing plasma and disc concentrations at defined time points during spine surgery.

Methods

This prospective observational study included 26 patients undergoing elective spine surgery with preoperative intravenous vancomycin prophylaxis (median age 44 (42;45); weight 76 (76;100); creatinine clearance (CL) 110 (106;110). Venous blood and IVD samples were collected at predefined intraoperative time points. Vancomycin concentrations were quantified using validated methods, and population PK modeling was applied to estimate clearance and volume of distribution (V). Disc-to-plasma concentration ratios were calculated to evaluate tissue penetration.

Results

Vancomycin PK were adequately described by a one-compartment model with linear elimination. Estimated CL and V were 0.19 L/h and 13.4 L. CLcr ($\beta = 248.8$, $p=0.006$) and body weight ($\beta = -1.47$, $p=0.033$) were identified as significant covariates. The median vancomycin concentration in IVD tissue was 1.7 $\mu\text{g/mL}$ (1.1;2.8), with disc-to-plasma ratios ranging from 0.0007 to 0.243, indicating marked interindividual variability. 50% of the collected disc samples achieved concentrations above 2 $\mu\text{g/mL}$.

Conclusions

Vancomycin clearance indicated slow elimination in the studied population, while the V was consistent with predominant extracellular distribution. IVD concentrations were low at the sampling time points, likely because each patient provided only a single sample collected before full plasma–disc equilibration was achieved. Although preoperative intravenous vancomycin achieved adequate plasma levels for perioperative prophylaxis, penetration into IVD tissue was limited and variable among patients, potentially affecting clinical outcomes.

VEXUS PROTOCOL ON SEPTIC PATIENTS: A PILOT STUDY

Ms. Agnese Pridāne¹

1. Riga Stradins University, Latvia

Keywords

Sepsis; VExUS Ultrasound Score; Fluid overload.

Objectives

Current clinical guidelines recommend an initial fluid resuscitation of 30ml/kg within the first three hours for patients with sepsis and septic shock. However, reassessment after initial fluid administration is crucial to determine whether further fluid therapy is appropriate, as a subset of patients may develop fluid overload with venous congestion, in which case continued fluid resuscitation may be harmful. The initial fluid bolus may therefore be excessive for some patients. Furthermore, for a subset of patients, the administered fluid volume may not be sufficient.

Methods

Four patients with sepsis, aged 40-80 years, were evaluated using the VExUS protocol. Ultrasound assessment included measurement of the diameter of the inferior vena cava (IVC). An IVC diameter greater than 2,0 cm prompted further evaluation according to the VExUS algorithm.

Results

Of the four patients assessed, one patient was VExUS-negative – IVC diameter 1,1cm, while three were VExUS-positive. In one patient IVC diameter measured 2,2cm, and both hepatic and portal vein patterns were severely abnormal, resulting in a VExUS score consistent with severe venous congestion. The remaining two patients showed mild congestion, as indicated by the VExUS score.

Conclusions

This pilot study suggests that the VExUS protocol may help identify septic patients who develop venous congestion after initial fluid resuscitation and may be a useful bedside tool. Incorporating VExUS into bedside assessment may support more individualized fluid therapy and help prevent fluid overload, especially in patients at risk of venous congestion.

**Biochemistry,
Pharmacology, Pharmacy,
Physiology**

“VALORIZATION OF BLACKCURRANT (*R. NIGRUM*) BERRY BY-PRODUCTS: POLYPHENOL COMPOSITION, BIOLOGICAL ACTIVITIES AND ENCAPSULATION STRATEGIE IN ALGINATE-INULIN GEL”

*Ms. Diāna Brūvere*¹, *Ms. Ance Bārzdiņa*¹, *Mr. Renārs Broks*¹

1. Riga Stradins University, Latvia

Keywords

Blackcurrant; *R. nigrum*; byproducts; alginate-inulin gel; bioactive content

Objectives

This study aims to compare the polyphenol composition and biological activities of ethanol extracts from *Ribes nigrum* whole berries, juice, and pomace, and to evaluate alginate-inulin hydrogels as carriers for the most promising extract. Additionally, we assessed bioactive encapsulation, release behavior, and how the incorporation of the extract affects the gel structure and stability, and whether this approach can support the development of sustainable, bioactive wound-healing materials

Methods

An experimental laboratory study compared *R. nigrum* ethanol extracts differing in ethanol concentration and berry parts, focusing on polyphenol content and profiles (HPLC-UV), as well as antioxidant and antibacterial activity. The pomace extract was incorporated into alginate-inulin gels using a thermal induction method. The gels were characterized by assessing polyphenol release, swelling capacity at pH 5.5, rheological properties, x-ray diffraction, antibacterial activity, and structural features.

Results

R. nigrum pomace extract exhibited higher phenolic and tannin content, as confirmed by HPLC-UV profiling and showed an antioxidant activity (IC₅₀ 2.4 mg/mL). The pomace extract was successfully incorporated into an alginate-inulin gel, which formed a structurally stable, amorphous matrix with a gradual, diffusion-controlled release of polyphenols at pH 5.5 (248 mg GAE/g in 200 minutes). The physical properties of the gel changed significantly with the corresponding pomace extract in solution, demonstrating a concentration-dependent antibacterial effect (MIC 25-50 mg/mL).

Conclusions

The results show that ethanol concentration significantly affects the composition of *Ribes nigrum* extracts. Pomace extract showed promising results and can be effectively incorporated into structurally stable, amorphous alginate-inulin hydrogels, providing gradual, diffusion-controlled release under skin-compatible conditions. Furthermore, incorporating the extract significantly improves the gel's swelling properties while maintaining its stability and reducing its viscosity. This work, the first to directly integrate *R. nigrum* pomace extract into an alginate-inulin hydrogel system, highlights its potential for plant-based wound care applications.

Acute exercise induced changes in metabolomic profile of breast cancer patients

*Mrs. Līva Vita Kaufmane*¹

1. Riga Stradins University, Latvia

Keywords

Metabolomics, breast cancer, acute exercise, energetic metabolites

Objectives

The aim of this study was to characterize acute exercise induced changes in plasma metabolites of breast cancer (BC) patients before the start of therapy.

Methods

In total 43 BC patient samples were analysed before and after an incremental exercise test. Blood plasma samples underwent metabolomics analysis using liquid-chromatography mass spectrometry. 76 metabolites were quantified, and statistical analysis was performed. In this study we looked at energetic metabolites and nitrogen compounds, including different amino acids.

Results

Targeted metabolomic profiling of plasma samples collected before and after acute exercise in BC patients identified 15 metabolites with statistically significant post-exercise changes. The most significant increases were observed in metabolites related to glycolysis and the tricarboxylic acid (TCA) cycle, including lactic acid ($p=1.3852 \times 10^{-21}$), malic acid ($p=1.6723 \times 10^{-16}$), fumarate ($p=1.4562 \times 10^{-14}$), and α -ketoglutaric acid ($p=1.7405 \times 10^{-5}$). Significant alterations were also detected in amino acid-related metabolites, with increases in L-alanine, β -alanine, L-acetylcarnitine, propionylcarnitine, ethanolamine, and decreases in ornithine and L-cystine. Several metabolites involved in nucleotide and carbohydrate metabolism showed significant reductions following exercise, including adenosine, UDP, erythrose-4-phosphate, and phosphoenolpyruvic acid. Collectively, the altered metabolites showed changes in carbon metabolism, amino acid turnover, acylcarnitine metabolism, and nucleotide-related pathways.

Conclusions

Acute exercise induced significant changes in circulating energetic metabolites, nitrogen-related compounds, and amino acids in BC patients and may be useful for characterising metabolic responses to physical stress in this population.

ASSESSMENT OF L-NAME DOSE EFFECTS IN A TWO-HIT HFpEF MOUSE MODEL

Ms. Eliza Ķibilda¹

1. Riga Stradins University, Latvia

Keywords

Heart failure with preserved ejection fraction, L-NAME, Mice

Objectives

Heart failure with preserved ejection fraction (HFpEF) is a high-morbidity, high-mortality syndrome with incompletely understood mechanisms, partly due to the lack of robust preclinical models. In the commonly used “two-hit” HFpEF model, diastolic dysfunction is induced by combining the nitric oxide synthase inhibitor L-NAME with a high-fat diet (HFD), though outcomes are variable. This study evaluated multiple L-NAME doses to improve model reproducibility and robustness.

Methods

Male C57BL/6N mice were assigned to four groups: controls (normal diet/water) and HFD-fed mice receiving L-NAME at 0.5, 1, or 2 g/L in drinking water for 16 weeks. In the final week, metabolic flexibility and glucose metabolism were assessed using a phenotyping system. Systolic blood pressure (SBP), glucose tolerance, and echocardiography were assessed, followed by invasive left ventricular (LV) pressure recordings, characterization of vascular reactivity in isolated aortic rings, and cardiac mitochondrial bioenergetics.

Results

HFD and L-NAME-treated mice predominantly relied on fatty acid metabolism (RER ~0.7) and showed slower ¹³C-glucose oxidation, consistent with reduced insulin sensitivity. L-NAME caused a dose-dependent increase in SBP (control: 94±2 mmHg; 0.5 g/L: 110±2 mmHg; 1 g/L: 120±3 mmHg; 2 g/L: 123±4 mmHg), while fasting blood glucose increased only at the lowest dose. Echocardiography revealed preserved LV systolic function but LV hypertrophy in treated groups. LV diastolic pressure increased significantly only with the two highest L-NAME doses (control: 6±1 mmHg; 0.5 g/L: 11±3 mmHg; 1 g/L: 15±3 mmHg; 2 g/L: 16±2 mmHg). Endothelium-dependent and -independent vasodilation were unchanged, but aortic rings from treated mice showed reduced phenylephrine-induced contractility. Cardiac mitochondria exhibited altered complex II function and decreased oxygen consumption at OXPHOS.

Conclusions

Higher L-NAME doses improve model consistency and better reflect HFpEF pathophysiology, providing a reliable platform for mechanistic and therapeutic studies.

BEYOND THE DISSOLUTION CURVE: VISUALIZING TABLET EROSION IN 3D

Ms. Una Lote Vītoliņa¹

1. Riga Stradins University, Latvia

Keywords

Micro-computed tomography (Micro-CT); *In vitro* dissolution testing; Tablet morphology;

Objectives

In vitro dissolution testing is a critical tool in pharmaceutical development. However, the obtained results often exhibit high variability that cannot be fully explained or predicted not only by traditional dissolution testing approaches based on dissolution curves, but also by current computer-based models. This variability is influenced by multiple experimental factors, including hydrodynamic conditions, tablet formulation, and tablet positioning within the dissolution vessel. A deeper understanding of how these parameters affect tablet erosion and morphology is needed to improve model accuracy.

The aim of this study was to investigate the impact of key *in vitro* dissolution parameters on tablet morphology and erosion behavior using micro-computed tomography (micro-CT), thereby providing experimental input for future computer-based dissolution model development and validation.

Methods

Paracetamol model tablets were in-house manufactured and further dissolved in the paddle dissolution apparatus with different parameters: tablet type (coated or uncoated), stirring speed (25, 50, 75 rpm), and tablet position (centered, half-diameter off-center or one-diameter off-center). After 40 minutes of dissolution paracetamol concentration in the medium, tablet weight, height, and diameter were measured, and micro-computed tomography scans were taken to create 3D images.

Results

Micro-CT analysis revealed distinct erosion behaviors depending on the investigated parameters. The uncoated tablets, compared to the coated ones, demonstrated not only top-side, but also bottom-side erosion of the tablet. Increasing the stirring speed from 25 rpm to 75 rpm led to 1.6-fold greater tablet erosion, but the results from off-centered tablet positioning in the dissolution vessel illustrate a sloped erosion pattern on the tablet shape. Moreover, tablet positioning indicated a low-flow zone in the center of the dissolution vessel.

Conclusions

In conclusion, we identified how individual *in vitro* parameters create morphological changes, providing key inputs for *in vitro* computer-based model development and validation.

DEVELOPMENT AND CHARACTERIZATION OF ALGINATE HYDROGEL BEADS CONTAINING TANACETUM VULGARE EXTRACT

***Ms. Paula Kristiāna Harpere*¹**

1. Riga Stradins University, Latvia

Keywords

alginate, hydrogel beads, *Tanacetum vulgare*, polyphenols

Objectives

Development of 2% alginate hydrogel beads (AHB) by incorporating different amounts of *T. vulgare* leaf dry extract and analysis of characterizing parameters to determine the potential new drug delivery system.

Methods

The study developed AHB using alginate polymer crosslinked by 1,5% calcium chloride. Morphology, swelling, polyphenol release and encapsulation efficiency, X-ray diffraction, rheology, antioxidative activity was tested to characterize parameters of AHB containing different amounts of *T. vulgare* extract.

Results

AHB were developed, creating unloaded control beads (TansyBlank) and beads containing 3 different amounts of *T. vulgare* leaf dry extract - 20mg (Tansy20), 50mg (Tansy50) and 100mg (Tansy100) of extract per 21ml of alginate solution. The diameter of average sized beads was between 2,66 mm and 3,66 mm, with a statistically significant difference ($p \leq 0.05$) between beads containing extract and TansyBlank beads. All beads had a swelling index greater than 100% within 45 minutes, with the highest swelling index being 246% (TansyBlank). Tansy20 beads had the highest antioxidative activity. Encapsulation efficiency was over 99,7% for all samples. In all mediums, the release of polyphenols followed the Korsmeyers-Peppas kinetics model with the highest amount released in a pH level of 7,4. The amount of loaded extract did not influence changes within the bead amorphous structure. Beads of all types experienced similar viscoelastic and non-thixotropic behavior under applied stress.

Conclusions

Development of beads containing different amounts of *Tanacetum vulgare* extract was successful, with the high encapsulation efficiency leading to believe that alginate polymer hydrogels are a sufficient carrier for *Tanacetum vulgare* leaf extract. Beads loaded with the least amount of extract seemed to have the best bioavailability, but further testing on bead stability and bioavailability would be needed.

DEVELOPMENT OF PYRUVATE KINASE M2 INHIBITORS

*Mr. Kristofers Rudzitis*¹

1. Riga Stradins University, Latvia

Keywords

Pyruvate kinase M2; Cancer; Isoselenazolium salts.

Objectives

Pyruvate kinase M2 (PKM2) catalyses the final, rate-limiting step of glycolysis, and is dynamically switched between a catalytically active tetramer and a less active dimer. Additionally, PKM2 dimers act as a transcription cofactor of several oncogenes in the nucleus. PKM2 is upregulated in various tumor types, and cancer cells exploit the bifunctional role of PKM2 for adaptation to environmental conditions and metabolite requirements to regulate proliferation rate, thus PKM2 is an attracting therapeutic target. Recent studies have identified isoselenazolium derivatives as potent, isoform-selective PKM2 inhibitors [1]. Based on these findings, the objective of the study was to design and synthesize a series of novel PKM2 inhibitors and evaluate their inhibitory potency.

Methods

Isoselenazolothiazolium derivatives were synthesised by 5-*endo*-dig cyclisation of 2-ethynylthiazoles with SeBr₄. Binding affinities (K_d) to PKM2 were determined by grating-coupled interferometry (GCI). PKM2 Half-inhibition concentrations (IC₅₀) were determined in a lactate dehydrogenase-coupled enzymatic assay using recombinant PKM2.

Results

Nine compounds were synthesised and their structure confirmed by ¹H, ¹³C, ⁷⁷Se NMR and HRMS. K_d for PKM2 of the novel inhibitors ranged from 166 to 896 nM. All tested compounds exhibited potent PKM2 inhibition, with IC₅₀ values between 52 nM and 146 nM, which was consistent with the GCI data. **KR-60** (3-bromo-2-(1-hydroxycyclohexyl)-5,6,7,8-tetrahydro-[1,2]selenazolo[3',2':2,3]thiazolo[5,4-c]pyridin-9-ium chloride) was the most active among the series, with 11.4-fold lower K_d (166 ± 40 nM vs 1894 ± 775 nM, respectively) and 7-fold lower IC₅₀ (52 ± 6 nM vs 350 ± 70 nM, respectively), compared to the previously reported inhibitor isoselenazolopyridinium chloride **5c** [1].

Conclusions

A new series of PKM2 inhibitors bearing an isoselenazolothiazolium scaffold was developed, demonstrating superior inhibitory potency than isoselenazolopyridinium derivatives. **KR-60** emerged as the lead compound, showing markedly improved affinity and inhibition towards PKM2, providing a basis for novel drug candidates.

EXERCISE INDUCED CARDIOVASCULAR AND AUTONOMIC RESPONSES IN RELATION TO AEROBIC CAPACITY AND PHYSICAL ACTIVITY LEVEL IN HEALTHY YOUNG MEN.

Mr. Gustavs Lukstiņš¹

1. Riga Stradins University, Latvia

Keywords

VO₂max, MET, T-wave, RMSSD, repolarization.

Objectives

Exercise induced cardiovascular and autonomic adaptations reflect integrative regulation of the heart. This study explored aerobic capacity and physical activity relation to autonomic modulations and ECG ventricular repolarization during rest, acute exercise and recovery in young adults.

Methods

14 healthy men aged 18-21 underwent acute stepwise incremental cycling test (YAMC protocol) until reaching individual submaximal workload. ECG was recorded during exercise and 3-min recovery period. Arterial BP was measured at rest and during recovery, VO₂max was estimated using Astrand-Rhyming calculator, daily BP and physical activity was assessed using a questionnaire. Physical activity level was calculated and expressed in METs. RMSSD (Root-Mean-Square-of-Successive-Differences) was calculated measuring beat-to-beat heart rate changes using LabChart 7. Statistical analysis using Spearman's rank correlations was performed in SPSS with $p < 0.05$ considered statistically significant.

Results

Significant correlations were observed between VO₂max and daily systolic BP ($r = -0.639$, $p = 0.014$), as well as with diastolic BP: daily ($r = -0.703$, $p = 0.005$), at rest ($r = -0.536$, $p = 0.048$) and at the end of 3-minute recovery period ($r = -0.595$, $p = 0.025$).

Significant correlations were observed between VO₂max and resting heart rate (HR) ($r = -0.713$, $p = 0.004$), HR at the end of first workload stage ($r = -0.664$, $p = 0.01$), RMSSD at 1-minute recovery period ($r = 0.599$, $p = 0.031$) and T-wave duration at rest ($r = 0.588$, $p = 0.027$).

Higher MET correlates with HR % changes from rest during first minute of recovery ($r = -0.717$, $p = 0.004$), with T-wave amplitude ($r = 0.601$, $p = 0.023$) and duration ($r = 0.685$, $p = 0.007$) at the end of first workload stage.

Conclusions

Results suggest higher aerobic capacity association with lower cardiovascular risk profile, improved physiological adaptation regarding myocardium repolarization parameters, as well as more optimized autonomous nervous system regulation, demonstrating greater parasympathetic activity and improving recovery efficiency. Higher MET is related to vagal dominance during the first stage of exercise as well as optimized HR recovery afterload.

FROM SYNTHESIS TO FINAL FORMULATION: DESIGN OF EXPERIMENTS GUIDED OPTIMIZATION OF GALLIC ACID-LOADED TRANSETHOSOMAL CHITOSAN GEL

Ms. Daniela Paula Prudņikova¹

1. Riga Stradins University, Latvia

Keywords

Drug delivery system, Design of Experiments, transethosomes, gallic acid, chitosan

Objectives

Although gallic acid (GA) has antioxidant, anti-inflammatory, and antibacterial properties, its chemical stability and capacity to penetrate the skin barrier are key challenges for its transdermal application [1]. Therefore, this study aimed to create and characterize a dual drug delivery system – GA-loaded transethosomal chitosan gel - by applying a three-factor, three-level full factorial design of experiments (DoE) approach.

Methods

GA-loaded transethosomes were prepared using the cold method and characterized in terms of size, polydispersity index (PDI), zeta potential, encapsulation efficiency (EE%), FTIR spectra, drug release, and stability (6 months). The DoE was performed on the MODDE software, where the impact of chitosan molecular weight (low/medium/high), chitosan concentration (2–4%), and transethosome content (25–75%) on the release of GA (at 6 hours), pH, and spreadability of the gel was investigated. Additionally, drug release kinetic modelling, rheological, FTIR, and stability testing of the most promising formulation were performed.

Results

GA-loaded transethosomes showed a mean size of ~167 nm, low dispersity ($PDI \leq 0.17$), slightly positive charge (+4.7 to +6.5 mV), and EE% of $71.6 \pm 5.7\%$, with refrigerated storage best preserving colloidal properties. FTIR spectra confirmed the presence of GA in transethosomes. DoE model ($n=30$, power 91%) demonstrated strong formulation effects on gel performance: 6 h GA release ranged 44.52–93.17%, pH 3.93–4.46, and spreadability 3–123 cm². Higher transethosome content increased release and spreadability, whereas higher chitosan concentration increased the pH. Interestingly, fastest drug release was observed with medium molecular weight chitosan. Drug release of the dual drug delivery systems followed Higuchi and Kors-peppas kinetics.

Conclusions

Gels formed with 2% low molecular weight chitosan that contain 25-50% transethosomes show most promise for transdermal delivery of GA. Further work is needed to evaluate the biological activity of the optimized formulations.

[1] doi:10.3390/scipharm88040053

NEPHROTOXICITY INDUCED BY POLYMYXIN B AND COLISTIN IS MEDIATED BY MITOCHONDRIAL COMPLEX I INHIBITION

Ms. Valērija Meinardte¹, Mr. Kristaps Krims-Dāvis¹, Mrs. Stanislava Korzh²

1. Riga Stradins University, Latvia, 2. Latvian Institute of Organic Synthesis, Latvia

Keywords

Polymyxin B; colistin; nephrotoxicity; mitochondria; complex I

Objectives

Polymyxins are last-resort antibiotics against multidrug-resistant Gram-negative infections, but their use is limited by nephrotoxicity. The mechanisms of nephrotoxicity are not fully understood; therefore, this study aims to assess whether inhibition of the mitochondrial respiratory chain contributes to polymyxin-induced kidney toxicity.

Methods

NMRI female mice received six subcutaneous administrations (every 8 h) of polymyxin B (20 mg/kg) or colistin (20 mg/kg). Plasma, urine and kidneys were collected for biochemical, molecular and histological assessment. Blood urea nitrogen (BUN) and creatinine were measured in plasma; KIM-1 (Kidney Injury Molecule-1) in urine was used as a marker of proximal tubular injury, and renal injury marker gene expression was quantified by qPCR. Kidney damage was assessed by macroscopic examination and H&E-staining. Direct cytotoxicity was evaluated in HK-2 proximal tubule cells using an MTT metabolic viability assay. Mitochondrial function was assessed using a mitochondrial respiration assay to compare complex I and complex II-linked activity.

Results

Repeated dosing resulted in kidney alterations following polymyxin B and colistin administration. Both polymyxin B and colistin induced kidney tubular damage and increased BUN concentration by 2-fold, as well as levels of KIM-1 and NGAL (neutrophil gelatinase-associated lipocalin) in the kidney and urine by 13-147-fold. H&E-stained kidney sections revealed marked tubular damage. In HK-2 cells, both compounds decreased metabolic activity in a marked and dose-dependent manner. In mitochondrial respiration experiments, both compounds at 5 µg/mL significantly inhibited complex I activity by about 75%, whereas complex II activity remained unaffected.

Conclusions

Polymyxin B and colistin cause pronounced renal injury *in vivo* and are toxic to human proximal tubule cells *in vitro*. Both compounds substantially inhibit mitochondrial respiratory complex I, suggesting this as an important molecular mechanism of polymyxin-induced nephrotoxicity.

REGIONAL AND HEMISPHERIC DISTRIBUTION OF PERIVASCULAR SPACES IN PARKINSON'S DISEASE

Ms. Evelina Stagiša¹

1. Riga Stradins University, Latvia

Keywords

Parkinson's disease; perivascular spaces; hemispheric asymmetry; basal ganglia; centrum semiovale

Objectives

Perivascular spaces (PVS) are increasingly recognized as MRI markers of small vessel and glymphatic dysfunction in Parkinson's disease (PD). While increased PVS burden has been described in PD, regional and hemispheric distribution patterns remain insufficiently explored. This study aimed to assess regional differences and hemispheric asymmetry of PVS burden in PD patients compared with healthy controls.

Methods

25 patients with PD (12 females, 13 males) and 25 healthy controls (13 females, 12 males) underwent 3T MRI including T2-weighted sequences. Enlarged PVS were manually quantified in the basal ganglia (BG) and centrum semiovale (CS) separately for right and left hemispheres. Quantitative metrics included total PVS counts and largest-per-slice PVS counts. Qualitative assessment was performed using the Potter and Heier visual rating scales. Group comparisons were conducted using Mann–Whitney U tests and Fisher's exact test.

Results

PD patients demonstrated significantly higher PVS burden than controls in both BG and CS across quantitative and qualitative metrics ($p < 0.05$). The most pronounced differences were observed in the centrum semiovale. Hemispheric analysis revealed partial right-sided predominance, particularly for largest-per-slice PVS counts in the right BG and right CS. Heier scale differences were significant only in the right CS. These findings indicate region-specific and lateralized PVS involvement in PD.

Conclusions

PVS burden in Parkinson's disease shows distinct regional distribution and partial hemispheric asymmetry, with predominant involvement of the centrum semiovale and right hemisphere. These spatial patterns may reflect asymmetric neurodegeneration, vascular vulnerability, or glymphatic dysfunction in PD. Regional PVS analysis provides additional insight beyond global burden assessment and may contribute to refined imaging biomarkers in neurodegenerative disease research.

**Infectious diseases,
Microbiology,
Immunology, Allergology,
Dermatology &
Dermatovenereology**

ARTIFICIAL INTELLIGENCE IN DERMATOLOGY: DIAGNOSTIC ACCURACY, LIMITATIONS, AND FUTURE PERSPECTIVES

Ms. Mikeila Jazbutytė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Artificial intelligence, Dermatology, Skin cancer detection, Diagnostic accuracy, Clinical decision support.

Objectives

The aim of this review is to evaluate the role of artificial intelligence in dermatology, with emphasis on diagnostic performance, current clinical applications, limitations to clinical adoption, and future perspectives.

Methods

A systematic review of 29 peer-reviewed studies published since 2020 was conducted to evaluate diagnostic accuracy, clinical applications, limitations, and future directions of artificial intelligence in dermatology. The review was performed in accordance with PRISMA guidelines to ensure methodological precision and transparency.

Results

Artificial intelligence (AI) is widely applied in dermatology to support diagnostic decision-making through analysis of clinical and dermoscopic images, particularly in melanoma and non-melanoma skin cancers [1-7]. Reported diagnostic accuracy in skin cancer detection ranges from 70% to 99,7%, with pooled performance around 90% and high sensitivity and specificity [8,9]. AI is also increasingly used in inflammatory and chronic skin diseases, including psoriasis, atopic dermatitis, and acne, where diagnostic accuracies exceed 89% and pooled sensitivity is above 90%, enabling standardized severity scoring and disease monitoring [10-14]. Despite these advances, clinical implementation remains limited by dataset bias, underrepresentation of darker skin tones, lack of real-world validation, regulatory uncertainty, ethical concerns, and workflow integration challenges [15-18]. Emerging approaches emphasize AI as a clinical decision-support tool, with future development focusing on multimodal models, federated learning, teledermatology integration, and hybrid AI–dermatologist systems [19,20].

Conclusions

Artificial intelligence demonstrates substantial potential to enhance dermatological diagnostics, disease monitoring, and clinical decision-making. However, addressing validation, integration and ethical challenges is essential to enable the safe and effective incorporation of AI into routine dermatological practice.

Assessment of comorbidities in patients with suspected hypersensitivity to local anesthetics

Ms. Klinta Roķe¹, Ms. Unda Lomanovska¹

1. Riga Stradins University, Latvia

Keywords

Local anesthetics, Hypersensitivity reactions, Allergic diseases, Comorbidities, Allergy testing

Objectives

Local anesthetics are widely used across multiple medical specialties and may be associated with hypersensitivity reactions, the development and clinical expression of which can be significantly influenced by concomitant allergies and comorbid conditions. The aim of this study was to evaluate comorbidities and coexisting allergic diseases in patients reporting hypersensitivity reactions to local anesthetics.

Methods

A retrospective study was conducted on patients who underwent allergological testing for local anesthetics at Pauls Stradiņš Clinical University Hospital between 2000 and 2024. Approximately 700 patient records were reviewed using the hospital information system, “Ārsta birojs,” and archived medical files. The data were analyzed using SPSS software.

Results

A total of 59 patients with suspected hypersensitivity to local anesthetics were included in this study. Of these, 52 (88%) were women, and the mean age was 47.4 ± 15.2 years (range 14–77). Among all study participants, 34 (58%) had documented hypersensitivity to other medications, most commonly antibiotics (n=18, 31%), nonsteroidal anti-inflammatory drugs (NSAIDs) (n=8, 14%), and sedatives or muscle relaxants (n=6, 10%). Other concomitant allergic conditions included allergic rhinitis (n=17, 29%), of whom 5 had pollinosis, followed by asthma (n=9, 15%) and chronic spontaneous urticaria (n=10, 17%). The other most common comorbidities were cardiovascular diseases (n=10, 17%), mainly arterial hypertension, pulmonary diseases (n=7, 12%), mainly chronic obstructive pulmonary disease (COPD), and neurological disorders (n=5, 8%), mainly degenerative spinal spondylosis. No statistically significant associations were found between any of the comorbidities and the manifestations of hypersensitivity reactions to local anesthetics.

Conclusions

Hypersensitivity to local anesthetics frequently co-occurs with hypersensitivity to other medications. Common concomitant allergic conditions include allergic rhinitis, asthma, and chronic spontaneous urticaria, while cardiovascular, pulmonary, and neurological comorbidities are also observed. No statistically significant associations were found between comorbidities and the clinical manifestations of local anesthetic hypersensitivity.

ASSOCIATION BETWEEN EXAM-INDUCED PSYCHOLOGICAL STRESS AND SELF-REPORTED DERMATOLOGICAL SYMPTOMS AMONG MEDICAL STUDENTS IN EUROPE

Ms. Pooja Nagarkoti ¹

1. Riga Stradins University, Latvia

Keywords

Medical students, Europe, Exam-induced stress, Dermatological symptoms, Psychodermatology

Objectives

Psychological stress affects various health conditions including dermatological conditions via neuro-immunological pathways. Medical students are particularly susceptible to exam-related stress, which may exacerbate or trigger skin-related symptoms. However, data regarding the association between exam-induced stress and dermatological manifestations among medical students across Europe remain limited.

The objective of this study was to assess the correlation between self-reported dermatological symptoms among European medical students and the psychological stress induced by exams.

Methods

Medical students from different European countries participated in a cross-sectional, anonymous, online questionnaire-based study. The survey collected demographic data, academic year, perceived exam-related stress levels, sleep duration, and self-reported dermatological symptoms such as acne flare-ups, increased hair fall, pruritus and others during examination periods. Stress levels were measured using a Likert-scale formatting multiple choice grid. Descriptive data analysis was performed, and correlations between stress levels and dermatological symptoms were evaluated.

Results

83 medical students participated, mostly between the ages of 20-25 and in their clinical years(3rd-6th). Most reported moderate to high exam-related stress, with 35.6% experiencing high or very high stress and 57.8% reporting increased stress compared to non-exam periods. Dermatological changes during exams were reported by 79.5% of participants, most commonly acne flare-ups (65,9%), increased hair loss (58,5%), and pruritus (26,8%). Symptoms often began before or during exams and improved in over half of students afterward. Higher stress levels were associated with greater symptom severity, including among those with pre-existing dermatological conditions.

Conclusions

Exam-induced psychological stress is associated with self-reported dermatological symptoms among medical students, emphasizing the impact of academic stress on skin health and importance of stress-management strategies and awareness. Further studies with larger samples and objective assessments are warranted.

ASSOCIATION OF CONTACT DERMATITIS PHENOTYPES WITH IMMUNOLOGICAL MARKERS: TOTAL IgE AND EOSINOPHILIA IN PATCH-TESTED PATIENTS

Mr. Kristofers Šepte¹, Ms. Luīze Šepte¹, Ms. Madara Gobiņa²

1. University of Latvia, Latvia, 2. Riga Stradins University, Latvia

Keywords

Contact dermatitis; patch testing; contact sensitization; IgE; eosinophilia

Objectives

The objective of this study was to assess whether immunological markers (elevated total IgE and eosinophilia) are associated with contact dermatitis clinical phenotypes in patients undergoing patch testing.

Methods

A retrospective study included 111 patients who underwent patch testing for suspected contact dermatitis. Clinical classification of contact dermatitis was analyzed as a categorical variable with three groups. Total IgE status and eosinophilia status were assessed as categorical variables (elevated, normal, unknown). Descriptive statistics were used to summarize frequencies. Associations between contact dermatitis phenotype and immunological markers were evaluated using chi-square tests. Statistical significance was defined as $p < 0.05$.

Results

In the study cohort ($N = 111$), elevated total IgE was recorded in 14 (12.6%) patients, normal IgE in 10 (9.0%), and IgE status was unknown in 87 (78.4%). Eosinophilia was present in 12 (10.8%) patients, absent in 7 (6.3%), and unknown in 92 (82.9%).

No statistically significant association was observed between contact dermatitis phenotype and total IgE status (Pearson $\chi^2 = 2.810$, $df = 4$, $p = 0.590$). In contrast, a statistically significant association was found between contact dermatitis phenotype and eosinophilia status (Pearson $\chi^2 = 15.892$, $df = 4$, $p = 0.003$).

Conclusions

In patch-tested patients with contact dermatitis, total IgE status was not associated with contact dermatitis phenotype. However, eosinophilia showed a significant association with clinical phenotype, suggesting that eosinophil count may reflect broader inflammatory activity in certain contact dermatitis subgroups rather than IgE-mediated mechanisms. These findings support the predominantly T-cell-mediated nature of contact dermatitis and indicate that eosinophilia may provide additional phenotypic stratification in routine clinical practice.

Biologic Therapy with Adalimumab, Ustekinumab, Secukinumab and Risankizumab in Moderate-to-Severe Psoriasis Vulgaris

Ms. Luīze Šepte¹

1. University of Latvia, Latvia

Keywords

Psoriasis vulgaris; biologic therapy; PASI response; latent tuberculosis

Objectives

The objective of this study was to evaluate treatment outcomes of biologic therapies in patients with moderate-to-severe psoriasis in routine clinical practice, with a focus on treatment response, therapy switching, and the impact of prior biologic exposure and latent tuberculosis.

Methods

A retrospective study (2019–2025) included 22 adult patients with moderate-to-severe psoriasis treated at Ventspils Poliklinika with adalimumab, ustekinumab, secukinumab or risankizumab. Inclusion criteria were a baseline PASI >10 and PGA score of 3–4. Data on prior therapies, narrowband UVB treatment, latent tuberculosis status, PASI response, treatment duration, and therapy switching were collected and analyzed descriptively.

Results

The study population comprised 12 women and 10 men, with a maximum age of 70 years. Eight patients were biologic-naïve, while seven had previously received secukinumab. Prior systemic therapies included methotrexate (n=20), acitretin (n=10), cyclosporine (n=5), and systemic corticosteroids (n=2). All patients had received narrowband UVB therapy except one patient in whom it was contraindicated. Latent tuberculosis was identified in eight patients, all of whom received concomitant isoniazid therapy according to local guidelines. Among biologic-naïve patients treated with adalimumab, 30% required switching due to failure to achieve PASI 50. Overall, seven patients required switching between biologic agents (adalimumab, ustekinumab, secukinumab or risankizumab) because of inadequate response. Among the six patients switched to newer biologic agents, four achieved sustained PASI 100 and two achieved PASI 75. One patient achieved PASI 100 three weeks after switching to risankizumab. The mean time to PASI 100 was 10 weeks. No further therapy switching was required during follow-up.

Conclusions

Biologic therapies showed good effectiveness in routine clinical practice for moderate-to-severe psoriasis vulgaris. Biologic-naïve patients treated with adalimumab required fewer therapy switches, while switching to newer biologics resulted in high and sustained PASI responses. Concurrently treated latent tuberculosis did not adversely affect treatment outcomes.

Correlation of breastfeeding with atopic dermatitis in early childhood

***Mrs. Roksana Magdisjuka**¹*

1. Riga Stradins University, Latvia

Keywords

Atopic dermatitis, breastfeeding, immune system, eczema, risk factors

Objectives

Atopic dermatitis (AD) is a chronic inflammatory skin disease that affects up to 20% of children worldwide. It manifests with skin erythematous lesions, dryness and eruptions that become a significant risk factor for the development of secondary skin infections. Despite the fact that genetic predisposition is the basis of AD onset, various studies claim that triggering factors have a direct effect on disease progression. It has commonly been assumed that breastfeeding is highly protective against AD and other immune system related diseases. The aim of this systematic literature review is to analyze the correlation between breastfeeding and the severity of AD symptoms meanwhile describing the action of protective mechanisms.

Methods

The systematic literature review was performed analyzing full text articles. The search was conducted in PubMed and GoogleScholar databases. Inclusion criteria involved English language, full-text articles not older than 2018, prioritizing primary research articles.

Results

The analysis of pathogenesis described in literature says that theoretically breastfeeding is a real protective factor against onset of AD or it just should prevent aggressive manifestation. The most frequent factors mentioned as defensive are differences in breastfed infants' gut microbiota, presence of immune agents such as IgA, IL-10 and the content of nonnutritive oligosaccharides in breast milk. Meanwhile some studies showed that some aspects including prolonged breastfeeding or mother's diet can be trigger factors for development of AD as well.

Conclusions

In spite of the fact that breastfeeding provides a protective effect on the newborn's immune system, the data about its correlation with AD incidence vary. Such factors as the duration of feeding, complementary feeding, and mother's diet should be taken into account when developing an AD prevention plan in predisposed children.

Drug provocation test positivity in patients with suspected hypersensitivity to local anesthetic

Ms. Unda Lomanovska¹, Ms. Klinta Roķe¹

1. Riga Stradins University, Latvia

Keywords

Local anesthetics, hypersensitivity, drug provocation test, anaphylaxis

Objectives

Local anesthetics are widely used across various medical specialties. Although adverse reactions are reported in 2.5–10% of patients, true allergic reactions are rare (<1%), and differentiation between allergic and non-allergic reactions remains challenging. This study aims to provide an overview of hypersensitivity reactions to local anesthetics and to assess the concordance between patient-reported reactions and allergological test results, with particular emphasis on drug provocation test positivity.

Methods

A retrospective review was conducted of patients who underwent allergological testing with local anesthetics at Pauls Stradiņš Clinical University Hospital between 2000 and 2024. Approximately 700 medical records were screened using the hospital information system “Ārsta birojs” and archived medical files. Data were analyzed using SPSS software.

Results

Data from 59 patients were analyzed, of which 52 (88.1%) were women. The mean age was 47.37 ± 15.2 years (range: 14–77 years). Lidocaine was the local anesthetic most commonly associated with hypersensitivity reactions, accounting for nearly one third of cases (29.4%), followed by procaine (20.6%) and articaine (13.2%). In 27.9 % of cases patients were unable to identify the specific local anesthetic that had triggered the reaction. Anaphylaxis was the most frequently reported clinical manifestation, accounting for 37.3% of reactions, followed by syncope (11.9%). Of the 59 patients, 49 underwent allergy testing. Only 2 (4%) patients had a positive result on provocation testing, showing hypersensitivity to lidocaine and bupivacaine in one patient and to mepivacaine in the other. In both cases, tolerance to alternative, newer-generation local anesthetics (e.g., articaine) was confirmed.

Conclusions

The low positivity rate of drug provocation tests confirms that true hypersensitivity to local anesthetics is rare, reflecting poor concordance between patient-reported reactions and objective allergological findings. Suspected reactions were reported predominantly by middle-aged women, suggesting a sex- and age-related pattern, and most frequently involved lidocaine and procaine.

EFFECTIVENESS, SAFETY, AND CONSISTENCY OF RESULTS OF SHEET MASKS FOR FACIAL SKIN: EVALUATING USER EXPERIENCES

Ms. Valērija Bernatoviča ¹

1. Riga Stradins University, Latvia

Keywords

Sheet masks; Effectiveness; Safety; User experience

Objectives

A wide variety of facial masks catering to different skin types, indicating high demand. This study aims to evaluate facial mask users' knowledge of skin health impact, proper and safe use, and potential risks. The findings improve understanding of sheet mask effectiveness, safety, and user habits, supporting practical and evidence-based recommendations for consumers.

Methods

A quantitative, cross-sectional study using an anonymous web-based survey among voluntary sheet mask users was conducted. The questionnaire included data on demographic characteristics, skin type and conditions, frequency and usage patterns, selection criteria, expected and perceived effects, and reported side effects. Additionally, a systematic literature review was performed, including original studies published between 2015 and 2025 that evaluated the effectiveness, safety and sustainability of sheet masks. Collected data were analyzed to formulate practical recommendations.

Results

Most of the respondents were women aged 18-25 with sensitive or combination type of skin. Sheet masks were mainly used for hydration, brightening, and improving skin texture. Most users reported moderate short-term effectiveness with immediate improvements in skin hydration, smoothness, and overall appearance. More consistent outcomes were reported by participants who used sheet masks regularly. Half of the respondents noted mild and short-term adverse reactions, including redness, irritation, or burning sensation, but no severe adverse effects were observed. A high proportion of users demonstrated low adherence to usage guidelines, including disregarding instructions, expiry dates, and recommended application time.

Conclusions

Sheet masks are beneficial for providing immediate hydration and a temporary boost in skin radiance rather than sustained skin improvement. The consistency of results depends on the frequency of use. Due to the limited sample size, findings should be interpreted cautiously; however, they support the need for larger studies to better evaluate long-term effectiveness and safety, as well as to formulate practical and evidence-based recommendations for consumers.

Examination of air bacteriological pollution in different clinic premises, acceptable norms for the presence of bacteria, presence of pathogenic microbes

*Ms. Maria Kuusmetso*¹, *Ms. Arta Adele Pore*¹, *Mr. Ben Wiese*¹, *Ms. Caroline Truong*¹, *Ms. Veera Vierula*¹

1. Riga Stradins University, Latvia

Keywords

Airborne pathogens, Clinical environment, Microbial airborne contamination, Indoor air quality

Objectives

Airborne pathogens represent a significant source of nosocomial infections, particularly among immunocompromised patients. This study evaluated airborne bacterial dispersion in Pauls Stradiņš Clinical University Hospital (PSCUH) by analysing air samples from several clinical wards and functional areas, aiming to assess the local microbial burden and support targeted improvements in hygiene protocols.

Methods

A total of 150 air samples were collected from the otolaryngology (ENT), gastroenterology (GI), and urology wards, as well as the surgical block. Sampling was conducted in the operating rooms, patient rooms, and common areas during routine clinical activity. Airborne microorganisms were collected using the gravitational sedimentation method by exposing nutrient agar Petri dishes for one hour. After incubation, colony-forming units were counted, and representative colonies were subcultured. Bacterial identification was performed using Gram staining, light microscopy, and the VITEK 2 Compact automated system, while fungi were identified microscopically.

Results

Air samples from 11 ENT, 10 GI, 10 urology and 19 surgical block rooms showed bacterial growth on 99% of plates (n = 100). Thirty-three isolates were recovered, predominantly Gram-positive cocci. In total, 16 species from 19 genera were identified, mainly *Staphylococcus* spp. (43.5%) and *Kocuria* spp. (21.7%), with *S. hominis* and *K. rosea* most frequent. Fungi occurred on 20% of plates (n = 50).

CFU levels differed significantly by room type and department ($p < 0.001$): patient rooms had the highest means, operating rooms the lowest, and urology exceeded other wards. According to IMA contamination classes, 98% of rooms ranked "Very good" to "Fair".

Conclusions

Most of the identified species were members of the normal microbiota, suggesting a low prevalence of pathogenic agents. Our results indicated that the air microbial pollution levels in PSCUH were in line with global and local recommendations.

Frequency and Severity of Adverse Effects of Isotretinoin in Acne Therapy and Their Impact on Quality of Life

Ms. Diāna Nikiforova ¹

1. Riga Stradins University, Latvia

Keywords

Lip dryness; Skin dryness; DLQI; Treatment tolerability; Skincare products

Objectives

Isotretinoin is a systemic retinoid used to treat moderate to severe acne and is associated with multiple adverse effects requiring regular monitoring.

This study aimed to assess the frequency and severity of adverse effects during isotretinoin therapy and their impact on patient quality of life.

Methods

In total, 37 patients aged 12–43 years who received isotretinoin treatment between April and December 2025 were included. Daily doses ranged from 10 to 40 mg (median 20 mg). Adverse effects were evaluated using a 10-point symptom severity scale (1–10). Quality of life was assessed using the Latvian version of the Dermatology Life Quality Index (DLQI). Descriptive statistics and correlation analysis were applied.

Results

Clinically significant adverse effects occurred in 29.7% of patients (total points >30). Dose reduction was required in 13.5% of cases, mainly because of severe mucocutaneous dryness. One patient developed acne fulminans (2.7%). The most frequent and severe adverse effects were lip dryness (median 8.0) and skin dryness (median 6.5), regardless of dose. Dryness of the eyes and nasal mucosa, fatigue, and depressed mood were mostly mild (median 2.0).

To reduce the side effects lip balm was used several times daily by 83.3% of patients, hand cream by 36.1%, and acne-specific facial creams by 25%.

Quality of life was not affected in 51.4% of patients and was minimally impaired in 37.8%. DLQI scores were not significantly associated with treatment dose, duration, or mucocutaneous adverse effects ($p>0.05$).

Conclusions

Mucocutaneous adverse effects predominated during isotretinoin therapy and occasionally required dose reduction. Overall, the treatment was well tolerated and did not impair the quality of life in most patients. Skincare products were frequently used in accordance with the predominant adverse effects.

HORMONAL ACNE IN WOMEN: DIAGNOSTIC CONSIDERATIONS AND EVIDENCE-BASED TREATMENT STRATEGIES

Ms. Mikeila Jazbutytė¹, Ms. Emilija Urbonaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Hormonal acne, Adult female acne, Hyperandrogenism, Diagnosis, Evidence-based treatment

Objectives

The aim of this review is to evaluate hormonal acne in adult women, with emphasis on diagnostic features, androgen-driven pathophysiological mechanisms, and evidence-based management strategies.

Methods

A systematic review of 31 peer-reviewed studies was conducted to evaluate clinical and diagnostic characteristics, pathophysiological mechanisms, and evidence-based hormonal and non-hormonal treatment approaches in adult female hormonal acne. The review was performed in accordance with PRISMA guidelines to ensure methodological accuracy and transparency.

Results

Hormonal acne in adult women is characterized by inflammatory lesions predominantly affecting the lower face and is frequently associated with clinical or biochemical hyperandrogenism, particularly in PCOS-related cases [1-3]. Androgens play a central role by stimulating sebaceous gland activity, sebum production, follicular hyperkeratinization, and inflammatory pathways [4-7]. Hormonal therapies, including spironolactone and combined oral contraceptives, demonstrate significant efficacy and favorable safety profiles [8-10]. Emerging topical anti-androgenic agents provide targeted treatment options with minimal systemic effects, while non-hormonal therapies serve as effective adjuncts, especially in moderate to severe or treatment-resistant disease [11-13]. Contemporary treatment algorithms emphasize individualized management integrating clinical features, patient-specific factors, and skincare practices [14,15].

Conclusions

Hormonal acne represents a distinct clinical entity requiring a mechanism-based, individualized diagnostic and therapeutic approach. Integration of hormonal and adjunctive therapies within evidence-based treatment algorithms optimizes clinical outcomes and supports long-term disease control in adult women with hormonal acne.

HYPERPIGMENTATION DISORDERS: ETIOLOGY, DERMATOSCOPIC FEATURES, AND EVIDENCE-BASED TREATMENT OPTIONS

Ms. Mikeila Jazbutytė¹, Ms. Emilija Urbonaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Hyperpigmentation disorders, Melasma, Post-Inflammatory Hyperpigmentation, Dermatoscopy, Photoprotection

Objectives

The aim of this review is to evaluate the role of dermatoscopy in the assessment of hyperpigmentation disorders, with emphasis on diagnostic accuracy, evaluation of pigment depth, structural pattern analysis, and implications for clinical management and therapeutic decision-making.

Methods

The review was performed following PRISMA guidelines. 36 peer-reviewed studies published from 2021 were selected and assessed according to predefined eligibility criteria, focusing on the etiology, characteristics, and treatment of hyperpigmentation disorders.

Results

Hyperpigmentation disorders demonstrate distinct yet overlapping pathogenic, dermatoscopic, and therapeutic profiles. Shared mechanisms include increased melanogenesis, impaired melanin transfer, and dermal pigment retention driven by ultraviolet exposure, inflammation, hormonal factors, and epidermal-dermal disruption. Dermatoscopy reflected pigment depth and disease type: melasma shows a brown reticular pseudonetwork with telangiectasia, post-inflammatory hyperpigmentation demonstrates granular dots and bluish-gray peppering, and solar lentigines show well-demarcated pseudonetwork patterns. Dermal disorders, such as acquired dermal macular hyperpigmentation, demonstrate diffuse gray-brown pigmentation, whereas exogenous ochronosis shows blue-black pigmentation with obliterated follicular openings and amorphous structures. Treatment response varies by condition and pigment depth. Melasma responds best to strict photoprotection, topical depigmenting agents, and adjunctive oral tranexamic acid, which reduces severity and relapse. Post-inflammatory hyperpigmentation improves with inflammation control and topical therapy, whereas procedures are reserved for refractory cases. Solar lentigines respond to topical and procedural treatments, while dermal disorders show slower clearance and higher recurrence, requiring prolonged management.

Conclusions

Hyperpigmentation disorders are heterogeneous conditions requiring understanding of pathogenic mechanisms, pigment depth, and dermatoscopic features for accurate diagnosis and optimal treatment. Dermatoscopy supports diagnostic precision, while individualized therapy, strict photoprotection, and long-term maintenance are essential due to high recurrence risk.

JAK INHIBITORS IN THE TREATMENT OF ALOPECIA AREATA: EFFICACY, SAFETY, AND LONG-TERM OUTCOMES

Ms. Mikeila Jazbutytė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Alopecia Areata; JAK Inhibitors

Objectives

The aim of this systematic review is to evaluate the role of Janus kinase (JAK) inhibitors in the management of alopecia areata, with emphasis on their mechanisms of action, clinical efficacy in moderate to severe disease, safety profile, and limitations compared with conventional treatment options.

Methods

A systematic review of 40 studies published in the past 5 years was conducted to evaluate the efficacy, safety, and long-term outcomes of JAK inhibitors in the treatment of alopecia areata. PRISMA guidelines were followed to ensure transparency and methodological consistency.

Results

JAK inhibitors act by suppressing immune-mediated inflammation around the hair follicle through inhibition of the JAK-STAT signalling pathway, allowing hair growth to resume in alopecia areata. Phase 3 clinical trials demonstrated significantly higher rates of meaningful scalp hair regrowth compared with placebo, most commonly defined as a SALT score ≤ 20 . Baricitinib and deuruxolitinib achieved such responses in approximately one third of treated patients, while ritlecitinib was effective in about one quarter, with sustained improvement during longer follow-up. Adverse events were predominantly mild to moderate and included upper respiratory tract infections, headache, acne, and laboratory abnormalities, while serious events were uncommon. Long-term outcomes indicate that continuous therapy is often required to maintain clinical response, whereas retreatment can restore regrowth after relapse.

Conclusions

JAK inhibitors provide an effective targeted treatment for moderate to severe alopecia areata, offering clinically meaningful hair regrowth with an acceptable safety profile. Long-term benefit is largely dependent on continuous therapy, as treatment discontinuation is frequently followed by relapse. Careful patient selection and monitoring remain essential to optimize long-term outcomes.

THE EFFECTS OF ANTHYLLIS VULNERARIA EXTRACT AS AN ADJUVANT IN WOUND HEALING

***Mrs. Olga Maria Iova*¹, *Mr. Antoniu Flavius Pop*²**

1. University of Medicine and Pharmacy "Tuliu Hatieganu", Cluj-Napoca, Romania, 2. University Professor, Filip Adriana Gabriela MD PhD, Department of Anatomy and Embryology, University of Medicine and Pharmacy "Tuliu Hatieganu", Cluj-Napoca, Romania

Keywords

Wound healing, *Anthyllis Vulneraria*, Polyphenol

Objectives

Anthyllis Vulneraria (AV) is a common Romanian native plant, which has been used traditionally as a healing adjuvant for multiple afflictions, ranging from internal organ diseases to acne and skin wounds. Previous studies have hinted to its antioxidant and anti-inflammatory capacity *in vitro*, but no *in vivo* studies have been conducted. In this study, we aimed to determine the polyphenol composition and quantify the healing capacities of an AV extract in an animal model.

Methods

We used a mouse burn-model and analyzed the healing capacities of two AV extract creams, comparing it to a positive and negative control creams for a period of 14 days, by macro and microscopic imaging, as well as by biochemically analyzing seven oxidative stress markers from the wound tissue (reduced (GSH) and oxidized glutathione (GSSG), GSH/GSSG (GG), superoxide dismutase (SOD), glutathione peroxidase (GPX), catalase (CAT), malondialdehyde (MDA)). Thirty-two Wistar albino rats were divided into four equal groups, the negative respectively positive control, and two AV extract experimental creams, of 1% respectively 2% polyphenol concentration. One-Way ANOVA Tests (SPSS) were used for the assessment of statistical significance.

Results

Both the 1% and the 2% AV extract creams showed significant macroscopic healing capacities in the first week of the experiment, when compared to the positive ($p=0.007/0.038$) and negative controls ($p<0.001/0.002$), as well as an improved antioxidant response, showed by improved levels of all the seven oxidative stress markers tested from tissue extract (all tested at p values <0.05).

Conclusions

Our results point towards the capabilities of the AV extract to encourage reepithelization, while possessing antioxidant properties. These findings suggest possible applications of the AV extract as an adjuvant in healing and open the way to further bigger sample-size studies, as well as for alternative solutions for patients with chronic wounds.

Neurology, Neurosurgery

A Comparative Evaluation of Artificial Intelligence and Physician Based Approaches in the Early Diagnosis of Cognitive Aging in Patients with Subjective Cognitive Decline and Risk of Alzheimer's Disease

Mr. Dāvis Kannenieks¹

1. Riga Stradins University, Latvia

Keywords

Subjective cognitive decline (SCD);
Early dementia detection;
Machine learning model;
AI predictions

Objectives

- To compare AI algorithm with neurologist-based evaluation in patients with early subjective cognitive decline and/or Alzheimer's disease risk
- To test model's precision and accuracy using international cohort data and only routinely available clinical (subjective and objective) variables

Methods

The research was designed as a comparative cohort study that used two data sources: the U.S National Alzheimer's Coordinating Center (NACC) longitudinal dataset to train the AI model and medical records gathered from Pauls Stradins Clinical University Hospital (PSKUS) patients dating from 2020 till May 2025 in order to evaluate the model's precision. The algorithm utilized early clinical features such as demographics, MMSE/MoCA/CDR factors, functional status, neuropsychiatric symptoms, comorbidities to predict the outcome of the diagnosis. Biomarkers and neuroimaging were excluded from the research. Interpretability was assessed with SHAP. Performance, accuracy and agreement metrics were evaluated using the final neurologist diagnosis.

Results

The research included 147 patients, predominantly women (70%), with a mean age of 80.3 years. Class distribution consisted of dementia n=136; mild cognitive impairment (MCI) n=8; subjective cognitive decline (SCD) n=3. Overall AI accuracy was 84.4% (124/147). Dementia was identified the best: 118/136 (precision - 86.8%; sensitivity - 98.1%), MCI was correct in 7/8 cases (precision - 87.5%; sensitivity - 30.04%), with errors tending towards dementia. All 3 SCD cases were predicted as MCI. Median model confidence was 79.6%.

Conclusions

An AI model algorithm is able to match and contribute to neurologist diagnoses with high overall accuracy without using imaging data, performing well with dementia patients, but it struggles to separate adjacent early-stage diagnoses, concluding that AI models are great decision supporters, but not yet alone diagnosticians. Nevertheless, this technology is worth being integrated in the future to aid triage and standardize early screening, especially when advanced diagnostics are limited.

C-REACTIVE PROTEIN LEVELS AND THEIR PROGNOSTIC ASSOCIATION WITH STROKE SEVERITY AND OUTCOME IN CEREBRAL INFARCTION

***Ms. Elīza Dubicka**¹*

1. Riga Stradins University, Latvia

Keywords

cerebral infarction; C-reactive protein; stroke severity; functional outcome; prognosis

Objectives

Cerebral infarction is a leading cause of disability and mortality worldwide. C-reactive protein (CRP) is increasingly studied as a potential prognostic biomarker for stroke severity and functional outcome. This study aimed to evaluate the association of CRP, blood biochemical parameters, and QT interval at hospital admission with stroke severity and functional outcome.

Methods

A retrospective analysis was conducted on 297 patients with acute cerebral infarction admitted to Riga East University Hospital in 2024. The mean age of the patients was 72.8 ± 12.1 years, and 48.5% were women. Stroke severity was assessed using the NIH Stroke Scale (NIHSS), and functional outcome with the modified Rankin Scale (mRS). Statistical analysis included Spearman correlation, Mann–Whitney U, and Kruskal–Wallis tests. CRP, electrolytes, renal and liver function tests, lipid profile, and QT interval were evaluated.

Results

Statistically significant correlations were found between CRP and both NIHSS ($r = 0.25$) and mRS ($r = 0.33$; $p < 0.001$). Significant correlations were also observed between mRS and renal function parameters: urea ($r = 0.269$), creatinine ($r = 0.165$), and eGFR ($r = -0.186$; all $p < 0.01$). Patients with cardioembolic strokes had significantly higher NIHSS scores than those with cryptogenic strokes ($p < 0.001$). Other biochemical parameters, including electrolytes, lipid profile, and QT interval, showed no significant correlations. Patients with pneumonia on admission had higher stroke severity, with a median NIHSS of 10 (IQR 5–23), compared to 5 (IQR 5–20) in those without pneumonia ($p < 0.001$).

Conclusions

CRP and renal function parameters (urea, creatinine, eGFR) showed statistically significant associations with stroke severity and outcome. Patients presenting with pneumonia exhibited higher stroke severity. Although CRP alone cannot serve as a prognostic biomarker, it may complement clinical and biochemical assessment in patients with cerebral infarction.

Central Sleep Apnea in Children: Etiology, Diagnosis and Clinical Characteristics in Patients at the Children's Clinical University Hospital from December 2023 to September 2025

Ms. Estere Freimane¹

1. Riga Stradins University, Latvia

Keywords

Central sleep apnea; Paediatrics

Objectives

The objective was to describe the characteristics of central sleep apnea in the paediatric population.

Methods

From December 2023 to September 2025, sleep study data were retrospectively analyzed at the Epilepsy and Sleep Medicine Center of the Children's Clinical University Hospital.

Results

During the study period a total of 1054 paediatric polygraphies were performed, of which central sleep apnea (CSA) was diagnosed in 242 cases (23.0%). The largest proportion of children with CSA were aged 1–5 years (n=112), and CSA was more frequently diagnosed in boys (n=145) than in girls.

Most patients were referred for polygraphy by sleep medicine specialists (n=65) and otorhinolaryngologists (n=61), both in symptomatic children and in children without overt sleep-related complaints but with known risk factors for central sleep apnea due to underlying comorbidities.

Based on apnea–hypopnea index (AHI), CSA severity was classified as mild (AHI 1–5), moderate (AHI 5–10), or severe (AHI >10). Among all CSA cases, 86% were mild, 9% moderate, and 5% severe. In severe CSA cases, AHI values ranged widely from 10 to 175 events per hour. Mixed sleep apnea (combined central and obstructive components) was present in 41% of cases, including both mild and severe CSA.

Children with moderate and severe CSA (n=33) showed heterogeneous clinical presentations, with some exhibiting significant symptoms and comorbidities, while others were asymptomatic. Among those diagnosed with severe CSA, 1/3 were asymptomatic and had no known comorbidities.

Subsequent clinical management included referral to pediatric pulmonologists (16%), otorhinolaryngologists (44%), pediatric neurologists (10%), or sleep specialists (2%), as well as repeat polygraphy (78%) for dynamic follow-up after 6–12 months.

Conclusions

The cohort was highly heterogeneous, including patients of different ages and sexes, with isolated or mixed central sleep apnea, with and without comorbidities.

Based on these results, management should be considered multidisciplinary.

Cervical Dystonia as a Novel Clinical Feature of RFC1-Related CANVAS: Insights from the Latvian Cerebellar Ataxia Cohort

Mrs. Evita Saluvēra¹

1. Riga Stradins University, Latvia

Keywords

Cervical Dystonia, CANVAS, RFC1

Objectives

Cerebellar ataxia with neuropathy and vestibular areflexia syndrome (CANVAS), caused by biallelic RFC1 repeat expansions, is increasingly recognized as a major cause of late-onset ataxia in European populations. While the classic triad of cerebellar ataxia, sensory neuropathy, and vestibular areflexia is well-established, the full phenotypic spectrum continues to expand. Recent studies have identified additional features, including dysautonomia, chronic cough, and motor neuron involvement, yet dystonia has been reported only sporadically. This study aims to characterize the etiological spectrum of cerebellar ataxias in Latvia and investigate the clinical phenotype of RFC1-related CANVAS, with particular attention to previously underrecognized features.

Methods

A retrospective cohort study was conducted at the reference centre for rare neurological disorders in Latvia between 2019 and 2024. Among 116 patients with cerebellar ataxia, 68 received confirmed etiological diagnoses through clinical evaluation, neuroimaging, and genetic testing including SCA panels, RFC1 repeat expansion analysis, and next-generation sequencing panels. Clinical features were systematically documented and compared between genetic subtypes.

Results

RFC1-related CANVAS was identified in 4 patients (5.9% of diagnosed cases), representing a significant proportion of late-onset ataxias. Notably, all four genetically confirmed RFC1 cases presented with focal cervical dystonia in addition to the classic CANVAS triad. This association was statistically significant compared to other genetically confirmed ataxias (100% vs. 31.6%, $p=0.024$). All patients demonstrated the characteristic features of sensory polyneuropathy, vestibulo-ocular reflex impairment, and cerebellar atrophy on MRI. Mean age at onset was 50.5 years (range 40-60), with diagnostic delays ranging from 2-18 years.

Conclusions

This first Latvian analysis of cerebellar ataxias identifies a strong association between RFC1-related CANVAS and cervical dystonia, observed in 100% of cases, compared with approximately 11% in prior European reports. This likely reflects underrecognition and expands the RFC1 phenotype. Cervical dystonia should prompt RFC1 testing in late-onset ataxia, and larger cohorts are needed to establish generalizability.

CLINICAL CHARACTERISTICS AND OUTCOMES OF STROKE IN PATIENTS WITH CANCER: A SINGLE-CENTER STUDY

*Ms. Eliza Jeruma*¹

1. Riga Stradins University, Latvia

Keywords

Ischemic and hemorrhagic stroke; Cancer; mRS

Objectives

Cancer is a known risk factor for stroke because of its hypercoagulable state, extensive treatments and metastatic potential, yet data and specialized care for these patients remain limited. This study's aim was to compare differences in functional outcomes, comorbidities in patients with and without a diagnosed malignancy as well as determine the most common primary sites of malignancy among stroke patients.

Methods

The retrospective cohort study looked at medical histories of patients stationed at Riga East Clinical University Hospital, Latvia, Neurology department in 2024, included were 63 patients who suffered an ischemic or hemorrhagic stroke and had a diagnosed malignancy and 128 randomized controls who suffered a stroke but did not have a known malignancy. Age, sex, comorbidities, prevalence of ischemic and hemorrhagic stroke, stroke characteristics, modified Rankin Scale (mRS) were compared between groups.

Results

The oncology group before stroke had a mRS of median (IQR)=2(1-3), while the control group had mRS median (IQR)=1(0-2) ($p=0,001$). No significant differences were found in mRS at discharge ($p>0,05$). Among ischemic stroke patients 21,4% of controls and 39,0% in oncology group were classified as cryptogenic. 47,6% of patients in oncology group had chronic heart failure, while only 3,9% in control group ($p<0,001$). In the oncology group 15,9% of patients had a first time diagnosis of malignancy during the stroke hospitalization. Most prevalent primary sites of malignancy were bladder, breast and prostate (14,3% each), gastrointestinal tract (11,1%) and kidney (9,5%). 72,6% of oncology patients had localized solid tumors, 21,0% metastatic solid tumors and 6,5% hematological malignancies.

Conclusions

In this first single-center study to analyze stroke patients with cancer in Latvia, patients with cancer had worse baseline functional status, more comorbidities, particularly chronic heart failure, and a higher proportion of cryptogenic ischemic strokes, while discharge outcomes were comparable.

CYTOKINE AND T-CELL ALTERATIONS IN CIDP AND MMN COMPARED TO HEALTHY CONTROLS: INSIGHTS INTO DISEASE-SPECIFIC IMMUNE ACTIVATION

*Ms. Džiliāna Heinrihsone*¹

1. Riga Stradins University, Latvia

Keywords

Chronic inflammatory demyelinating polyneuropathy, multifocal motor neuropathy, cytokines, interleukin-6, T-cell subsets

Objectives

Chronic inflammatory demyelinating polyneuropathy (CIDP) and multifocal motor neuropathy (MMN) are rare immune-mediated neuropathies with overlapping clinical features but distinct underlying mechanisms. Understanding their immunological profiles may facilitate biomarker development and therapeutic optimization. This study aimed to compare cytokine profiles, T-cell and B-cell subpopulations, and anti-interferon antibodies in patients with CIDP and MMN versus healthy controls.

Methods

This cross-sectional study included 21 patients (13 CIDP, 8 MMN) diagnosed according to EAN/PNS and EFNS/PNS criteria, and 20 healthy controls. Peripheral blood was analysed for cytokine concentrations (IL-6, IL-28A, IFN- γ , IFN- α , IFN- β , TNF- α) using xMAP multiplex assays, lymphocyte phenotyping by flow cytometry, immunoglobulin levels by nephelometry, and anti-IFN- α antibodies using luciferase-based immunoprecipitation. Statistical comparisons employed Kruskal-Wallis and Mann-Whitney U tests ($p < 0.05$).

Results

Compared to healthy controls, CIDP patients exhibited significantly elevated IL-6 (median 9.17 pg/mL, IQR 18.1; $p < 0.01$) and IL-28A (median 1.54 pg/mL, IQR 2.27; $p < 0.05$) levels, while MMN patients showed reduced IFN- γ (median 7.27 pg/mL, IQR 8.03; $p < 0.05$). Flow cytometry revealed expansion of EMRA CD8⁺ and CD4⁺ T cells with reduced central and transitional memory CD8⁺ subsets in CIDP, consistent with chronic immune activation. MMN demonstrated enrichment of naïve CD4⁺ T cells, suggesting less-differentiated immune responses. No significant B-cell subset differences or anti-IFN- α antibodies were detected. IL-6 levels correlated with age ($r = 0.42$, $p < 0.05$) and immunoglobulin dose ($r = 0.39$, $p < 0.05$).

Conclusions

CIDP and MMN exhibit distinct immunological alterations compared to healthy controls. CIDP is characterized by IL-6/IL-28A elevation and effector T-cell expansion, while MMN shows reduced IFN- γ and a naïve T-cell profile. However, substantial overlap between disease groups and confounding by age and treatment limit the discriminatory utility of these markers. These findings highlight the need for larger, age-matched studies to identify robust disease-specific biomarkers for improved diagnosis, personalized therapy, and objective disease monitoring.

PLASMA NEUROFILAMENT LIGHT CHAIN AND DISEASE INSTABILITY IN CHRONIC AUTOIMMUNE NEUROPATHIES

*Ms. Arta Adele Pore*¹

1. Riga Stradins University, Latvia

Keywords

Chronic inflammatory demyelinating polyneuropathy; Multifocal motor neuropathy; Autoimmune neuropathy; Charcot–Marie–Tooth disease; Neurofilament light chain

Objectives

Chronic inflammatory demyelinating polyneuropathy (CIDP) and multifocal motor neuropathy (MMN) are relapsing immune-mediated neuropathies with limited objective biomarkers for disease monitoring. Neurofilament light chain (NfL) reflects axonal damage and is elevated across neurological disorders, yet its value in chronic autoimmune neuropathies remains unclear. We aimed to assess plasma NfL concentrations in CIDP and MMN compared with hereditary demyelinating neuropathy (Charcot–Marie–Tooth disease type 1A, CMT1A) and healthy controls, focusing on disease activity and clinical instability.

Methods

Plasma NfL levels were quantified using single molecule array (Simoa) technology in 41 patients (CIDP n=16, MMN n=7, CMT1A n=18) and 25 age- and sex-matched healthy controls. Disability was evaluated using the Inflammatory Rasch-built Overall Disability Scale (I-RODS) for autoimmune neuropathies and the Charcot–Marie–Tooth Neuropathy Score version 2 (CMTNSv2). Clinical instability was defined as ≥ 2 relapses. Group comparisons used nonparametric statistics; correlations were evaluated with Spearman coefficients.

Results

Plasma NfL concentrations were significantly elevated in autoimmune neuropathies and CMT1A compared with healthy controls, but not different between inflammatory and hereditary groups. NfL levels did not correlate with I-RODS or CMTNSv2 scores. However, patients with autoimmune neuropathies and unstable disease exhibited significantly higher NfL concentrations than those with stable disease ($p=0.004$). Strong age dependence was observed across all groups.

Conclusions

Plasma NfL reflects axonal injury in chronic neuropathies but does not discriminate between CIDP, MMN, and hereditary neuropathy. Elevated NfL concentrations in relapse-prone autoimmune neuropathy indicate a potential role as a biomarker of clinical instability and active axonal damage. While not suitable as a diagnostic marker, plasma NfL may help identify patients at increased risk of relapse and complement clinical monitoring in chronic immune-mediated neuropathies.

POSTERIOR FOSSA DECOMPRESSION FOR PEDIATRIC CHIARI I MALFORMATION: A 10-YEAR EXPERIENCE IN LATVIA

Mr. Zenons Beļskis¹

1. Riga Stradins University, Latvia

Keywords

Chiari I malformation; syringomyelia; posterior fossa decompression

Objectives

Arnold–Chiari I malformation is a rare but clinically significant pediatric neurosurgical condition for which optimal operative strategy remains debated. We performed a retrospective analysis of a 10-year single-center experience in Latvia, integrating surgical and radiological data to evaluate the relationship between operative techniques, imaging parameters, and clinical and radiological outcomes, while also characterizing complication frequency and exploring potential prognostic indicators.

Methods

A retrospective review was conducted of 26 posterior fossa decompression procedures in 25 children with Chiari I malformation at a single center between 2015 and 2025. Surgical variables included dural opening, extent of laminectomy, tonsillar coagulation, and atlantooccipital membrane fenestration. Radiological parameters encompassed tonsillar descent, syringomyelia presence and size, and CSF flow on MRI. Clinical outcomes were defined by resolution or improvement of Chiari-related symptoms (headache, dizziness, nausea), and imaging outcomes were assessed by changes in tonsillar position and syrinx size. Statistical analyses included Fisher's exact test, Mann–Whitney U test, Spearman correlation, paired t-test and others.

Results

Symptomatic improvement was observed in most patients following decompression. More than half of patients with preoperative syringomyelia showed postoperative syrinx size reduction. The mean tonsillar descent decreased significantly (mean change -1.70 mm, $p = 0.010$). No individual surgical technique was significantly associated with superior clinical or radiographic outcomes. However, patients undergoing duraplasty or tonsillar coagulation tended to have greater syrinx improvement. Notably, the time from diagnosis to surgery and the duration of follow-up varied markedly among patients.

Conclusions

Posterior fossa decompression for Chiari I malformation in children results in favorable clinical and imaging outcomes. No specific adjunctive technique was found to yield significantly better outcomes, though duraplasty and tonsillar cauterization showed trends toward enhanced syringomyelia resolution. The observed heterogeneity in surgical timing and follow-up underscores the need for standardized treatment protocols and further investigation in larger cohorts.

THYMECTOMY ASSOCIATED REDUCTION IN INTERFERON-GAMMA RESPONSES IN ACETYLCHOLINE RECEPTOR-POSITIVE MYASTHENIA GRAVIS PATIENTS

Mrs. Evita Saluvēra¹

1. Riga Stradins University, Latvia

Keywords

Myasthenia gravis, interferon-gamma, thymectomy, T-cell immunity, QuantiFERON

Objectives

Interferon-gamma (IFN- γ) is a key mediator of T-cell immunity in myasthenia gravis (MG). However, the relationship between IFN- γ responsiveness, thymic status, and thymectomy remains poorly defined in acetylcholine receptor-positive (AChR+) MG. This study aimed to evaluate global T-cell IFN- γ production in AChR+ MG patients and determine associations with thymectomy, thymic pathology, and clinical phenotype.

Methods

In this cross-sectional study, 90 adult AChR+ MG patients underwent clinical evaluation including MGFA classification and functional scales. Global T-cell IFN- γ production was assessed using the QuantiFERON Monitor assay in 65 patients. IFN- γ responses were stratified into three categories: low (<100 IU/mL), intermediate (100-499 IU/mL), and preserved ($\geq$ 500 IU/mL). Associations with thymectomy status, thymic pathology, disease phenotype, and clinical severity were analyzed using non-parametric statistics.

Results

Overall, 38.5% of patients demonstrated low IFN- γ responses, 35.4% intermediate responses, and 26.2% preserved responses. Patients who had undergone thymectomy (n=11) demonstrated significantly reduced IFN- γ responses compared with non-thymectomized patients (n=54) (median 49.8 vs. 269 IU/mL; p=0.008). Low IFN- γ responses were observed in 81.8% of thymectomized patients versus 23.1% of non-thymectomized patients (p=0.009). IFN- γ responses showed no correlation with sex, age, disease duration, MG subtype, MGFA class, treatment regimen, or clinical severity scores.

Conclusions

Thymectomy in AChR-positive MG is associated with marked reduction in T-cell IFN- γ responsiveness, likely reflecting long-term alterations in cellular immunity following thymus removal. These findings highlight persistent immune pathway dysregulation related to thymectomy rather than disease activity, supporting the concept of durable immunological consequences of thymic surgery in MG.

Psychology

ADAPTATION OF THE ANXIETY ABOUT AGEING SCALE (AAS) IN LATVIAN

Ms. Anna Avotiņa¹

1. Riga Stradins University, Latvia

Keywords

Ageing; Ageing Anxiety; Psychometric validation; Scale adaptation

Objectives

Global life expectancy rose from 68.2 years in 2005 to 73.5 years in 2024 and is expected to reach 77.3 years by 2050, with similar trends observed in the EU and Latvia. As life expectancy increases, ageing anxiety has emerged as a growing concern. Ageing anxiety refers to negative emotions and fears related to ageing. As no validated measure for assessing ageing anxiety currently exists in Latvia, this study aims to adapt the Anxiety about Ageing Scale (AAS) in the Latvian context.

Methods

The AAS comprises 20 items across four subscales: Fear of Older People, Psychological Concerns, Physical Appearance, and Fear of Loss. A forward-backward translation procedure was implemented, followed by a pilot study involving interviews with seven participants. In the main online survey 236 participants ($N = 236$, $n_{\text{(women)}} = 178$ (75,4%), aged from 18 to 85 years ($M = 39,46$; $SD = 16,33$) took part.

Results

The AAS revealed satisfactory internal consistency (Cronbach's $\alpha = 0.70$). The item-difficulty and item-discrimination indices reached the criteria for all items, except one. All AAS subscales showed positive statistically significant correlations ($r_s = 0.44\text{--}0.52$, $p < 0.01$), with Fear of Older People demonstrating weaker ones ($r_s = 0.10\text{--}0.31$), reflecting a distinct aspect of ageing anxiety. The Kaiser-Meyer-Olkin measure ($KMO = 0.82$), and Bartlett's test of sphericity ($p < 0.001$) confirmed data suitability for factor analysis. EFA results confirmed the original four-factor structure, accounting for 51.91 % of the variance. CFA results showed a mixed but overall acceptable model fit ($CFI = 0.84$, $TLI = 0.82$, $RMSEA = 0.07$, (90% CI [0.06, 0.08], $SRMR = 0.08$). Finally, the Latvian version of the AAS demonstrated good test-retest stability.

Conclusions

The Anxiety about Ageing Scale is a psychometrically sound and culturally appropriate measure to be used in the Latvian context.

Adaptation of the D2-R Test of Attention into Latvian language

Ms. Anna Šneidere¹

1. Riga Stradins University, Latvia

Keywords

D2-R attention test, test adaptation, adolescent attention

Objectives

The aim of this study is to adapt the instruction of D2-R Attention Test for use in the Latvian language. The study aims to examine whether the adapted version is suitable for assessing selective attention and sustained attention in Latvian adolescents aged 12–17 years. The research is conducted within the project “Internal RSU and external RSU–LSPA consolidation” grant “*Integration of immersive reality games with an innovative eye-tracking system to investigate cognitive function and respiratory performance of adolescent athletes in a simulated sports competition environment*” (No. RSU/LSPA-PA-2024/1-0001).

Methods

Data collection for the D2-R test is conducted in a paper-and-pencil format in six Latvian schools. The study includes a test–retest procedure. In addition, participants complete computerized versions of the Stroop Test and a Sustained Attention Test to assess convergent validity. Data are collected in classroom settings. Psychometric properties of the adapted D2-R test are evaluated.

Results

Final analyses are ongoing; therefore, main findings are not yet available. Preliminary data collection from one school includes 64 participants while test–retest data collection in the same sample is ongoing. In addition, D2-R data have been collected from five additional schools. Based on previous research and preliminary analyses, the expected results for adapted D2-R attention tests include high internal consistency, adequate test–retest reliability, and positive significant correlations between D2-R indices and Stroop and sustained attention test measures.

Conclusions

Although final results are pending, the study is expected to support the validity and reliability of the Latvian-adapted D2-R test, contributing to improved attention assessment tools for adolescents and supporting research in educational and sport psychology in Latvia.

Associations between resilience, perceived social support, and fear of war

Ms. Rebeka Paula Žakaite¹

1. Riga Stradins University, Latvia

Keywords

Resilience, perceived social support, fear of war, war, psychology

Objectives

The aim of the study is to investigate the relationship between resilience and perceived social support indicators with fear of war, and to explore the differences in fear of war between men and women.

Research questions

1. Is there a correlation between resilience and fear of war?
2. Is there a relationship between perceived social support and fear of war?
3. Does resilience acts as a mediator between perceived social support and fear of war?
4. Are there differences between the fear of war for men and women?

Methods

Participants

100 - 150 adult Latvian citizens

Data mining method

“The Brief Resilience Scale” (Smith, 2008)

“Multidimensional Scale of Perceived Social Support” (Zimet, G. D., et al., 1988)

“The Fear of War Scale” (Kalcza-Janosi, K., et al., 2022)

Procedure

1. Informed consent and the three scales used are compiled in the questionnaire.
2. The compiled questionnaire is electronically sent using social media.

Data analysis method

Data will be processed in the “JASP” software. Using Pearson’s (r) or Spearman’s correlation coefficient; mediation analysis and T-test or Mann-Whitney U-test.

Results

Predictive results

Resilience will negatively correlate with fear of war.

Perceived social support will negatively correlate with fear of war.

Resilience will act as a mediator between perceived social support and fear of war.

Women will experience more fear of war than men.

Conclusions

The study will provide insight into the associations between resilience and perceived social support indicators with fear of war. The model in which resilience acts as a mediator will also be explored, thus contributing

to the research base of these components. Additionally, this study will emphasize the further research of the relationship between these components.

Construct validity of the short version of the Riga Cognitive Screening Test: Internal consistency and item analysis of RiTa-s

Mr. Kristaps Stinka¹

1. Riga Stradins University, Latvia

Keywords

Cognitive screening; dementia; mild cognitive impairment; construct validity; Riga Cognitive Screening Test

Objectives

With the increase of Europe's ageing population, an increase in the number of people who live with dementia is also expected. Early detection of cognitive impairment is essential, which highlights the need for screening tools that are time efficient, sensitive and culturally specific to reliably recognise mild cognitive disorder that often predates dementia. Mild cognitive disorder often goes unrecognised due to the limitations of the most commonly used tools at the moment such as the Mini-Mental State Examination (MMSE) and the Montreal Cognitive Assessment (MoCA). To address this issue, the Riga Cognitive Screening Test (RiTa) and its short version RiTa-s were developed.

Methods

Data was collected from 25 native Latvian speaking adults between the ages of 60 - 94 (Mage = 75.8, SD = 8.12, 100% female). Data was obtained using RiTa-s cognitive scale that assesses memory, visuospatial perception, reasoning and semantic fluency. For data analysis, all data were standardized using the min-max approach.

Results

For internal consistency one task was excluded due to lack of variance in the available sample. RiTa-S demonstrated low-to-average internal consistency ($\alpha = [.446 - .726]$). Item-total correlation indices were in the expected range ($rit = [.222 - .648]$). Item difficulty index analysis revealed a wide amplitude of difficulty ($M = [.280 - .920]$).

Conclusions

The results indicate that while the RiTa-s is a promising screening tool, the low reliability in some subscales and high variance in item difficulty necessitates improvements. It's important to note that this is a work in progress and the indices could be limited by the small sample size. Future research will focus on exploring tests construct validity by assessing convergent validity with MoCA test and assessing know-groups validity using larger and more representative samples.

DEVELOPING SELECTIVE ATTENTION AND ATTENTION PERSISTENCE IN ADOLESCENT BASKETBALL PLAYERS USING MIXED REALITY: INTERVENTION DEVELOPMENT

Ms. Austra Dute¹, Ms. Solvita Plenica¹

1. Riga Stradins University, Latvia

Keywords

Selective attention, sustained attention, adolescent, basketball, mixed reality.

Objectives

The aim of this study was to design and preliminarily evaluate a mixed-reality-based intervention for developing selective attention and attention persistence among adolescent basketball players, as well as to explore perceptions of the intervention among potential users and domain experts.

The study sought to investigate whether a mixed-reality attention-training prototype is perceived as content-appropriate and technically suitable for adolescent basketball players by psychologists, basketball coaches, and the players themselves.

Methods

A mixed-methods study design was used. First, a theoretical framework for attention training was established and applied to the development of a mixed-reality intervention prototype integrated into mixed-reality glasses. The prototype was then evaluated using a structured 5-point Likert-scale questionnaire.

Results

Psychologists evaluated both content ($M=4.0$; $SD=0.5$) and technical suitability ($M=4.3$; $SD=0.47$) as high. Coaches provided moderately positive ratings for content ($M=3.6$; $SD=0.48$) and technical aspects ($M=3.6$; $SD=0.53$). In contrast, players assessments were notably higher for both content suitability ($M=4.6$; $SD=0.17$) and technical relevance ($M=4.2$; $SD=0.23$). These differences may reflect distinct evaluation perspectives, with coaches prioritizing training efficiency and players focusing on experiential engagement.

Conclusions

Overall, findings suggest that the developed mixed-reality intervention is content-appropriate and holds promise for enhancing attention functions in youth basketball. Future research should involve larger samples and examine the long-term sustainability of training effects.

EATING BEHAVIOR, SHAME, GUILT, AND DIETARY MOTIVATION IN VEGETARIANS: ASSOCIATIONS AND PATTERNS

Ms. Brigita Sāra Rodina ¹

1. Rīga Stradiņš University, Latvia

Keywords

Eating Behavior; Shame; Guilt; Vegetarianism; Dietary Motivation

Objectives

Vegetarian diets are becoming increasingly popular across Europe, particularly among women and younger adults; however, fewer than 5% of the Latvian population follow a vegetarian diet. At the same time, eating disorders affect approximately 20 million individuals in Europe, and more than half of patients diagnosed with anorexia report following a vegetarian diet, suggesting a potential association between dietary choices and psychological factors. Shame and guilt, conceptualized as self-conscious emotions, are increasingly recognized as important components in eating behavior regulation. Nevertheless, research examining the interplay between eating behavior, self-conscious emotions, and vegetarian dietary motivation remains limited. The aim of this study is to examine the associations between eating behavior, shame, guilt, and vegetarian motivation in adult vegetarians.

Methods

A quantitative study will be conducted with approximately 100 adult vegetarians. Data will be collected via an online self-report survey including demographic information and vegetarian motivation (health-related, ethical, environmental, social, religious, or weight-control motives), and two validated instruments. Three-Factor Eating Questionnaire (TFEQ-R18V2; Cappelleri et al., 2009; Latvian adaptation: *Rasmane*, 2022), the Chronic Shame and Guilt Questionnaire (*HKVA*; *Ķirsis*, 2014). Data analysis will include descriptive statistics, correlation analyses, and comparisons across motivational profiles.

Results

It is expected that higher levels of shame and guilt will be associated with more dysregulated eating behaviors, particularly emotional and uncontrolled eating. These associations are anticipated to vary depending on vegetarian motivation, with stronger links observed among individuals whose dietary choice is related to weight-control motives.

Conclusions

This study contributes to the literature by addressing the limited evidence on eating behavior and self-conscious emotions in vegetarian populations and by situating these associations within the context of dietary motivation.

EFFECTIVENESS OF A MIXED REALITY INTERVENTION IN DEVELOPING SUSTAINED SELECTIVE ATTENTION IN ADOLESCENT BASKETBALL PLAYERS: A RANDOMIZED CONTROLLED PILOT STUDY

*Ms. Estere Promberga*¹

1. Riga Stradins University, Latvia

Keywords

Mixed reality, selective attention, attention sustainability, adolescent athletes, basketball

Objectives

Cognitive abilities are crucial for athletic performance, particularly decision-making and rapid responses. Adolescence represents a key neurocognitive developmental period during which executive functions, including selective attention and attention sustainability, remain highly trainable. Mixed reality offers new possibilities for sport-specific cognitive training, yet randomized controlled evidence in Latvia is limited. Selective Attention, Attention Sustainability, Basketball, Reality, Development (SUNBRA) is defined as a structured mixed reality intervention aimed at enhancing selective attention and attention sustainability in adolescent basketball players through sport-specific cognitive training supported by eye-tracking technology. This study evaluates the effectiveness of the SUNBRA intervention.

Methods

A randomized controlled pilot study includes 49 basketball players aged 14–17 years ($M = 14.88$, $SD = \pm 1.18$) from professional-oriented sports education institutions. Participants are randomly assigned to experimental or control groups. Inclusion criteria include at least five years of basketball training, minimum three sessions per week. Selective attention and attention sustainability are measured using the d2-R Test, Vienna Test System Determination Test, and a computerized Stroop test. SUNBRA is delivered via mixed reality glasses with real-time eye-tracking. Sociodemographic data and post-intervention feedback are collected.

Results

At the time of abstract submission, data collection and intervention implementation are ongoing. Following completion of the study, statistical analyses will be conducted to compare selective attention and attention sustainability outcomes between the experimental and control groups, as well as within-group changes before and after the SUNBRA mixed reality intervention. Participant feedback data will also be analyzed.

Conclusions

This pilot study seeks to provide empirical evidence on the feasibility and potential effectiveness of mixed reality-based cognitive interventions in adolescent athletes, supporting their integration into youth basketball training and sport psychology practice.

RELATIONSHIP BETWEEN SLEEP QUALITY, EMOTION REGULATION AND ROMANTIC RELATIONSHIP SATISFACTION IN A SAMPLE OF HETEROSEXUAL ADULTS

Mrs. Svetlana Mandrikova ¹

1. Riga Stradins University, Latvia

Keywords

Sleep quality; Emotion regulation; Relationship; Romantic relationship satisfaction; Heterosexual couples

Objectives

Poor sleep, difficulties in emotion regulation, and romantic relationship dissatisfaction are major public health concerns, yet their interconnections remain underexplored. This study examines the associations between sleep quality, emotion regulation, and romantic relationship satisfaction in heterosexual adults. Four research questions are posed: (1) Is sleep quality associated with emotion regulation? (2) Is emotion regulation associated with relationship satisfaction? (3) Is sleep quality associated with relationship satisfaction? (4) Does the sleep - relationship satisfaction association remain when accounting for emotion regulation?

Methods

A cross-sectional design is used to recruit 150+ heterosexual adults in romantic relationships ≥ 6 months and cohabitating ≥ 3 months. Participants will complete online questionnaires (MS Forms): Pittsburgh Sleep Quality Index (PSQI; Buysse, 1989; Latvian adaptation, Sarvuta, 2024), Emotion Regulation Questionnaire (ERQ; Gross & John, 2003; Latvian adaptation, Udris & Vanags, 2017), Relationship Assessment Scale (RAS; Hendrick, 1988; Latvian adaptation, Lielā, 2016) alongside sociodemographic data. Correlation and partial correlation analyses will examine associations among the constructs.

Results

It is expected that better sleep quality will be associated with more adaptive emotion regulation and higher relationship satisfaction. Poor sleep quality will be associated with difficulties in emotion regulation and lower relationship satisfaction. Furthermore, controlling for emotion regulation will attenuate the association between sleep and relationship satisfaction, suggesting that emotion regulation may serve as a critical linking mechanism.

Conclusions

This study will contribute to the initial empirical evidence clarifying how sleep and emotional processes jointly shape romantic relationship functioning and may inform integrated clinical and counseling interventions. It will also provide a foundation for future master's research employing dyadic analysis.

STAKEHOLDER ENGAGEMENT IN NATURE-BASED INTERVENTIONS IN ADULT HEALTHCARE: A SCOPING REVIEW

Mrs. Aivija Knīse-Repša¹, Mrs. Agnese Ozoliņa-Tilgase¹

1. Rīga Stradiņš University, Latvia

Keywords

Beneficiaries; Green prescription; Healthcare; Nature-based interventions; Stakeholder engagement;

Objectives

The growing strain on healthcare systems underscores the need for sustainable and preventive approaches. Nature-based interventions (NBIs) have demonstrated promising potential. However, evidence on stakeholder engagement in their development and implementation within healthcare contexts remains limited. This scoping review aims to map and synthesise existing evidence on stakeholder engagement in NBIs in adult healthcare.

Methods

The scoping review followed Arksey and O'Malley's five-stage framework and the PRISMA-ScR guidelines. Studies were included if they examined stakeholder engagement in NBIs integrated into healthcare settings involving adult participants (≥ 18 years) as end users or stakeholders in planning, implementation, or evaluation. Studies focusing on non-healthcare context, child or adolescent populations, or interventions lacking a nature component were excluded. The search strategy combined key terms and related extensions, such as stakeholders (Population), nature-based interventions (Concept), and healthcare (Context), using Boolean operators across MEDLINE (ProQuest), Nursing/Academic Edition (EBSCO), Scopus, and Web of Science.

Results

After screening 2152 titles and abstracts followed by screening of 109 full-texts, 28 articles were included in the study. NBIs in healthcare engaged diverse stakeholders from health professionals and link workers to community, environmental, policy, research, and service user groups. Stakeholders collaborated across all stages of NBI development and implementation through an adaptive process that integrated health, community, environmental, policy, and research sectors. They held complementary responsibilities ensuring coordinated and sustainable delivery, yet implementation was hindered by fragmented systems, limited resources, and low stakeholder engagement.

Conclusions

The review emphasizes that NBIs can only reach their preventive and therapeutic potential when supported by clear governance, cross-sector partnerships, and long-term commitment. Stakeholder engagement in NBIs is a dynamic and ongoing process that spans all stages of intervention development and delivery. Sustained cross-sector collaboration and strengthened integration, resources, and engagement are essential for effective implementation and long-term sustainability of NBIs.

**Dentistry, Maxillofacial
Surgery &
Otorhinolaryngology,
Otorhinolaryngologic
surgery**

A Multidisciplinary Approach to Health: The Knowledge of Students of the Faculties of Medicine of Rīga Stradiņš University and the University of Latvia Regarding the Association of Periodontitis With Diabetes Mellitus and Cardiovascular Diseases

***Ms. Undīne Una Heidmane**¹*

1. Rīga Stradiņš University, Latvia

Keywords

Keywords: periodontitis, diabetes mellitus, cardiovascular diseases, multidisciplinary approach, medical students.

Objectives

The aim of this study was to assess and compare the level of knowledge among medical students of Rīga Stradiņš University and the University of Latvia regarding the association between periodontitis, diabetes mellitus, and cardiovascular diseases, as well as to evaluate students' attitudes toward multidisciplinary collaboration in comprehensive patient care.

Methods

This study was conducted as an empirical cross-sectional study using an anonymous online questionnaire. A structured questionnaire was distributed among medical students from Rīga Stradiņš University and the University of Latvia. A total of 1051 medical students participated in the study. Descriptive statistical methods were applied for data analysis.

Results

The results indicate that students demonstrated a higher level of knowledge regarding the association between periodontitis and diabetes mellitus compared to the association between periodontitis and cardiovascular diseases. Although most students were aware of the importance of periodontitis in the context of systemic diseases, this knowledge did not always translate into clinical practice, as not all respondents considered it necessary to inform patients or refer them to a dentist.

Conclusions

It can be concluded that medical students possess an overall adequate level of knowledge regarding the relationship between periodontitis and systemic diseases; however, there is a need to strengthen the understanding of multidisciplinary collaboration and the integration of oral health into general healthcare education.

APPLICATION OF CUSTOMIZED HEALING ABUTMENTS IN DENTAL IMPLANTATION

Mr. Benas Ilekis¹

1. Vilnius University, Lithuania

Keywords

Dental implantation; Customized healing abutments; Standard healing abutments; Peri-implant soft tissues.

Objectives

The long-term success of dental implant placement procedure largely depends on the preservation and quality of peri-implant soft tissues after implantation. Numerous studies have demonstrated that both the vertical and horizontal dimensions of peri-implant soft tissues play a crucial role in maintaining peri-implant tissue health and supporting long-term bone stability. From a clinical perspective, achieving and preserving healthy peri-implant soft tissues can pose a challenge, particularly when aesthetic demands must also be fulfilled.

This literature review aims to systematize scientific publications investigating the use of individualized healing abutments, with a focus on different fabrication approaches, including direct chairside and dental laboratory-based techniques, as well as abutment materials and their effects on peri-implant tissues.

Methods

Search and analysis of scientific literature was conducted using scientific databases: „PubMed/Medline“, „The Cochrane Library“, „Science Direct“, „Wiley Online Library“, „Scopus“.

Results

Overall, current evidence indicates that customized healing abutments provide more favorable conditions for peri-implant tissue healing and stability by supporting the development of a more natural soft tissue contour, preserving a greater volume of peri-implant tissues, and reducing the need for additional surgical interventions, ultimately resulting in improved clinical and aesthetic outcomes compared with conventional prefabricated abutments.

Conclusions

Customized healing abutments used in the rehabilitation of missing teeth can contribute to reliable and long-term treatment outcomes. The selection of an appropriate type of healing abutment represents a critical stage of implant therapy, as its design characteristics may have a substantial influence on peri-implant soft tissue healing and the long-term success of dental implants.

ATTITUDES TOWARD VIRTUAL SIMULATORS IN PRECLINICAL DENTAL EDUCATION AMONG STUDENTS AND LECTURERS AT RĪGA STRADIŅŠ UNIVERSITY

Mr. Maksims Germanovičs¹

1. Riga Stradins University, Latvia

Keywords

Dental education, haptic virtual reality simulators, attitudes, students, lecturers.

Objectives

Preclinical dental education traditionally relies on phantom head training. Recently, haptic virtual reality simulators (HVRs) have been introduced as a supplementary training tool, offering standardized feedback, repeatable practice, and a safe environment for skill development. However, user acceptance of this technology remains unclear. This study aimed to evaluate the attitudes of Riga Stradiņš University (RSU) dental students and lecturers toward the use of HVRs in preclinical training, in relation to clinical experience, academic performance, simulator usage time, and overall attitude toward the university.

Methods

A cross-sectional study was conducted involving 68 respondents: 32 second-year students, 28 fourth-year students, and 8 lecturers of the RSU Faculty of Dentistry. Data were collected using a structured, anonymous questionnaire assessing attitudes toward HVRs and perceived benefits and limitations. Data analysis included descriptive statistics, Pearson's chi-square test, Fisher's exact test, and Spearman's correlation coefficient, with statistical significance set at $p < 0.05$.

Results

Lecturers demonstrated the most positive attitude, second-year students a neutral attitude, and fourth-year students a more negative attitude toward HVRs. A positive correlation between time spent using simulators and attitude toward HVRs was observed only among fourth-year students ($r=0.394$; $p=0.038$). A positive correlation between overall attitude toward RSU and attitude toward HVRs was observed among both second- and fourth-year students ($r=0.330$; $p=0.010$ and $r=0.443$; $p=0.018$, respectively).

Conclusions

HVRs is perceived as a useful supplement to preclinical dental education; however, its acceptance depends on clinical experience, intensity of use, and perception of the study environment. This indicates the need for a balanced integration of this technology into the curriculum.

Clinical and Epidemiological Characteristics of Patients with Inverted Papilloma: A 10-Year Retrospective Study at a Single Clinical Center – preliminary raport

Ms. Magdalena Sulasz¹, Ms. Anna Kożuch¹

1. Medical University of Silesia in Katowice, Poland

Keywords

Inverted papilloma, sinonasal tumors, nasal cavity, paranasal sinuses

Objectives

The study aimed to evaluate the demographic characteristics, presenting symptoms, initial clinical diagnoses, tumor localization, surgical management, and recurrence rates of patients with inverted papilloma treated at a single clinical center.

Methods

A retrospective analysis of medical records was performed for patients hospitalized with inverted papilloma, with diagnoses confirmed by histopathological examination, who were treated at the Department and Clinic of Otolaryngology between 2008 and 2025. The analysis included patient age and sex, initial clinical diagnosis, tumor location, degree of dysplasia, presence of atypical histopathological features, evidence of malignant transformation, stromal invasion, and detection of HPV DNA.

Results

A total of 25 patients with histopathologically confirmed inverted papilloma were included in the study. The disease predominantly affected men (approximately 80%), with the highest incidence observed in the fifth to seventh decades of life. Tumors were most frequently unilateral and involved the nasal cavity, maxillary sinus, and ethmoid sinus. Histopathological examination revealed classic inverted growth patterns in the majority of cases. Dysplastic changes were rare and observed only in isolated specimens. No definitive evidence of stromal invasion or malignant transformation was identified in the analyzed material. HPV DNA was detected in a small subset of patients.

Conclusions

Inverted papilloma mainly affects middle-aged and older men, usually as a unilateral nasal or sinus lesion. Although histologically benign, it shows locally aggressive behavior. In the studied group, dysplasia and HPV infection were rare, with no malignant transformation observed. Histopathology confirmed benign lesions, and statistical analysis found no significant associations between sex, tumor location, dysplasia, or HPV infection, suggesting male predominance reflects epidemiological trends rather than biological differences.

COMPARISON OF FULLY AUTOMATED AND MANUAL INTEGRATION OF CBCT AND DIGITAL DENTAL MODELS IN PATIENTS WITH AND WITHOUT METAL ARTIFACTS

Ms. Julija Zabrodina ¹

1. Riga Stradins University, Latvia

Keywords

cone beam computed tomography; digital dental model; virtual patient; multimodal image integration; metal artefacts

Objectives

Integrated Cone-Beam Computed Tomography (CBCT) and digital dental models (DDM) are essential for the treatment planning of orthognathic surgery cases. Technological advances have enabled the automatic integration of CBCT and DDM, however, the presence of metal artefacts does reduce the precision of this procedure. This study aims to assess the accuracy and reproducibility of CBCT and DDM integration using Dolphin Imaging for manual integration and Romexis software for fully automated integration in patients with and without fixed orthodontic appliances.

Methods

CBCT and DDM were collected from 30 patients two weeks after surgery and one year post-surgery. The immediate post-surgery scans included fixed appliances (FA), whereas the scans obtained one year later did not (no-FA). Automatic integration was performed using Romexis software, and manual integration was done using Dolphin Imaging. The accuracy of the integration was assessed by measuring MAD (mean absolute distance) and RMS (root mean square) between six anatomical points on each jaw of the CBCT and the DDM. The measurements were performed with Slicer 3D software. Intra-class correlation (ICC) was calculated for point placement and reproducibility of the integrations.

Results

All ICC values exceeded 0.90. The MAD values for Dolphin Imaging ranged from 0.12 to 0.36 mm, and the RMS values ranged from 0.16 to 0.43 mm. For Romexis, MAD ranged from 0.18 to 0.43 mm, while RMS ranged from 0.23 to 0.48 mm. There was a statistically significant difference ($p < 0.001$) between the software for the integration results for both arches in the FA and no-FA groups.

Conclusions

Despite the manual integration appearing to be superior, the precision for both approaches falls below the clinical significance limit (0.5 mm). When integrating models with fixed appliances, a manual approach is recommended for higher precision.

Comparison of Oral Health-Related Quality of Life After Rehabilitation with Fixed Implant-Supported and Complete Removable Dental Prostheses in Elderly Patients

Mr. Faustas Gabrilavičius¹, Ms. Ineta Budrikaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

implant-supported prostheses; removable prostheses; oral health-related quality of life

Objectives

Complete edentulism is a common condition in older adults and is associated with impaired mastication, speech, psychosocial functioning, and reduced oral health-related quality of life (OHRQoL). The objective of this study was to compare OHRQoL after rehabilitation with fixed implant-supported full-arch prostheses and complete removable prostheses in elderly patients.

Methods

A prospective observational study was conducted in elderly edentulous patients. Ethical approval for the study was obtained from the Biomedical Research Ethics Committee of the Lithuanian University of Health Sciences (Approval No. 2024-bec2-1230). OHRQoL was assessed using the Geriatric Oral Health Assessment Index (GOHAI) before and after rehabilitation. Statistical analysis was performed using IBM SPSS Statistics 30.0, with statistical significance set at $p < 0.05$.

Results

The study included 124 patients with a mean age of 69.6 (± 5.3) years. Total GOHAI score increased by 29.14% following fixed implant-supported rehabilitation compared to an 11.78% increase after treatment with removable prostheses. Post-treatment physical function domain scores increased by 22.27% in the fixed implant-supported group, reaching 22.23 (± 2.307), whereas the removable prostheses group demonstrated a smaller improvement of 8.89%, with post-treatment scores of 18.98 (± 2.502). Greater psychosocial benefit was observed in patients rehabilitated with fixed implant-supported prostheses, where scores rose by 37.8% to 21.07 (± 1.782), while individuals treated with removable prostheses experienced a limited improvement of 10.63%, reaching 17.27 (± 1.415) after treatment. In the pain and discomfort domain, patients treated with fixed implant-supported prostheses demonstrated a 28.01% improvement, achieving post-treatment scores of 8.59 (± 0.925), whereas those rehabilitated with removable prostheses showed a 23.14% increase, with scores rising to 7.29 (± 0.944).

Conclusions

Both rehabilitation methods significantly improve oral health-related quality of life in elderly edentulous patients. Fixed implant-supported prostheses result in consistently greater improvements across physical, psychosocial, and pain-related OHRQoL domains compared to complete removable prostheses.

Conventional vs. 3D-Printed Temporary Dental Crowns: A Micro-CT Porosity and Fracture Resistance Analysis

***Mr. Matīss Šalms**¹*

1. Riga Stradins University, Latvia

Keywords

Temporary dental crowns, 3D printing, porosity, micro-CT, fracture resistance.

Objectives

Temporary dental crowns are critical for protecting prepared teeth and maintaining occlusion and aesthetics during the interim phase before the final restoration. This study aimed to compare the internal structure and mechanical performance of three temporary crown materials: a bis-acrylic resin (Protemp™ 4), a cold-polymerizing composite (Success CD), and a 3D-printed light-curing resin (V-Print c&b temp). The primary objectives were to analyze the porosity and fracture resistance of these materials using advanced imaging and mechanical testing.

Methods

In this in vitro study, thirty-six standardised single-unit crowns were fabricated, with twelve crowns in each material group. The specimens were scanned using high-resolution micro-computed tomography (micro-CT) to measure total crown volume, pore volume, and relative porosity. Fracture resistance was evaluated using a monotonic compression test in a universal testing machine. Statistical analysis was performed using appropriate parametric or non-parametric tests ($\alpha = 0.05$).

Results

The results indicated that the 3D-printed resin exhibited the lowest mean porosity (0.0029%), significantly lower than the bis-acrylic resin (Protemp™ 4) and cold-polymerising composite (Success CD). Despite the lower porosity of the 3D-printed crowns, Protemp™ 4 showed the highest mean fracture resistance, followed by the 3D-printed material and Success CD. No significant correlation was observed between porosity and fracture resistance, suggesting that material chemistry and internal bonding play a more crucial role than void content alone.

Conclusions

The findings suggest that 3D printing enhances the structural homogeneity of temporary crowns, while bis-acrylic resin provides superior load-bearing capacity. Both fabrication methods offer distinct advantages based on clinical needs, with 3D printing being particularly beneficial for improving material consistency and porosity control.

EVALUATION OF DENTAL PANORAMIC TOMOGRAPHY IMAGES CONDUCTED AT RSU INSTITUTE OF STOMATOLOGY, ASSESSMENT OF RADIOLOGICAL STATUS FOR PATIENTS BORN IN 1987 - 1988

Ms. Patricija Peica¹

1. Riga Stradins University, Latvia

Keywords

Panoramic radiograph; caries; apical periodontitis; chronic periodontitis; soft tissue calcifications.

Objectives

Patients born in 1987 – 1988 began developing their permanent dentition soon after the independence of the Republic of Latvia was regained. This research aimed to analyze the radiological dental status of these patients, to assess the prevalence of the most common oral diseases, and to evaluate the possible correlation between changes in the DMFT index and the preventive measures implemented during that period.

Methods

This study was conducted to evaluate 478 dental panoramic tomography images that were obtained in 2023 and 2024 at RSU Institute of Stomatology of patients born in 1987 – 1988. The obtained data were processed and analyzed using descriptive statistical methods.

Results

The mean DMFT index among patients aged 36 - 37 years was 10.1, where D – 0.6, M – 2.4, F – 7.1. At least one missing tooth was observed in 76.8% of patients, of which the most common were third molars. Filled teeth were present in 97.5% of patients, while at least one endodontically treated tooth was observed in 63.8% of patients. Stage II chronic periodontitis was diagnosed in 29.7% of patients, and stage III/ IV in 6.1%. Overall soft tissue calcifications were detected in 9.4% of patients.

Conclusions

A decrease in the DMFT index was observed, however, radiological findings indicate that it remains moderately high in this patient population. The first molars showed the highest prevalence of filled and endodontically treated teeth, as well as periapical pathology. The most frequently observed type of calcification was tonsiloliths. It is important to carefully analyze panoramic radiographs to identify significant findings and assess the need for further treatment.

Evaluation of the maxillary sinus volume and linear measurements in individuals aged 9 – 91 years using cone-beam computed tomography

*Ms. Paula Skalberga*¹

1. Riga Stradins University, Latvia

Keywords

Maxillary Sinus, Cone-Beam Computed Tomography, Age estimation, Forensic medicine

Objectives

In recent years, analysis of the maxillary sinus has been used as an additional method for disaster victim identification, as it may assist in determining an individual's age and sex. The aim of this study was to determine how the volume and linear measurements of the maxillary sinus vary according to age, sex, and dental status in the maxilla, based on cone-beam computed tomography (CBCT) examinations.

Methods

This study included 197 individuals aged between 9 and 91 years (142 females and 55 males). The maxillary sinus measurements were evaluated on CBCT examinations using Romexis 6.4.8 software. In total, 390 sinuses were evaluated. Volumetric analysis was performed using an artificial intelligence tool provided by the Romexis software. The linear measurements were obtained manually in three directions (height, length, and width) using the ruler tool.

Results

Statistically significant differences in maxillary sinus volume and selected linear measurements were observed among different age groups, with a decrease in maxillary sinus size evident after 26 – 40 years of age. In males, maxillary sinus volume and selected linear measurements were statistically significantly greater than in females. No differences were observed between the right and left maxillary sinuses for any measurements, except for height. Maxillary sinus measurements differed significantly in relation to the dental status in the maxilla, with a decrease in sinus size noted after complete tooth loss. Comparison of patients with and without maxillary orthognathic surgery revealed no significant differences.

Conclusions

Changes in the maxillary sinus were associated with patient age, sex, and dental status in the maxilla; however, no significant differences were observed between the right and left sinuses or in relation to maxillary orthognathic surgery.

Impact of Complete Removable Prostheses Rehabilitation on Self-Esteem in Elderly Edentulous Patients

Mr. Faustas Gabrilavičius¹, Ms. Ineta Budrikaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

edentulous patients; removable prostheses; self-esteem.

Objectives

Complete tooth loss greatly affects the daily lives of older adults by reducing their ability to eat, speak, socialize, and it can often lower their self-esteem. Because self-esteem is closely connected to how people feel about their appearance and social interactions, denture treatment may strongly influence psychological well-being. The aim of this study is to assess the impact of complete removable prostheses rehabilitation on self-esteem in elderly edentulous patients.

Methods

The study prospectively observed elderly edentulous patients. Ethical approval for the study was obtained from the Biomedical Research Ethics Committee of the LSMU (Approval No. 2024-bec2-1230). Self-esteem was evaluated before and after treatment with complete removable prostheses using the Rosenberg Self-Esteem Scale. Participants scoring up to 15 were categorized as having low-self esteem, scores of 15-25 as moderate, and scores above 25 as high self-esteem. IBM SPSS Statistics 30.0 was used for all statistical analyses, with $p < 0.05$ taken as significant.

Results

124 participants were included in the study (64 women and 60 men; mean age 69.6 ± 5.3 years) of whom 51 received complete removable prostheses. The mean Rosenberg Self-Esteem index score before treatment was 16.71 ± 1.983 . Treatment with complete removable dentures resulted in a statistically significant rise by approximately 9.22% in the Rosenberg score to 18.25 ± 1.598 , indicating better psychological adjustment and greater satisfaction with personal appearance. Women score varied from 15 to 20, while man score ranged from 15 to 23, indicating a moderate self-esteem. The post-treatment self-esteem score was significantly higher in men (19.18 ± 1.77) compared to women (18.20 ± 1.30) ($p < 0.001$).

Conclusions

Complete removable prostheses significantly improved self-esteem by a 9.22% increase in Rosenberg scores following treatment in elderly edentulous patients, indicating better psychological adaptation, enhanced confidence and improved satisfaction with personal appearance. Post-treatment self-esteem stayed within the moderate range and was significantly higher in men.

INCIDENCE AND CLINICAL CHARACTERISTICS OF PAEDIATRIC ORBITOCELLULITIS IN THE CHILDREN'S CLINICAL UNIVERSITY HOSPITAL, LATVIA

Ms. Arina Verzbicka¹

1. Riga Stradins University, Latvia

Keywords

Orbitocellulitis; Incidence; Pediatrics; Epidemiology

Objectives

Orbitocellulitis is a potentially severe orbital infection in children, associated with the risk of vision loss and intracranial complications. Epidemiological data from the Baltic region are limited. This study aimed to assess the incidence and characterize the clinical features of pediatric orbitocellulitis cases treated at Latvia's Children's Clinical University Hospital between 2020 and 2025.

Methods

A retrospective observational study with a related literature review was carried out and medical records of patients treated at Children's Clinical University Hospital between 2020 and 2025 who were diagnosed with orbitocellulitis (ICD-10 code H05.0) were examined. Demographic data, duration of symptoms before admission, laterality, clinical manifestations, diagnostic imaging, type of medication therapy, need for surgical treatment, and duration of hospitalisation were collected and analysed. Descriptive statistics were applied.

Results

A total of 65 patients were included in the study. The median age was 3.7 years (interquartile range 1.8–8.2), with a slight male predominance (53.8%). Annual case numbers demonstrated marked variability, ranging from 2 cases in 2021 to a peak of 19 cases in 2022. Unilateral involvement was observed in 93.8% of cases, predominantly affecting the right orbit (50.8%). The median duration of symptoms before hospital admission was 2 days (interquartile range 1–4). Diagnostic imaging was performed in 61.5% of patients, mainly computed tomography. Surgical intervention was required in 16.9% of cases.

Conclusions

Paediatric orbitocellulitis was a relatively rare but clinically relevant condition at Children's Clinical University Hospital, with notable variation year-over-year in the number of cases during the study period. Despite its low incidence, a significant number of patients required advanced imaging and a subset required surgical management. These findings provide the first comprehensive hospital-based overview of orbitocellulitis incidence in Latvia and contribute to a better understanding of its epidemiology in a tertiary paediatric care setting.

Oral health–related quality of life in patients with Stage III and IV generalized periodontitis

***Ms. Nikola Aleksāne**¹*

1. Riga Stradins University, Latvia

Keywords

Stage III periodontitis; Stage IV periodontitis; oral health–related quality of life; OHIP-14-PD; patient-reported outcomes

Objectives

The aim of this study was to assess oral health–related quality of life in patients with Stage III and Stage IV generalized periodontitis using the Latvian version of the OHIP-14-PD questionnaire, and to compare the results with those of a periodontally healthy control group.

Methods

This cross-sectional study was conducted using a questionnaire-based survey and a review of scientific literature. The study population consisted of 100 patients diagnosed with Stage III and Stage IV generalized periodontitis who were receiving treatment at the RSU Institute of Stomatology, and 100 periodontally healthy individuals forming a control group, recruited from the RSU Institute of Stomatology and other dental clinics. Oral health–related quality of life was assessed using the modified and officially translated Latvian version of the OHIP-14-PD questionnaire. Collected data were statistically analyzed to compare total and domain-specific OHIP-14 scores between the periodontitis and control groups.

Results

Patients with Stage III and Stage IV generalized periodontitis showed significantly higher total OHIP-14-PD scores compared with the healthy control group, indicating poorer oral health–related quality of life. Statistically significant differences were observed across multiple OHIP-14 domains, including functional limitation, physical pain, psychological discomfort, and social disability. The periodontitis group demonstrated consistently greater negative impact on daily functioning and well-being than controls.

Conclusions

The findings demonstrate that Stage III and Stage IV generalized periodontitis has a substantial negative impact on patients' oral health–related quality of life. These results highlight the importance of incorporating patient-reported outcome measures, such as the OHIP-14-PD questionnaire, into periodontal assessment and treatment planning, emphasizing the need for a patient-centered approach in the management of advanced periodontitis.

PATIENTS ATTITUDE TO SKELETAL ANCHORAGE IN ORTHODONTICS

*Mrs. Elizabete Korule-Ceriņa*¹

1. Riga Stradins University, Latvia

Keywords

Temporary skeletal anchorage devices; patient attitude; pain perception; patient-reported outcome measures (PROMs);

Objectives

Temporary skeletal anchorage devices (TSADs/TADs) are widely used in modern orthodontic treatment, enabling effective tooth movement without reliance on adjacent teeth or patient compliance. Although their clinical effectiveness is well documented, patient acceptance is closely related to subjective experiences such as pain, discomfort, anxiety, and satisfaction.

The objective of this study was to analyze scientific literature focusing on orthodontic patients' attitudes toward TSADs, including pain perception, patient-reported outcome measures (PROMs), and satisfaction with treatment.

Methods

This study was conducted as a narrative literature review using a structured selection strategy based on the PICOS principle (Population, Intervention, Comparison, Outcomes, Study design). Electronic searches were performed in PubMed, ScienceDirect, Web of Science, and Google Scholar databases for publications from 2005 to 2025. Clinical studies (randomized, prospective, retrospective, and cross-sectional), as well as systematic reviews and meta-analyses evaluating pain, discomfort, patient acceptance, satisfaction, and PROMs related to TSAD/TAD use, were included. Data were qualitatively analyzed and structured using PICOS tables.

Results

The reviewed literature indicates that TSAD/TAD insertion is generally associated with mild to moderate, short-term pain and discomfort. Peak pain is most commonly reported within the first 24–48 hours, with a rapid decrease within 3–7 days. Pain intensity varies depending on the type of device and anatomical insertion site, with interradicular mini-implants being the most well tolerated. Overall patient acceptance and satisfaction are high, and most patients report willingness to undergo the procedure again. Adequate preoperative information is associated with reduced anxiety and improved acceptance.

Conclusions

Temporary skeletal anchorage devices are well accepted by orthodontic patients despite short-term postoperative discomfort. Patient-reported outcomes demonstrate high satisfaction levels when clear communication and realistic expectations are provided prior to treatment. Understanding patient perspectives is essential for improving patient experience and optimizing orthodontic care involving skeletal anchorage.

PERCEPTION OF SMILE AESTHETICS AMONG DENTISTRY AND NON-DENTISTRY STUDENTS

Ms. Ugnė Dulskaitė¹

1. Vilnius University, Lithuania

Keywords

Smile aesthetics; Dental aesthetics; Students; Aesthetic perception.

Objectives

Smile aesthetics plays an important role in social interaction and self-perception, and its evaluation may be influenced by individual background and professional education. The aim of this study was to compare the perception of smile aesthetics between dentistry and non-dentistry students and to evaluate differences according to field of study and gender.

Methods

A cross-sectional questionnaire-based study was conducted among 164 university students. Participants evaluated the aesthetic appeal of standardized male and female smile scenarios (harmonious smile, gummy smile, diastema, dental crowding, and braces) using a 10-point rating scale. The smile images were generated using artificial intelligence-based tools (ChatGPT, OpenAI) to ensure consistency of facial features while varying only smile characteristics. Data normality was assessed using the Shapiro–Wilk test, and non-parametric statistical methods (Mann–Whitney U and chi-square tests) were applied. Statistical significance was set at $p < 0.05$.

Results

Smiles without visible aesthetic irregularities received the highest aesthetic ratings (mean scores > 9), whereas gummy smiles and diastema were rated the lowest (mean scores ~ 4 – 5). No statistically significant differences were observed between dentistry and non-dentistry students in most smile aesthetic evaluations ($p > 0.05$).

Gender-based analysis revealed largely similar aesthetic perception; however, a significant difference was found in the evaluation of a harmonious female smile, which was rated higher by female respondents than by males ($p = 0.020$).

Most respondents reported that smile aesthetics influence first impressions (97.0%), self-confidence (96.3%), and psychological well-being (93.3%), and 88.4% agreed that smile aesthetics are important for overall attractiveness, with no differences between study fields ($p > 0.05$).

Conclusions

Smile aesthetics is perceived as important by both dental and non-dental students, with smile type having a greater influence than field of study. These findings highlight the importance of considering smile aesthetics in treatment planning and patient communication.

THE INFLUENCE OF AN IMMEDIATE TISSUE LEVEL ABUTMENT ON PERI-IMPLANT TISSUE STABILITY OF SUBCRESTALLY PLACED IMPLANTS: A 6-YEAR FOLLOW-UP

*Mrs. Ula Linkeviciute*¹

1. Vilnius University, Lithuania

Keywords

Marginal bone level, implant - abutment design, randomized controlled trial.

Objectives

To clinically and radiographically compare peri-implant tissue changes around the implant–abutment junction of subcrestally placed implants between two treatment protocols: implant-level restorations that underwent four abutment disconnections (AD) and implants restored with immediately connected tissue-level abutments (ITL), 6 years after final restoration delivery.

Methods

A randomized controlled clinical trial was conducted. The study population consisted of 60 patients previously enrolled in the original trial. The primary outcome measure was marginal bone loss or gain. Secondary clinical parameters included plaque index (PI), bleeding on probing (BOP), probing depth (PD), and pink esthetic score (PES). Marginal bone levels were assessed radiographically after a 6-year follow-up. Statistical comparisons were performed using the Mann–Whitney U test for non-normally distributed data and the independent-samples t-test for normally distributed data, with significance set at $p \leq 0.05$. Statistical analysis was carried out using IBM SPSS version 29.0.

Results

Fifty participants were analyzed. The mean PI was 0.06 ± 0.25 in the AD group and 0.13 ± 0.35 in the ITL group. Mean BOP values were 15.63 ± 12.5 and 13.33 ± 18.58 , respectively. Mean probing depth was 2.80 ± 0.49 mm in the AD group and 2.89 ± 0.52 mm in the ITL group. The PES was 6.94 ± 1.98 in the AD group and 7.27 ± 2.28 in the ITL group. Mean bone level change from prosthesis delivery to the present was 0.82 ± 1.00 mm in the AD group and 0.63 ± 0.93 mm in the ITL group. From the 1-year follow-up to the present, corresponding changes were 0.47 ± 0.85 mm and 0.19 ± 0.94 mm, respectively.

Conclusions

After 6 years, no statistically significant differences were observed between the AD and ITL groups in clinical parameters or marginal bone level changes, indicating comparable long-term outcomes.

TREATMENT OUTCOME OF IMPACTED MANDIBULAR CANINES

*Mrs. Vasilisa Jemeljanova*¹

1. Riga Stradins University, Latvia

Keywords

Orthodontic treatment; Periodontal health; Panoramic radiographs; Impacted canines; Tooth traction.

Objectives

This study aimed to evaluate the duration of orthodontic traction required for impacted mandibular canines to erupt and to assess their periodontal status following treatment. A secondary aim was to determine how the position of the canine influences the traction duration.

Methods

This study was carried out using clinical data collected from patients who received treatment at the Riga Stradiņš University Institute of Stomatology between May 2010 and December 2024. A total of 712 patients' records with 870 impacted teeth were retrieved from the database; 36 patients were selected based on the inclusion and exclusion criteria. Finally, 16 patients and 17 impacted mandibular canines were included in the study. Post-treatment, patients were recalled for clinical evaluation. The periodontal condition of the impacted canines was assessed and compared with their normally erupted contralateral counterparts.

Results

Panoramic radiographs, clinical findings, and medical records were analyzed. The 17 impacted mandibular canines required an average of 17.96 (± 16.06) months to be brought into the arch, with treatment times ranging from 2.5 to 49.30 months. Linear regression identified the angular measurements as the strongest predictors of traction duration, with the angle between the canine and the occlusal plane ($\angle OP$) showing the strongest association ($R^2 = 0.581$). Comparison of the normally erupted contralateral and the impacted tooth showed a statistically significant difference in crown length ($p = 0.023$).

Conclusions

Canine angular position was a stronger predictor of treatment duration than linear distances, with each 1° increase in $\angle OP$ reducing traction time by 0.628 months and each 1° increase in $\angle ML$ increasing it by 0.698 months. Assessments confirm that orthodontic traction within biological limits can erupt impacted mandibular canines while preserving periodontal stability; however, crown length may be influenced by traction mechanics, emphasizing the need for precise biomechanical planning.

**Psychiatry,
Psychotherapy,
Psychosomatics**

“When Anxiety Masks ADHD: Diagnostic Challenges for Women in Primary Care – A Systematic Literature Review”

*Ms. Rola Juma*¹

1. Riga Stradins University, Latvia

Keywords

ADHD, Anxiety, qualitative study, literature review, primary care

Objectives

This study aims to examine how diagnostic strategies in primary care influence the recognition of ADHD in women presenting with anxiety, with a focus on symptom masking, the suitability of current screening tools, and the potential value of gender-sensitive diagnostic approaches for earlier identification.

Methods

A systemic literature review was conducted following PRISMA 2020 guidelines. Four databases (Primo, PubMed, PsycINFO, ScienceDirect) were searched for English, peer-reviewed articles from 2010-2025. The PEO framework was used to guide the selection process. 20 studies were included.

Results

The included studies showed that women often receive an ADHD diagnosis later in life and are frequently treated for anxiety instead. Anxiety was commonly described as masking ADHD symptoms especially when symptoms were internal and less visible. Several barriers in primary care were identified such as short consultation times, limited knowledge of adult ADHD, unclear referral pathways and screening tools that may not fully capture how ADHD presents in women. These factors contributed to under recognition, misdiagnosis and long diagnostic delay which were associated with emotional and functional difficulties for many women.

Conclusions

The review indicates that anxiety may mask ADHD in women and contribute to delayed or missed diagnosis in primary care. The findings suggest that current screening tools and diagnostic routines are not fully adapted to identifying ADHD in women who primarily present with anxiety. Although increased awareness of female ADHD presentations and improved clinical knowledge may support earlier recognition, evidence regarding the effectiveness of gender-sensitive diagnostic approaches in primary care remains limited. This highlights the need for further research and development of diagnostic practices that better address ADHD in women. Improved diagnostic and referral routines may facilitate earlier identification, reduce diagnostic delay and also enhance access to appropriate care for women with ADHD.

ADOLESCENT EATING DISORDER COURSE IN RELATION TO PSYCHIATRIC COMORBIDITY AND FAMILY RELATIONSHIPS: MIXED-METHODS STUDY AT CHILDREN'S CLINICAL UNIVERSITY HOSPITAL

Ms. Madara Druvaskalna¹

1. Riga Stradins University, Latvia

Keywords

eating disorders; adolescents; psychiatric comorbidity; parent–adolescent attachment; mixed methods

Objectives

Psychiatric comorbidities are common in adolescent eating disorders (EDs) and may complicate treatment. Given the central role of family involvement in adolescent ED care, this study aimed to describe ED diagnoses and comorbidities among adolescents treated at Children's Clinical University Hospital (CCUH) and to examine whether psychiatric comorbidity and parent–adolescent relationship factors are associated with indicators of clinical course.

Methods

Sequential explanatory mixed-methods design. Quantitative data were extracted from anonymised CCUH records (2015–2025) for adolescents aged 12–17 with ICD-10 ED diagnoses F50.0–F50.9 (n=374). Associations between psychiatric comorbidity presence and somatic comorbidity were analysed using the Chi-Square test and Cramer's V. Care-episode counts were compared between adolescents with and without psychiatric comorbidity using Mann–Whitney U. The association between care-episode count and somatic code count was assessed using Spearman's correlation. Qualitative data were collected through semi-structured interviews with adolescents (n=8) and parents (n=3).

and analysed using thematic analysis. Adolescents also completed the Inventory of Parent and Peer Attachment (IPPA).

Results

Anorexia nervosa was the most frequent ED diagnosis (68.5%). Psychiatric comorbidity was recorded in 44.4% of patients, predominantly mood disorders; somatic comorbidity in 79.7%. Psychiatric and somatic comorbidity were significantly associated ($\chi^2(1)=4.57$, $p=0.032$), with a small effect size (Cramer's $V=0.111$). Adolescents with psychiatric comorbidity had more CCUH care episodes than those without (Mann–Whitney $U=20367.5$, $p=0.001$). Care-episode count was unrelated to somatic ICD-10 code count ($p=0.018$, $p=0.726$). Interview findings showed ambivalence toward diagnosis and help-seeking; treatment was always initiated by family. Relationships were generally described as supportive despite highly variable IPPA scores. The lowest IPPA score coincided with the highest care-episode count (6)

Conclusions

Psychiatric comorbidity is associated with increased hospital care intensity in adolescent EDs. Overall findings suggest psychiatric comorbidity and family functioning may be relevant to ED course, supporting structured family assessment alongside comorbidity management.

ALCOHOL CONSUMPTION AS A POTENTIAL RISK FACTOR FOR POSTPARTUM DEPRESSION: A SYSTEMATIC REVIEW

Ms. Serena Ozveren¹

1. Riga Stradins University, Latvia

Keywords

Postpartum depression; alcohol consumption; perinatal period; risk factor; systematic review

Objectives

The primary aim of this systematic review was to explore the relationship between alcohol consumption before, during, or after pregnancy and the risk of developing postpartum depression. The specific objectives:

1. examine the prevalence and patterns of alcohol consumption across the perinatal period and their association with PPD;
2. assess whether the quantity and frequency of alcohol use demonstrate a dose–response relationship with PPD risk;
3. identify the most frequently reported levels and timing of alcohol exposure associated with postpartum depressive outcomes.

Methods

A systematic literature search was conducted in PubMed/MEDLINE, Scopus, and Web of Science in accordance with PRISMA guidelines. Eligible studies included original empirical research assessing alcohol consumption during the preconception, prenatal, or postnatal period and postpartum depressive outcomes measured using validated instruments. Study selection, data extraction, and quality appraisal using the Crowe Critical Appraisal Tool were performed. Due to substantial heterogeneity in exposure definitions, outcome measures, and study designs, a narrative synthesis was undertaken.

Results

Nineteen studies published between 2001 and 2025 met inclusion criteria. Evidence for associations between preconception and prenatal alcohol use and postpartum depression was mixed, with several studies reporting attenuation of effects after adjustment for psychosocial confounders. In contrast, postnatal alcohol consumption demonstrated more consistent positive associations with postpartum depressive symptomatology, particularly when alcohol use was defined as frequent, binge-level, or at-risk consumption.

Conclusions

Alcohol consumption across the perinatal period shows a variable association with postpartum depression, with the most consistent evidence observed for postnatal alcohol use. These findings suggest that alcohol use may represent a modifiable marker of vulnerability within the broader psychosocial context of PPD.

CHATBOTS IN MENTAL HEALTHCARE: HELP OR JUST A QUICK FIX?

Ms. Domantė Purtokaitė¹, Mr. Danilas Pavilionis¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Chatbots in Mental Healthcare; Psychiatry; Risks of Chatbots.

Objectives

Artificial intelligence (AI) provides many beneficial and perspective tools, one of them being AI-powered chatbots for mental health support. They are easily accessed and cheap. However, the use of AI for mental health raises ethical, privacy and safety concerns. This paper examines the advantages and disadvantages of chatbots in the field of mental health treatment.

Methods

We conducted a systematic review of scientific literature published between 2020 and 2025 in PubMed, Science Direct and Springer Nature Link. Inclusion criteria focused on open-access randomised clinical trials, systematic reviews and meta-analyses that assessed how chatbots are used for mental healthcare and their possible risks. A total of 2967 articles were identified and more than 100 articles were reviewed.

Results

According to studies, chatbots can be beneficial in:

1. Increasing access to mental health services, which is particularly important in cases where such services are limited.
2. Helping with mild symptoms of depression, anxiety, stress and fear.
3. Changing everyday habits whilst promoting journaling, introspection, and other self-awareness techniques.

However, it has limitations:

1. Chatbots can't handle emergencies.
2. Their lack of social interaction and empathy may restrict their long-term effect.
3. Because certain apps gather private information, there are risks in data security and privacy.

Conclusions

1. Chatbots might be a helpful measure for treating mild symptoms and as an additional self-help option.
2. Chatbots cannot replace a qualified specialist, especially in an emergency.
3. To evaluate their long-term effectiveness and to figure out how to incorporate them into healthcare systems, more research is needed.

EARLY IDENTIFICATION OF THE FIRST PSYCHOTIC EPISODE: CLINICAL SIGNIFICANCE AND PROGNOSIS

Mr. Danilas Pavilionis¹, Ms. Domantė Purtokaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

First psychotic episode; early psychosis; duration of untreated psychosis.

Objectives

This paper examines the clinical relevance of early diagnosis of the first psychotic episode and its implications for the illness's course.

Methods

A literature review was conducted in the PubMed, ScienceDirect, and ClinicalKey databases. The search strategy used English-language keywords and combinations including “first psychotic episode,” “first-episode psychosis,” “duration of untreated psychosis,” and “early psychosis”. 11 articles were analyzed, including systematic reviews, meta-analyses, and clinical trials, published between 2016 and 2025 that examined the relationship between the duration of untreated psychosis, initial symptoms, and intervention strategies in relation to illness course and outcomes.

Results

The academic publications indicate that a shorter period of untreated psychosis correlates with enhanced treatment responses, reduced symptom severity, and improved social functioning. Early indicators of a first psychotic episode frequently include general symptoms like social withdrawal, cognitive difficulties, and disturbances in mood and sleep, which can delay diagnosis. Specialized early intervention programs are associated with fewer relapses and better long-term clinical outcomes. Early intervention has also been linked to improved treatment adherence and a higher likelihood of achieving symptomatic remission, including more favorable cognitive and functional outcomes.

Conclusions

1. Early identification and intervention for the first psychotic episode are critical for a patient's prognosis.
2. Greater clinician awareness, recognition of early symptoms, and the provision of specialized services can substantially alter the illness's trajectory and improve patients' quality of life.
3. Early detection of a first psychotic episode should be a priority in clinical psychiatric practice.

GENDER IDENTITY DISORDER – PREVALENCE TRENDS IN HELP-SEEKING ADOLESCENT POPULATION IN CHILDREN'S CLINICAL UNIVERSITY HOSPITAL, RIGA, LATVIA, 2021-2025

Ms. Sofija Liskova¹

1. Riga Stradins University, Latvia

Keywords

child and adolescent psychiatry, gender identity disorder, gender dysphoria

Objectives

As the number of individuals presenting with gender identity-related concerns continues to increase worldwide, it is important to monitor existing prevalence tendencies in Latvia. The aim of this study was to compare the diagnostic trends of gender identity disorder in adolescents seeking help at the Children's Clinical University Hospital.

Methods

Medical documentation study - outpatient and inpatient episodes of patients diagnosed with gender identity disorder (ICD-10, F64) or other sexual disorders (ICD-10, F66) from 2021 to 2025 were investigated, data collection and selection, and analysis, and comparative analysis with data obtained from 2015-2020, were performed.

Results

During the period from 2021 to 2025 included, 51 patients have been newly diagnosed with gender identity or other sexual disorders, which is 2,04x more comparing with the previous 5-year period (2016-2020). Only 8% (N=4) of the patients were biologically male. 45% (N=23) were hospitalised in a psychiatric department as their first contact with child psychiatry services.

Of all diagnosed cases, 22% (N=11) presented primarily with complaints of gender dysphoria. The mean age of onset of gender related symptoms was 11.73 years (SD=2,55), and the mean age at which gender identity disorder was diagnosed was 14.84 (SD=1,37). The mean time from the first contact with the hospital specialists to diagnosis was 0.59 years (IQR=1). The mean time from onset of gender dysphoria to diagnosis was 3.098 years (IQR=4).

Conclusions

The number of diagnosed cases of gender identity disorders has risen over the last years, compared with previous data. Of all those diagnosed adolescents, less than a quarter came to see a psychiatrist with gender dysphoria as their primary mental health problem, on average, 3 years after the onset of the symptoms, which delays the diagnosis and consequently, the access to professional help.

INNOVATIONS IN TREATING TREATMENT-RESISTANT DEPRESSION: KETAMINE AND PSILOCYBIN THERAPY — MYTHS AND REALITIES

Ms. Domantė Purtokaitė¹, Mr. Danilas Pavilionis¹

1. Lithuanian University of Health Sciences

Keywords

Treatment-Resistant Depression; Ketamine Therapy; Psilocybin Therapy; Psychiatry.

Objectives

Treatment-resistant depression is considered a complex and relevant clinical problem. According to recent studies, traditional treatment with antidepressants only works for 50% of individuals. Therefore, new measures are essayed, such as ketamine and psilocybin treatments. These interventions are promising, although their effectiveness, safety, and place in clinical practice are still debated. This literature review aimed to assess how ketamine and psychedelic therapy work for treatment-resistant depression and to discuss common myths.

Methods

We conducted a systematic review of scientific articles published between 2020 and 2025 in ScienceDirect, PubMed and Springer Nature Link. Inclusion criteria focused on open-access randomised clinical trials and meta-analyses published in English. Search terms included “Ketamine Therapy for Treatment-Resistant Depression” and “Psilocybin Therapy for Treatment-Resistant Depression”. A total of 2105 articles were identified (ketamine treatment n=1634, psilocybin treatment n=471), and more than 100 articles were reviewed.

Results

According to studies, ketamine often has a faster-acting but shorter efficacy and is especially beneficial in a suicidal state. Studies on psilocybin showed its ability to act as a one-time measure and to improve symptoms more long-term. However, most of the studies were strongly controlled and included only small research groups. Common myths about ketamine and psilocybin suggest that they are universally effective, safe, and have a lower relapse rate. In reality, we don't know enough about their long-term effects or the best ways to dose and administer them.

Conclusions

1. Ketamine shows promise for quick, effective but shorter-lasting effects.
2. A longer-lasting and single-dose impact is frequently linked to psilocybin.
3. These treatments should not yet replace standard care, and their use for treatment-resistant depression is still limited; instead, they should be considered part of a complex, specialised treatment plan.
4. More extensive and long-term research is required in order to gain a deeper understanding.

MENTAL HEALTH DISORDERS AND PSYCHOTROPIC MEDICATION USE IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN LITHUANIA (2020–2024)

*Mr. Tadas Valiulis*¹

1. Vilnius University, Lithuania

Keywords

COPD, depression, anxiety, psychotropic medications

Objectives

Chronic obstructive pulmonary disease (COPD) is often accompanied by depression and anxiety, which negatively affect patient outcomes and treatment adherence. This study aimed to assess the prevalence of these disorders and patterns of psychotropic medication use among Lithuanian COPD patients between 2020 and 2024.

Methods

A retrospective observational study analyzed anonymized national healthcare data. Adult COPD patients were identified via ICD-10 codes and comorbid mental disorders were identified using ICD-10 codes for anxiety and mood disorders. Psychotropic medication prescriptions were evaluated by type and prescriber specialty. Descriptive statistics and Chi-Square tests examined associations with demographics.

Results

Among 64,246 COPD patients, 11,608 (18.1%) had a diagnosed mental disorder. Anxiety affected 9,615 patients (15.0%) while depression affected 2,983 (4.6%). Mental disorders were more frequent in women than men (26.8% vs. 12.1%). Gender-specific patterns were observed: men were more frequently diagnosed with anxiety disorders, whereas women more often had depressive disorders. Psychotropic medications were prescribed to 7,188 patients (61.9%), mainly benzodiazepines (6,113), followed by antidepressants (2,661) and neuroleptics (1,840). Family physicians issued most prescriptions (5,930) compared with psychiatrists (2,333). Mental disorder diagnoses peaked in 2022 and declined slightly thereafter. Psychiatrist-prescribed medications gradually increased, while family physician prescriptions decreased. Men received medications slightly more often than women (64.6% vs. 60.2%). The predominance of benzodiazepine use reflects a broader global concern, as long-term benzodiazepine prescribing remains widespread across Europe despite known safety risks.

Conclusions

Mental health disorders are frequent among COPD patients and show distinct gender differences. The high reliance on benzodiazepines highlights the need for improved recognition of psychiatric comorbidities, safer prescribing practices, and stronger collaboration between primary care and mental health specialists to optimize COPD management. Early identification and guideline-based management of depression and anxiety could improve adherence, reduce exacerbations, and enhance quality of life.

PROJECT'S "INTEGRATED APPROACH - IMPROVING REHABILITATION ACCESS FOR MINORS WHO ABUSE ADDICTIVE SUBSTANCES" IMPACT ON HOSPITALISATIONS IN MINORS WITH SUBSTANCE ABUSE.

Ms. Anna Bumbiere¹

1. Riga Stradins University, Latvia

Keywords

Adolescent substance abuse; emergency department; repeat visits; multidisciplinary care.

Objectives

Assess the changes in repeat presentations of adolescents with substance abuse to Children's Clinical University Hospital Emergency Department before and after the implementation of the specialist multidisciplinary addiction service for minors.

Methods

A retrospective pre-post cohort study of all patients visiting the Children's Clinical University Hospital emergency department with diagnoses indicating psychoactive substance abuse in September-December periods before (2024) and after (2025) the project's implementation. Data will be collected from patient records, including age, gender, significant comorbidities and repeat visits within the timeframe. Statistical analysis performed using IBM SPSS 29.0 and MS Excel.

Results

The early results show little change on repeat presentations of adolescents with substance abuse presenting to the emergency department comparing to the same period last year before the treatment programme's implementation.

Conclusions

The study will show early impact on repeat presentations to the Emergency Department following the implementation of a new specialist treatment programme. It will offer useful information for the future development of the pilot project that aims to improve access and quality of the addiction treatment services for adolescent population in Latvia.

THE FIRST TELEMENTORING PROJECT “ECHO SCHOOL OF PSYCHIATRY” FOR GENERAL PRACTITIONERS IN LATVIA: A QUALITATIVE STUDY

Ms. Marija Burceva ¹

1. Riga Stradins University, Latvia

Keywords

Telementoring, ECHO project, Primary healthcare, Continuing education, Psychiatry

Objectives

Previous research has shown that mental disorders are common in the general population in Latvia, while access to specialised psychiatric services is limited, particularly in rural areas. General practitioners, therefore, have a crucial role in the early detection and management of these conditions. Previous studies and national initiatives have highlighted an unmet need for continuing education in psychiatry tailored to the Latvian primary care context. In response, the first Latvian telementoring programme, the “ECHO School of Psychiatry”, was launched in 2023 to enhance general practitioners’ competencies and decision-making in mental healthcare. This study explored general practitioners’ experiences and perceptions of participation in the programme and its perceived impact on their practice, using a qualitative approach.

Methods

Thirteen general practitioners who participated in the programme were recruited using voluntary response sampling, via email invitations from programme coordinators. Individual semi-structured interviews were conducted remotely between May and September 2025, audio-recorded, transcribed verbatim, and the resulting transcripts were analysed thematically, supported by NVivo software. Data collection continued until no new themes emerged.

Results

Four main themes emerged from the thematic analysis: (1) Participants’ perceptions of the structure and educational value of the programme; (2) Perceived impact of the programme on clinical practice and decision-making; (3) Programme limitations in addressing professional isolation and fostering collaboration; (4) Suggestions for programme improvement. Themes illustrate participants’ perceptions of the programme’s value, its impact on practice, and recommendations for further development.

Conclusions

This study provides insights into strengths and areas for improvement of the “ECHO School of Psychiatry” as perceived by general practitioners and contributes to the literature by highlighting mechanisms through which ECHO programmes may support mental healthcare competencies and capacity building in underserved settings. It also acknowledges current challenges in primary care, such as limited access to specialists and professional isolation.

TREATING PTSD WITH VIRTUAL REALITY

Mr. Danilas Pavilionis¹, Ms. Domantė Purtokaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Post-traumatic stress disorder; PTSD; virtual reality; virtual reality exposure therapy; VRET.

Objectives

This paper seeks to examine the application of VR in treating PTSD, considering its benefits and primary challenges, as well as evaluating its effectiveness compared to conventional therapies and identifying potential barriers to wider clinical implementation.

Methods

A systematic review of scientific articles was conducted using the PubMed, ScienceDirect, and ClinicalKey databases. English-language keywords and their combinations, including “post-traumatic stress disorder,” “PTSD,” “virtual reality,” “virtual reality exposure therapy,” and “VRET,” were employed. A total of 10 peer-reviewed articles, including randomized controlled trials, reviews, and meta-analyses, published between 2019 and 2025, focusing on VR exposure therapy for patients with PTSD, were analyzed.

Results

The articles suggest that VR exposure therapy can reduce PTSD symptoms, particularly avoidance behaviors and hypervigilance. VR enables therapists to reconstruct challenging scenarios in a secure environment, customize therapy for each individual, and gradually increase exposure levels. Its efficacy appears comparable to that of conventional exposure therapy, and some patients find it more appealing. Nonetheless, concerns such as accessibility to the technology, VR-induced side effects, and limited data on long-term effectiveness remain pertinent. Some studies also highlight that VR therapy can enhance patient engagement and motivation, potentially improving adherence to treatment protocols. Additionally, VR technology allows for precise monitoring and data collection during therapy sessions, providing clinicians with objective insights into patient progress and responses.

Conclusions

1. VR appears to be a viable and secure option for treating PTSD, potentially complementing standard therapy.
2. Although short-term efficacy is supported by research, further longitudinal studies are required to determine optimal implementation strategies.
3. VR interventions may help personalize treatment by increasing patient engagement and allowing clinicians to monitor progress.

**Sports Medicine, Sports
Science, Rehabilitology,
Medical Simulations**

ASSESSMENT OF FUNCTIONAL MOVEMENT INDICATORS OF THE LOWER EXTREMITIES IN FEMALE RHYTHMIC GYMNASTS AGED 12–18 YEARS

Ms. Diāna Kļaviņa¹

1. Riga Stradins University, Latvia

Keywords

Muscle strength, lower extremities, rhythmic gymnastics, adolescents

Objectives

Studies indicate that in young rhythmic gymnasts, injuries most commonly affect the lower extremities, and intensive training loads during the season may increase fatigue and injury risk, particularly periods of rapid growth. Therefore, it is essential to regularly assess function movement indicators throughout the season. This study aim to assess changes in functional movement indicators of the lower extremities over the course of a competitive season in female rhythmic gymnasts aged 12 to 18 years.

Methods

This study included 14 female rhythmic gymnasts with a mean age of 16 years (SD=0.9) and a mean sports experience of 10.79 years (SD=1.97). Measurements were conducted twice during the season (pre-season and post-season). Maximal muscle strength of lower extremity muscle groups was assessed, and changes over time were analyzed using within subject comparisons. Statistical analysis focused on identifying seasonal differences in muscle strength, with significance set at $p < 0.005$.

Results

After the competition season, an increase in maximal muscle strength was observed in most lower extremity muscle groups. A statistically significant increase was found in hip abductor muscle group in both the right (+22.0%; $p = 0.022$) and left leg (+26.7%; $p = 0.008$), as well as in the hip extensor muscle group in the left leg (+12.6%; $p = 0.003$). Changes in the remaining muscle groups were not statistically significant ($p > 0.05$), although a slight increase in strength was observed.

Conclusions

Over the course of the season, female rhythmic gymnasts demonstrated an overall increase in maximal muscle strength in the lower extremities; however, statistically significant and consistent changes were mainly observed in the hip abductor muscles.

This study is part of the National Research Program “Sports” project titled “Innovations, Methodologies, and Recommendations for the Development and Management of the Sports Sector in Latvia” (IMRSportsLV; No. VPP-IZM-Sports-2023/1-0001).

ASSESSMENT OF LOWER EXTREMITY INJURY RISKS IN ADOLESCENT MALE BASKETBALL PLAYERS AGED 15 TO 18

Mr. Kārlis Kristiāns Dundurs¹

1. Riga Stradins University, Latvia

Keywords

Injury prevention, adolescents, muscle imbalance

Objectives

Basketball involves frequent jumping, sprinting, and rapid directional changes, increasing lower extremity injury risk in adolescents. Evidence on seasonal neuromuscular injury risk profiles remains limited. This study assessed injury risk in adolescent male basketball players aged 15-18 years using strength ratios and functional performance.

Methods

Fifty-eight male basketball players aged 15-18 years were assessed pre-season (n=34) and post-season (n=35), with 11 players assessed at both time points. Hamstring-to-quadriceps (H/Q) and hip abductor-to-adductor (ABD/ADD) ratios were evaluated. Functional movement and dynamic balance were assessed using the Functional Movement Screen™ (FMS) and Y-Balance Test (YBT). Group differences and associations were analyzed using nonparametric or parametric tests. Injury risk was classified using established cut-off values.

Results

H/Q ratios were significantly lower post-season in both legs ($p \leq 0.001$), indicating increased quadriceps dominance. More than 93% of athletes were classified as high H/Q injury risk at both time points. Mean ABD/ADD ratios did not change significantly, however, high ABD/ADD injury risk increased from 36.7% pre-season to 67.6% post-season ($p = 0.013$). YBT and FMS scores showed no seasonal differences but were moderately correlated ($\rho = 0.51-0.56$).

Conclusions

Lower extremity muscle imbalance-related injury risk was prevalent and increased despite functional performance, supporting targeted prevention.

BLOOD PRESSURE VARIABILITY CORRELATION WITH MAXIMAL OXYGEN CONSUMPTION IN LATVIAN MASTER BASKETBALL PLAYERS

Ms. Paula Luīze Rātfeldere¹, Mr. Mikus Bernots¹

1. Riga Stradins University, Latvia

Keywords

Resting blood pressure, VO2max, master basketball players

Objectives

Maximal oxygen consumption is a key measure of cardiorespiratory fitness and functional capacity. Higher VO2max is associated with lower all-cause and cardiovascular mortality. The aim of the study was to evaluate the association between master athletes resting blood pressure and VO2max.

Methods

Competition level master athletes performed a cardiopulmonary exercise test to determine their maximal oxygen uptake (VO2max). Before, during and after the cardiopulmonary exercise test blood pressure levels were recorded. All of the data were processed using IBM SPSS Statistics (Pearson correlation).

Results

A cross-sectional study investigated cardiovascular and aerobic performance in 63 male master basketball players aged 52-83 (M age = 65, SD = 7.9 years). Master athletes average BMI reached 27.43 kg/m². Average blood pressure at rest was 131/80 mmHg. The average blood pressure 5 minutes after cardiopulmonary exercise test reached 130/76 mmHg. The mean VO2max value was 30.45 ± 9.08 ml/kg/min.

Pearson correlation showed very weak negative correlation between resting blood pressure and VO2max ($r = -0.084$, $p = 0.603$; $r = -0.231$, $p = 0.146$).

Peak systolic and diastolic blood pressure had a weak negative correlation with VO2max ($r = -0.204$, $p = 0.448$; $r = -0.60$, $p = 0.826$).

Systolic blood pressure measured five minutes after the cardiopulmonary exercise test showed a weak negative correlation with VO2max ($r = -0.203$, $p = 0.209$). Diastolic blood pressure and VO2max correlation was very weak ($r = 0.008$, $p = 0.962$).

Conclusions

The obtained results did not support the proposed hypothesis, as there was no statistically significant association found between blood pressure and VO2max. However, a very weak negative correlation was observed, suggesting a tendency for VO2max to increase as blood pressure decreases. A very weak positive correlation indicates that higher diastolic blood pressure might be associated with higher VO2max value.

Correlation of Heart Rate Recovery and Maximum Oxygen Consumption in master basketball players

Mr. Mikus Bernots¹, Ms. Paula Luīze Rātfeldere¹

1. Rīga Stradiņš University, Latvia

Keywords

heart rate recovery, VO₂max, master athletes, autonomic regulation, exercise testing

Objectives

Heart rate recovery (HRR) reflects autonomic nervous system reactivation after exercise and is used as an indicator of cardiorespiratory fitness. While early HRR has been widely studied, the role of later recovery phases in competition-level master athletes remains unclear. Aim- investigate the association between HRR at 60, 120, and 180 seconds after cardiopulmonary exercise testing (CPET) and maximal oxygen uptake (VO₂max) in master basketball players, hypothesizing that greater HRR is associated with higher VO₂max.

Methods

Prospective cross-sectional study was conducted with master basketball players. Participants underwent symptom-limited cardiopulmonary exercise testing (CPET) using a maximal incremental protocol. VO₂max was defined as peak oxygen consumption. Heart rate was continuously recorded, and heart rate recovery was calculated at 60, 120, and 180 seconds of passive recovery. Associations were analysed using correlation and regression test.

Results

41 master basketball players aged (M=64 years, SD= ±7,8 years). VO₂max was not significantly associated with HRR at 60 seconds ($r = 0.17$, $p = 0.28$). In contrast, VO₂max showed a significant positive correlation with HRR at 120 seconds ($r = 0.34$, $p = 0.04$) and at 180 seconds ($r = 0.36$, $p = 0.03$). HRR measured at different recovery times showed strong internal correlations (HRR_{60s} vs. HRR_{120s}: $r = 0.78$, $p < 0.001$). Univariate regression analysis demonstrated that HRR_{120s} significantly predicted VO₂max ($\beta = 0.34$, $p = 0.04$), explaining approximately 11% of its variability, whereas HRR_{60s} was not a significant predictor.

Conclusions

In master basketball players, aerobic capacity assessed by VO₂max is associated with heart rate recovery during the later phases of post-exercise recovery (120–180 s), but not during the first minute. These findings suggest that delayed parasympathetic reactivation may serve as a more sensitive marker of cardiorespiratory fitness in older trained athletes.

EFFECTS OF ADVANCED FOOTWEAR TECHNOLOGY ON RUNNING ECONOMY, BIOMECHANICS AND PERFORMANCE DURING A HALF-HOUR TREADMILL RUN

Ms. Daido Dagne Brūvere¹

1. Riga Stradins University, Latvia

Keywords

Advanced Footwear Technology, carbon-plated shoes, running economy, running biomechanics, endurance running.

Objectives

Despite the large volume of research conducted in the area of Advanced Footwear Technology (AFT), there is still limited evidence regarding their physiological and biomechanical effects during running trials exceeding 10 minutes. Therefore, the objective of this study was to evaluate the effects of the Nike Alphafly 3 on running economy, biomechanics, and performance during a 30-minute treadmill run.

Methods

Thirty elite long-distance runners (14 females and 16 males) performed two identical 30-minute treadmill runs at submaximal intensity within a two-week interval, in conventional shoes and Nike Alphafly 3 carbon-plated shoes. Running physiology was measured continuously throughout the running trials. Running kinematic and gait data were recorded for 5 minutes every other 5-minute interval and blood lactate - every ten minutes during the trial. Subjective perceived exertion was assessed using a modified Borg CR-10 scale immediately after each lactate measurement, reflecting the preceding stage of the run.

Results

The carbon-plated shoe trial showed significantly lower blood lactate levels, as well as reduced heart rate, with some participants demonstrating decreases greater than 10 beats·min⁻¹ compared to the non-plated trial. Perceived exertion was consistently lower when running in the Nike Alphafly 3; however, comfort ratings varied, particularly among rearfoot strikers or runners unfamiliar with the specific shoe model. Kinematic analysis revealed longer step lengths and increased vertical oscillation when running in carbon-plated shoes.

Conclusions

The Nike Alphafly 3 demonstrated clear physiological advantages over conventional running footwear, with a tendency to reduce fatigue and blood lactate, particularly during the second half of the 30-minute running trial. All participants showed improvements in running performance when running in carbon-plated shoes; however, the benefits were relatively smaller for rearfoot strikers, compared to forefoot and midfoot runners.

MODERATING ROLE OF FUNCTIONAL DOMAINS IN WEEKLY SLEEP AND FATIGUE DURING BREAST CANCER CHEMOTHERAPY

*Mrs. Madara Ketlīna Štarka-Rantiņa*¹

1. Riga Stradins University, Latvia

Keywords

Breast cancer; Moderation analysis; Sleep; Fatigue; Quality of life

Objectives

Women with breast cancer (BC) undergoing neoadjuvant chemotherapy (NACT) experience treatment-related symptoms, including sleep disturbances and fatigue, which impair daily functioning and reduce quality of life (QoL). This study aimed to examine whether weekly trends of sleep and fatigue during NACT were moderated by functional domains of QoL in women with BC.

Methods

Data from the CancerBeat project (2022–2023) were retrospectively analyzed in 35 women with stage II-III BC receiving NACT for 6 months. Participants were randomized in a remotely supervised high-intensity interval training (HIIT) intervention group ($n = 17$) and usual care group ($n = 18$). QoL was assessed pre- and post-intervention using the EORTC QLQ-C30, while sleep and fatigue were reported weekly in online app. The final sample included 34 participants with 417 weekly observations. Outcomes were analyzed using mixed-effects models with proportional odds of logistic regression.

Results

Significant time $\times$ functional domain interactions were observed. Weekly changes in sleep were moderated by physical function ($\chi^2 = 11.10$, $p < 0.001$) and role function ($\chi^2 = 4.71$, $p = 0.030$). Weekly changes in fatigue were significantly moderated by role function ($\chi^2 = 7.75$, $p = 0.005$), cognitive function ($\chi^2 = 5.01$, $p = 0.025$) and the overall functional scale of the EORTC QLQ-C30 ($\chi^2 = 4.59$, $p = 0.032$).

Conclusions

Weekly sleep and fatigue patterns during NACT are influenced by multiple functional domains of QoL. The identified moderation effects indicate that functional status contributes to differences in symptom dynamics over time, that are not captured by pre–post QoL assessments alone. These findings highlight the importance of com-

binning high-frequency symptom monitoring with QoL measures to better characterize patient heterogeneity and support more individualized monitoring approaches during chemotherapy.

Project study: Cancerbeat-2, nr. RSU/LSPA-ZG-2024/1-0001

USE OF 3D-PRINTED HAND ORTHOSES IN ACUTE AND SUBACUTE STROKE REHABILITATION TO REDUCE FLEXION–EXTENSION-RELATED COMPLICATIONS

*Mr. Māris Lācis*¹

1. Riga Stradins University, Latvia

Keywords

3D-printing, rehabilitation, orthosis, stroke.

Objectives

The aim of this study was to design and develop several prototypes of 3D printed hand orthosis intended to reduce flexion and extension related complications of the stroke to support easy rehabilitation by providing patient-specific, rapidly obtainable orthotic solutions. Currently, access to custom-made orthoses in early rehabilitation stages is limited due to lengthy manufacturing and delivery processes. The use of 3D printing technology may reduce both rehabilitation time and associated costs.

Methods

The development process was carried out in a laboratory setting using healthy volunteers. Three-dimensional hand scans were obtained using a 3D scanner. The scanned data were processed, and orthosis designs were created using 3D modeling software (Meshmixer). Individualized orthoses were then fabricated using a 3D printer. Post-processing was performed to ensure smooth surfaces and adequate comfort for potential clinical use. Two materials were used for fabrication: thermoplastic polyurethane (TPU) for flexible orthoses and polylactic acid (PLA) for more rigid support.

Results

Based on the acquired hand scans, five distinct hand orthosis prototypes were developed: a thumb orthosis, dorsal resting splint, palmar resting splint, circular splint, and proximally extended palmar resting splint. The developed prototypes demonstrated technical feasibility for use in hand positioning during early rehabilitation. Further evaluation in a clinical setting is planned following ethical approval.

Conclusions

The developed 3D-printed hand orthoses successfully limited excessive flexion and extension movements, demonstrating the ability to support hand positioning during the rehabilitation process. Early application of such orthoses may contribute to preserving therapeutic gains achieved during physiotherapy and may reduce the overall duration and cost of rehabilitation. Further clinical testing in stroke patients is required to evaluate effectiveness, safety, and long-term outcomes.

Social Sciences

CONSTRUCTION OF KAZAKHSTAN'S NATIONAL IDENTITY IN THE PERIOD FROM 2022 TO 2025

Mr. Aleksandrs Škiļs¹

1. Riga Stradins University, Latvia

Keywords

Kazakhstan; national identity; political narratives; discourse

Objectives

Following the protests of January 2022, the Republic of Kazakhstan initiated a fundamental discursive reconfiguration of its national identity framework. By identifying prevailing narratives within official state communications and domestic media, the research explores how the Kazakhstani leadership negotiates the transition from a personality-centric autocracy toward a modernized, civic-ethnic hybrid identity model.

Methods

A qualitative methodological framework is employed. Discourse analysis is applied to primary legislative and state documents, including the 2022 Constitutional amendments, annual Presidential addresses, and cultural policy papers, to define the parameters of the state-sponsored identity project. The findings are interpreted through the lense of social constructivism.

Results

The analysis reveals several dominant narratives. The most prominent narrative presents Kazakhstan as a sovereign and independent state distancing itself from external influence. The second narrative emphasizes a civic, multiethnic national identity grounded in social unity and stability. The third narrative highlights the growing role of the Kazakh language and historical memory in strengthening national cohesion. Another significant narrative frames Kazakhstan as a neutral and responsible middle power in international relations.

Conclusions

Between 2022 and 2025, Kazakhstan's national identity has been actively reconstructed in response to regional instability and global geopolitical change. State discourse increasingly emphasizes sovereignty, civic unity, and cultural distinctiveness while avoiding ethnic exclusivity. The findings demonstrate that national identity construction in Kazakhstan during this period serves both domestic consolidation and foreign policy positioning, reinforcing the country's autonomy and strategic flexibility.

CONSTRUCTION OF THE “FRONTLINE STATE” IDENTITY IN BENJAMIN NETANYAHU’S SPEECHES IN THE CONTEXT OF THE GAZA WAR (2023–2025)

*Ms. Alise Filipova*¹

1. Riga Stradins University, Latvia

Keywords

Benjamin Netanyahu, “Frontline State,” Gaza War, Speech Analysis, Identity, Israel

Objectives

The research aims to examine how the identity of a “frontline state” is constructed in Benjamin Netanyahu’s speeches in the context of the Gaza war (2023–2025). By analyzing the content of these speeches, the study seeks to reveal how this role identity is constructed through normative oppositions between “us” and “them,” as well as through narratives of “barbarism” and “civilization” within the context of the Gaza war.

Methods

The study employs qualitative content analysis, examining Benjamin Netanyahu’s public speeches delivered during the Gaza war (2023–2025) using a systematic coding scheme. The theoretical framework is grounded in Alexander Wendt’s *Social Theory of International Politics*, emphasizing the social construction of identity in international relations, with a specific focus on the role identity type.

Results

The analysis concludes that the hypothesis is confirmed: in Netanyahu’s speeches, the “frontline state” identity is constructed through the prism of a “barbarian invasion,” in which Israel is portrayed as a defender of civilized democracy against a terrorist and barbaric threat.

Conclusions

The study concludes that Israel’s “frontline state” identity in Netanyahu’s speeches during the Gaza war is not constructed as an objective reflection of reality, but rather as a socially and discursively produced role identity. The theoretical framework of social constructivism, drawing on Alexander Wendt’s approach, makes it possible to demonstrate that this identity is shaped through normative oppositions between civilization and barbarism, articulated through the concept of role identity.

CORPORATE FINANCIAL DECISIONS AND JUDICIAL OVERSIGHT: LEGAL BOUNDARIES OF MARKET RISK

*Mr. Francesco Primiceri*¹

1. University of Salento

Keywords

Corporate finance; Financial risk-taking; Corporate liability; Judicial oversight; Investor protection

Objectives

The paper aims to explore the role of judicial intervention in setting legal and ethical limits of corporate financial decision-making. Specifically, it examines whether the decision of the courts could act as an ex post mechanism of regulation, able to shape the behaviour of corporations, risk-management practices, and integrity in the market of domestic and international financial systems.

Methods

The study adopts a qualitative legal-financial approach based on comparative case analysis. Selected judicial rulings concerning corporate financial mismanagement, market abuse, and misleading disclosures are examined. Italian jurisprudence constitutes the core framework of the analysis, with special emphasis on the decisions of the Italian Supreme Court, and is characterized by the general introduction of the comparative analysis of the foreign case law, including the decisions of the United States Supreme Court and European courts. Legal reasoning is evaluated through the lenses of financial risk theory, market efficiency, transparency, and investor protection.

Results

The findings suggest that courts increasingly assess the legality of financial decisions not solely on formal compliance grounds, but also in relation to their substantive effects on market integrity and investor confidence. Judicial reasoning frequently emphasizes disclosure obligations, the reasonableness of risk-taking, and the duty of care incumbent upon corporate managers. Across jurisdictions, courts appear to converge toward a functional evaluation of financial conduct, linking liability to foreseeable economic harm rather than to purely formal violations.

Conclusions

The paper concludes that judicial oversight shapes the financial decisions of corporations, acting as both a corrective and preventive mechanism that shapes ethical values within the financial market and the corporate governance structures. Jurisprudence helps to bring the balance between financial decision-making and long-term market stability and investor protection by converting abstract legal principles into specific standards of accountability.

ECONOMIC DIPLOMACY OF THE UAE IN THE UNITED KINGDOM SINCE 2015

Mrs. Anastasija Jemeljanenko¹

1. Riga Stradins University, Latvia

Keywords

Economic diplomacy, foreign direct investment, the UAE, the United Kingdom, the concept of complex interdependence.

Objectives

The aim of the study is to examine the role of the United Arab Emirates' economic diplomacy in the United Kingdom since 2015, focusing on how FDI is used to promote cooperation, interdependence, and mutual economic benefit. The objective of the study is to analyze the strategic logic behind UAE investments in the UK and assess their role within a liberal school of international relations.

Methods

The study uses a qualitative research method by combining document analysis of national development strategies, sovereign wealth fund reports, bilateral investment agreements, and policy documents with content analysis of official statements and secondary sources from academic literature and policy institutes. The research adopts a single-case study approach, with the UK selected due to its significance as a key destination for UAE investment after Brexit.

Results

The findings suggest that UAE investments in the UK are not random or purely commercial but are embedded in a broader strategy of economic diplomacy aimed at institutionalized cooperation and long-term interdependence. Preliminary findings suggest that since 2015, UAE FDI in the United Kingdom has largely targeted strategic sectors such as energy, infrastructure, and real estate, with investments primarily conducted through state-linked entities.

Conclusions

The study concludes that economic diplomacy, as practiced by the UAE, represents a pragmatic and effective foreign policy tool within a liberal international framework.

EVALUATION OF ARTIFICIAL INTELLIGENCE POLICY IMPLEMENTATION IN PUBLIC ADMINISTRATION OF LATVIA AND ESTONIA (COMPARATIVE ANALYSIS)

Mr. Eduards Liepiņš¹

1. Riga Stradins University, Latvia

Keywords

Artificial Intelligence, Public Administration, Latvia, Estonia.

Objectives

This study evaluates and compares the implementation of artificial intelligence policies and strategies in Latvian and Estonian public administrations. It aims to identify key enabling and hindering factors and is grounded in the New Public Management theory, which emphasizes decentralization, efficiency, and proactivity in governance. The central hypothesis posits, that different levels of political will influence the availability of resources, shaping each country's approach and pace of artificial intelligence policy implementation.

Methods

The study applies a qualitative comparative case study methodology. Primary sources include official AI strategies and policy documents such as Latvia's "National AI Strategy" and Estonia's "KrattAI." Semi-structured interviews were conducted with policymakers in both countries. Thematic coding was applied to both document content and interview data. Examples of thematic coding include but are not limited to coded groups like political will, human and financial resources, implementation speed, and inter-institutional coordination.

Results

Findings reveal that Estonia demonstrates a more cohesive and proactive approach, supported by stronger political commitment and centralized coordination mechanisms. Latvia, while aligning with EU standards, faces resource limitations and fragmented implementation efforts and its implementation process is more dependent on external pressures. Further data collection is ongoing and will be reflected in the final presentation.

Conclusions

The comparative analysis supports the hypothesis that political will significantly influences artificial intelligence policy implementation. Estonia's progress reflects a higher degree of political prioritization and integrated strategy execution, while Latvia's approach is more cautious, reactive to European Union policies and domestic resource constraintment.

GEOPOLITICS AND LINGUISTIC IDENTITY: EVOLVING ATTITUDES TOWARDS THE RUSSIAN LANGUAGE IN LATVIA AFTER 2022

*Mr. Jingsong Lin*¹

1. Lund University, Sweden

Keywords

Language attitude; State Language policy; Russian language; Russo-Ukrainian War; Linguistic Identity

Objectives

The escalation of the Russo-Ukrainian War in February 2022 fundamentally disrupted the linguistic balance in Latvia, precipitating a radical shift in state language policies and language attitudes towards Russian. This study thus aims to address how geopolitical changes and subsequent state-imposed restrictions translate into micro-level attitudes. It specifically examines the language attitudes held by native Latvian and Russian speakers, where these attitudes converge or diverge, and how they are discursively justified in relation to perceived group identity.

Methods

Qualitative-dominant mixed-methods approach. The primary method consists of semi-structured in-depth interviews with a stratified sample of residents, balanced between native Latvian and Russian speakers, followed by a supplementary questionnaire to triangulate findings. Reflexive Thematic Analysis and Critical Discourse Analysis are applied for data process.

Results

This study finds that macro-level geopolitical shocks alter the semiotic nature of the Russian language, transforming it from a communicative tool into a proxy for external aggression. The analysis discovers a pattern of “masked divergence”: while the Russian-speaking minority may exhibit cognitive compliance with state language policy, they simultaneously develop heightened affective resistance and in-group solidarity in private spheres. For the Latvian majority, security narratives reframe linguistic tolerance as a vulnerability, accelerating the erasure of Russian language from the public space. Consequently, external pressures are creating a “performative integration,” where the reduction of public linguistic diversity masks a deepening emotional divide.

Conclusions

Understanding whether current pressures foster integration or trigger defensive linguistic divergence is critical for evaluating the long-term social sustainability of Latvia’s integration strategies. The study highlights that the rapid securitization of the public language policy necessitates nuanced analyses of the psychological and behavioral counter-reactions within the private sphere.

LANGUAGE AS SECURITY: SECURITIZING THE INFORMATION ENVIRONMENT IN LATVIA THROUGH THE EXCLUSION OF RUSSIAN-LANGUAGE CONTENT

*Ms. Anastasija Tetarenko-Supe*¹

1. University of Latvia, Latvia

Keywords

Information environment, Russian language, Securitization theory, Public Service Media

Introduction

This study explores how Latvia's information environment becomes constructed as a security object through political efforts to exclude Russian-language content from public service media. The case illustrates the expanding scope of securitization beyond traditional security domains into the governance of media and information flows.

Objectives

The study aims to examine (1) how political actors construct Russian-language content as an existential threat to Latvia's information environment, (2) what political narratives are used to legitimize or contest the restriction of this communication channel, and (3) how extraordinary measures are justified within these narratives.

Methods

The research employs a mixed-methods design combining quantitative content analysis and qualitative narrative analysis. The dataset consists of parliamentary debates, policy documents, and public statements by Latvian political actors from 2023–2025, a period marked by heightened geopolitical tension following Russia's full-scale invasion of Ukraine. Quantitative analysis identifies recurring themes and patterns, while narrative analysis reconstructs competing political storylines concerning threat construction, responsibility attribution, and policy justification.

Results

The findings indicate that proponents consistently portray Russian-language content as a vulnerability within the information environment, linking it to foreign influence, disinformation risks, and societal fragmentation. These narratives justify the exclusion of Russian-language content as a necessary and urgent security intervention. Opponents challenge both the existence of an existential threat and the proportionality of the response, presenting the measures as incompatible with democratic norms, minority rights, and the mission of public service media.

Conclusions

The study demonstrates that the debate constitutes a clear securitization move that shifts language and information environment policy from routine governance into the domain of emergency politics. It contributes to securitization and political communication research by showing how democratic states increasingly govern information environments through security logics, with important implications for media freedom, social cohesion, and the boundaries of legitimate security policy.

MASCULINITY IN US FOREIGN POLICY NARRATIVES: THE CASE OF THE BALTIC STATES (2016-2020)

Ms. Patrīcija Kreislere¹

1. Riga Stradins University, Latvia

Keywords

US; Baltic States; Foreign policy; Narratives; Masculinity

Objectives

Ever since Donald Trump was re-elected as president, an analysis of how US foreign policy is conducted once again becomes relevant. Currently, US foreign policy seeks dominance in international politics. Trump's rhetoric often projects strength, conviction and success, which can be seen as masculine traits, contrary to what he sees as "weak".

Looking at masculinity described in feminism literature, then "men are considered to live in a dangerous world and are supposed to act like natural protectors, while women who also live in a dangerous world are supposedly the ones in need of protection." In this case, the Baltic States can be considered to be in the need of protection and the US would be the one to protect the three countries, but this can give a false impression of the Baltic States – they are weak, vulnerable and they always seek out help. The main objective of this study is to find out whether this rhetoric could also be applied to the Baltic States during Trump's first term.

Methods

This study employs qualitative research methods and will be based on feminism. Speech acts from Trump, Secretary of State, Secretary of Defense and Vice President will be the primary source for this research. Other documents like analytical papers will be secondary source materials. The author will search for keywords such as "help" or "vulnerable," which could explain the need to protect the Baltic States, as well as various with masculinity affiliated words such as "strong" or "dominant," which could describe the US position.

Results

The results could possibly show the main themes and topics that Trump and his associates related to the Baltic States.

Conclusions

The conclusions could show whether in Trump's first presidency US foreign policy for the Baltic States relied on narratives of masculinity.

Populism among parties and party alliances represented in the 14th Saeima of the Republic of Latvia in the process of ratifying and denouncing the Istanbul Convention.

Mr. Maksims Lodins¹

1. Riga Stradins University, Latvia

Keywords

Populism, Istanbul Convention, 14th Saeima

Case Description

-

Objectives

The aim of this study is to analyze elements of populism and ways in which they are used in the communication of parties and party alliances represented in the 14th Saeima during the process of ratifying and denouncing the Istanbul Convention.

Methods

Document analysis, semi-structured interviews, community mobilization model, research into the communication channels of parties and party associations.

Results

The research is currently in progress. The results will be presented at the conference.

Conclusions

The research is currently in progress. The conclusions will be presented at the conference.

Public lobbying of sports federations within the framework of the 14th Saeima

Mr. Gustavs Stinka¹

1. Riga Stradins University, Latvia

Keywords

Federations, Saeima, Lobbying, Institutional cooperation.

Objectives

The aim of the work is to clarify and explain the public methods in lobbying Sports policy from federations in Latvia during this parliament. The issue is particularly topical after the KNAB report, as well as the contrast between different oppositions between different federations: large versus small; Olympic versus non-Olympic; Olympic versus Paralympic; grassroots sports versus professional sports; team versus individual.

Methods

The main tasks of the work are to conduct an analysis of theoretical literature on Institutional cooperation in decision-making and the concept development process according to the theory of Rational Choice Institutionalism. To collect and analyze information on how public sport lobbying have changed. More specifically group dynamics and accessibility to tools. To study qualitative data: Saeima transcript sport sphere in the publicly available part of the process of adopting specific documents. To conduct semi-structured interviews the positions of specific Ministers of Education, Presidents of the federation in the sport sphere during the specific time period.

Results

The results show that public instruments are more used in the lobbying process and the cases has changed with the changes in the Lobbying Regulation. According to the theoretical framework, federations should cooperate more often, but another idea expressed in the theory that unequal status and distrust do not help the cooperation process was also confirmed. Existing oppositions and competition for funding are created by large sports organizations that interact on lobbying issues and form coalitions.

Conclusions

The role of institutions in the public lobby of sports federations is important. The ability of institutions to collaborate is a catalyst for change and highlights the role of institutions in recent discussions about the future of sport.

THE BALTIC BREAKAWAY - NORM CONTRADICTIONS & LEGITIMACY CONSTRUCTION IN THE WITHDRAWAL FROM THE OTTAWA PERSONNEL MINE BAN TREATY

*Mr. Reinaert Demey*¹

1. Riga Stradins University, Latvia

Keywords

Norm Contestation, Legitimacy, Securitisation, Ottawa Convention, Qualitative Discourse Analysis

Objectives

The Ottawa Convention was implemented by its signatories as a measure to prevent harm to civilians by banning the possession and deployment of anti-personnel mines. However, this established norm within European security governance became contested in 2025 when several states voted to withdraw from the convention. This raises questions about how these established security norms are contested and prioritised. Therefore, this paper examines how states discursively construct legitimacy both when ratifying and voting to withdraw from the treaty. The objective is to investigate how certain value-laden arguments are selectively utilised within the framing strategies that these states employed.

Methods

A qualitative discourse analysis (QDA) was conducted to a corpus consisting of government and leadership statements, parliamentary debates, and communiqués. A codebook was deductively developed, distinguishing between a ratification and a withdrawal frame. These reflect the extent of the emphases on humanitarian, institutional, identitarian, and security arguments throughout. The codes were then systematically applied and quantified via frequency counts. Cross-text comparison was enabled via frequency normalisation per 1000 words.

Results

The results of this QDA demonstrate a shift from norm legitimisation based on identitarian construction and institutionalism to norm contestation based on the prioritisation of security as a result of regional threat perceptions. This reprioritisation reflects evolving norm hierarchies; humanitarian considerations do not become omitted but secondary. Their inclusion in discourse aids in the continued discursive construction of the state identity.

Conclusions

These findings suggest that the withdrawal from the Ottawa Convention does not exemplify a complete realignment, but rather strategic reprioritisation due to perceived security pressures. It demonstrates how states attempt to preserve credibility in their identification as humanitarian actors, while contesting the constraints these humanitarian norms have previously imposed on security governance.

The impact of oil sanctions on Russia's relations with China in the Arctic region in the period from 2022 to 2024

*Ms. Kate Cela*¹

1. Riga Stradins University, Latvia

Keywords

Russia, Arctic region, oil sanctions, China, neorealism.

Objectives

This bachelor's thesis aims to examine how oil sanctions have affected Russia's relations with China in the Arctic region between 2022 and 2024.

Methods

The study will use a mixed-methods approach, including text content analysis of political discourse and strategic narratives, and descriptive statistics to identify economic and cooperation trends. Qualitative texts (official statements, reports) will be classified by neorealism categories: external pressure, self-help, dependency, and distribution of capabilities. Conclusions on sanctions' impact will be drawn from changes in reference frequency and context. Quantitative analysis will assess whether qualitative findings align with economic trends.

Results

This ongoing study examines the impact of Western oil sanctions on Russia–China cooperation in the Arctic region between 2022 and 2024. Preliminary findings based on text content analysis of official governmental and corporate sources indicate an increased emphasis on bilateral cooperation in Arctic energy and infrastructure projects following the introduction of sanctions. Descriptive statistical data suggest a reorientation of Russia's energy exports toward Asian markets and reveal persistent economic asymmetry between Russia and China, reflected in GDP trends.

Conclusions

The preliminary results suggest that oil sanctions have functioned as a significant structural constraint reshaping Russia's cooperation with China in the Arctic, reinforcing patterns of economic reorientation and asymmetric partnership formation. The findings indicate that sanctions not only redirect energy flows but also influence the configuration of strategic cooperation in resource-rich peripheral regions. This study contributes to the field of international relations by providing empirically grounded insights into how sanction regimes affect great power behavior under conditions of constrained choice. More broadly, the research has implications for understanding Arctic governance, energy security, and the evolving dynamics of non-Western strategic alignments in a changing international system.

THE ROLE OF MEDIA LITERACY IN DISTINGUISHING BETWEEN FACT-BASED INFORMATION AND MISINFORMATION – AN EXAMPLE OF ARTIFICIAL INTELLIGENCE IN THE ANALYSIS OF YOUNG AUDIENCES

Ms. Oļesja Garjutkina ¹

1. Riga Stradins University, Latvia

Keywords

Artificial intelligence; Media literacy; Disinformation; Young audiences; Latvia.

Objectives

This study examines how accurately young people aged 18–24 in Latvia can distinguish AI-generated disinformation from professional news texts and how this relates to their media literacy and self-assessed skills. The hypothesis assumes that while respondents can name quality-journalism indicators in theory, they struggle to apply them when evaluating specific news items.

Methods

The study combines a survey and an experimental media literacy test. 97 participants aged 18–24 – university students outside journalism and political science – assessed six socio-political texts presented as three pairs (one authentic news agency (LETA) story and one AI-generated misleading text per pair). For each pair, they identified the false text and justified their choice, then completed a five-question survey on news habits and reliability criteria.

Results

The experiment confirms that young people's ability to critically evaluate information is limited: all 97 respondents were able to name criteria for reliable news, yet failed to apply these criteria in practice. 46 respondents misclassified at least one text pair and, although 51 consistently chose the correct texts, in 18 of these cases they did so without fact-based reasoning, instead relying on stylistic impressions or emotional responses. The data show a clear linear relationship between low interest in current events and a higher average number of errors.

Conclusions

The main finding is a gap between knowing media-literacy rules and applying them in realistic conditions. AI misinformation doesn't need to look obvious to work: it can mimic news style and blend real context with fabricated details, so detection relies on news knowledge, not just spotting red flags. The key implication is that media-literacy education should shift from generic advice to news awareness, especially for students in programmes, where engagement with news isn't built into the curriculum.

VATICAN'S COMMUNICATIVE DIPLOMACY DURING POPE FRANCIS' PONTIFICATE IN THE CONTEXT OF THE RUSSIA-UKRAINE WAR (2022-2025)

*Mr. Gustavs Pagrabs*¹

1. Riga Stradins University, Latvia

Keywords

The Holy See, pontificate, communicative diplomacy, Russia-Ukraine war, Pope Francis, social constructivism.

Objectives

In light of the escalating Russia-Ukraine war and the significance of normative power in the context of religious organizations and international politics, as well as the Holy See's distinctive moral authority, which has gained increased relevance following the change of pontificates, the necessity to analyze the Holy See's communication in modern day European security conditions has risen. Thus, the aim of this study is to analyze the main narratives in the Holy See's communicative diplomacy during Pope Francis' pontificate in response to the Russia-Ukraine war (2022-2025).

Methods

The research employs qualitative methods. Firstly, document analysis will be utilized to examine Pope Francis' statements, public speeches and interviews, as well as officially published texts by the Holy See and international media in the context of the Russia-Ukraine war (2022-2025). Secondly, narrative analysis will be used to identify the dominant narratives and their development. The results will be interpreted using Alexander Wendt's social constructivism theory.

Results

The preliminary results indicate that the Holy See's communicative diplomacy shaped by Pope Francis' pontificate emphasizes universal narratives of peace, humanitarian suffering, moral responsibility and the commitment to dialogue, while deliberately avoiding alignment with either side of the Russia-Ukraine war. This narrative reinforces the Vatican's role as an ultimate mediator, albeit the absence of clear Russian aggression condemnation indirectly contributes to the reinforcement of Russian narratives.

Conclusions

The study concludes that fundamentally neutral and universal communicative diplomacy pursued during Pope Francis' pontificate does not ultimately produce a neutral outcome in the context of the Russia-Ukraine war. The absence of explicit condemnation contributes to an imbalance in moral framing, influencing power relations and highlighting the limitations of the moral dimension of communicative diplomacy in contemporary warfare.

Internal Medicine I

(Cardiology, Pulmonology)

ABORTED SUDDEN CARDIAC DEATH AS THE FIRST MANIFESTATION OF FHL1-ASSOCIATED EMERY-DREIFUSS MUSCLE DYSTROPHY: A CASE REPORT

Mr. Naglis Kalvaitis¹, Mr. Vilius Medvedevas¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Emery-Dreifuss muscle dystrophy, *FHL1*, aborted sudden cardiac death

Introduction

FHL1 is an X-chromosomal gene responsible for a variety of different X-linked myopathies with variable cardiac involvement. It can cause Emery-Dreifuss muscular dystrophy (EDMD) which is a rare hereditary disease characterized by the triad of early joint contractures of Achilles tendons, elbows, and rigid spine, childhood onset of muscle weakness and wasting, usually with a scapulo-peroneal distribution, and adult-onset cardiac disease (conduction defects, arrhythmias, and cardiomyopathy).

Case Description

A 34-year-old male with childhood-onset hypertrophic cardiomyopathy (HCM) presented with aborted sudden cardiac death (SCD) after years without follow-up. Following successful resuscitation, his course in cardiology intensive care unit (CICU) was complicated by respiratory failure requiring mechanical ventilation and episodes of non-sustained wide QRS tachyarrhythmias. Echocardiography revealed severe asymmetric septal hypertrophy (IVS 30 mm, posterior wall 10 mm), left atrial dilation (66.5 mm/m²), and reduced systolic function (LVEF 45%, GLS -12%). His family history was significant for maternal uncles dying while awaiting heart transplantation. After a 5-week CICU stay and secondary prevention ICD implantation, the patient was discharged on metoprolol, empagliflozin and spironolactone. Genetic testing identified a pathogenic *FHL1* variant.

Summary

SCD may be the presenting symptom in X-linked EDMD, underscoring the vital importance of primary prevention. However, current ESC guidelines do not specifically address *FHL1* variants. Retrospectively standard risk stratification for this patient yielded a calculated SCD risk of only 3.2% (Class IIb indication for ICD for primary prevention), suggesting that conventional models may underestimate the risk and fail to guide necessary primary intervention in this genetic subtype.

Conclusions

Genetic testing serves as a cornerstone of risk stratification in the management of HCM. Failure to identify the specific pathogenic variant can result in a dangerous underestimation of the risk for SCD, creating a prognostic blind spot that may lead to tragic and preventable outcomes.

Cardiovascular Evaluation Revealing an Unsuspected Pulmonary Embolism: A Case Report

Ms. Austyna Miežinytė¹, Ms. Fausta Simanauskaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Pulmonary embolism, Pulmonary arterial hypertension, Echocardiography

Introduction

Pulmonary embolism (PE) has long been conceptualized as an acute event, yet emerging data increasingly support its characterization as a condition with chronic manifestations in a significant subset of patients. These forms of PE are frequently characterized by nonspecific symptoms, such as chest pain, dyspnoea, palpitations and syncope, leading to diagnostic delay. Echocardiography may reveal right ventricular remodelling or elevated pulmonary artery pressure in clinically stable patients with chronic PE, thereby enabling incidental detection during cardiologic evaluation or preoperative assessment.

Case Description

A 65-year-old woman with a history of AH, obesity, hypothyroidism, and idiopathic immune thrombocytopenia (ITP), complicated by prior hemorrhagic stroke, was evaluated before planned surgery for a large hepatic hemangioma. She reported episodic paroxysmal palpitations occurring at rest, accompanied by pressure in her neck. The ECG showed a sinus rhythm with a prolonged PR interval (215 ms) consistent with the I° AV block. TTE showed RA/RV dilatation with moderate PH (PASP ~38 mmHg) and preserved RV systolic function (RV basal diameter 37 mm, S' 14 cm/s), with mild left atrial enlargement (42 mm). CTPA revealed bilateral subsegmental PE without evidence of RV strain. In view of clinical stability, recurrent symptoms and echocardiographic signs of right heart remodelling and PH, a chronic thromboembolic process was considered. Management included anticoagulation with apixaban 5 mg twice daily, which was well tolerated and resulted in better condition of the patient.

Summary

We reported a case of PE with features suggestive of a chronic course, detected during preoperative cardiovascular assessment in a clinically stable 65-year-old woman.

Conclusions

Mild and nonspecific cardiopulmonary symptoms may mask a chronic thromboembolic disease course, underscoring the need for comprehensive differential diagnosis between cardiovascular and pulmonary diseases.

CHALLENGES IN DISTINGUISHING TAKOTSUBO CARDIOMYOPATHY FROM ACUTE MYOCARDIAL INFARCTION

Mr. Ignas Jusis¹, Ms. Lina Gastilavičiūtė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Acute myocardial infarction; Takotsubo cardiomyopathy

Introduction

Takotsubo cardiomyopathy (TC) is rapidly reversible heart failure syndrome that usually mimics the symptoms of acute myocardial infarction (AMI) with the characteristic regional wall-motion abnormalities and absence of obstructive coronary artery disease. It occurs predominantly in women, particularly in the post-menopausal period.

Case Description

A 69-year-old woman with history of hypertension and paroxysmal atrial fibrillation presented with acute pressure-like chest pain radiating to the left arm and shoulder. Initial laboratory testing showed markedly elevated cardiac biomarkers (high sensitivity troponin I 7008.7 ng/L (reference values 0–31 ng/L); B-type natriuretic peptide 441.6 ng/L (reference values 0–26.5 ng/L)). Given the clinical presentation of AMI the patient underwent coronary artery angiography, which demonstrated no obstructive coronary artery disease. Further evaluation with cardiac magnetic resonance (CMR) revealed a mildly dilated left ventricle, reduced systolic function (ejection fraction ~46%), and regional wall-motion abnormalities affecting the anteroseptal, mid-ventricular, and apical segments. Prolonged myocardial relaxation times (T1 ~1620 ms, T2 ~61 ms) indicated acute myocardial injury with oedema, accompanied by late gadolinium enhancement in the mid-apical regions. Transthoracic echocardiography demonstrated comparable regional dysfunction, supporting the diagnosis of Takotsubo cardiomyopathy. The patient's condition stabilized with optimal drug therapy, chest pain did not recur, and follow-up CMR was scheduled in 3 months to assess the recovery of LV function.

Summary

Clinical presentation in most TC patients is indistinguishable from an acute coronary syndrome. Commonly the clinical presentation is angina-like chest pain at rest (68%) and dyspnoea (17%) while syncope and out-of-hospital cardiac arrest is rare.

Conclusions

TC closely mimics AMI, requiring precise diagnostic work-up and attentive clinical management. Coronary angiography, ventriculography, echocardiography and CMR remain key to diagnosis. Further research into imaging and biomarker-based tools may aid earlier discrimination from AMI.

CHRONIC ATRIAL FIBRILLATION COMPLICATED BY ATRIOVENTRICULAR BLOCK: A CASE REPORT

Ms. Dominyka Rudžinskaitė¹, Ms. Meda Burdulytė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Atrial fibrillation, atrioventricular block, bradyarrhythmia, syncope, pacemaker

Introduction

Atrial fibrillation (AF) is very common cardiac arrhythmia, characterized by irregular and uncoordinated atrial contractions, while complete (third-degree) atrioventricular (AV) block is a rarer arrhythmia caused by a complete loss of AV conduction. Although the two conditions have distinct ECG and clinical features, they can co-exist. AF complicated by complete AV block may be misdiagnosed, increasing the risk of acute complications, like sudden cardiac death.

Case Description

A 83-year-old woman with chronic atrial fibrillation, hypertension, type 2 diabetes, and stage III chronic kidney disease was admitted with chest discomfort, weakness, and two syncopal episodes. She was hospitalized for bradycardia and atrioventricular block with an indication for pacemaker implantation. During examination, unstable hemodynamics were observed – BP: 70/40 mmHg, HR: 31 bpm – and the patient was transferred to the Intensive Care Unit (ICU) for further treatment and evaluation. Laboratory tests showed elevated uremic parameters (creatinine 213.2 µmol/L), serum glucose 8.17 mmol/L. Chest X-ray revealed markedly increased vascular markings, grade III pulmonary venous congestion, and cardiac borders enlarged to the left.

To stabilize hemodynamics, intravenous dopamine and salbutamol were administered. Dyspnea was treated with furosemide, and hyperglycemia was managed with insulin.

A VVIR pacemaker was successfully implanted resulting in a reduction of venous congestion and improvement in uremic parameters. Following a positive response to the prescribed treatment, the patient was discharged for continued outpatient follow-up.

Summary

Bradyarrhythmias and atrioventricular (AV) blocks are dangerous conditions that can cause syncope, leading to trauma, hospitalization, and functional decline in elderly patients. Reduced heart rate lowers cardiac output and pulmonary blood flow, resulting in venous congestion. Cardiac pacemakers can prevent life-threatening arrhythmias and significantly improve quality of life.

Conclusions

This case demonstrates the potential existence of several dangerous conditions and the importance of timely pacemaker implantation.

DIAGNOSTIC DILEMMA BETWEEN HEALING AND INFLAMMATION

Ms. Karolina Ciakaite¹, Ms. Lina Gastilavičiūtė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Post-operative scar; pacemaker pocket infection; *S. epidermidis*.

Introduction

Local inflammatory signs such as erythema, swelling, pain, tenderness, drainage and device exposure are the most common indicators of pacemaker pocket infection. Precise differential diagnosis is essential, as healing scars can mimic infection. This case emphasizes the value of appropriate clinical stratification in determining the necessity of wound re-exploration.

Case Description

A 68-year-old man presented with redness and itching of pacemaker pocket. He was diagnosed with sick sinus syndrome in 2022 and underwent a dual-chamber pacemaker implantation. In 2023, lead reposition was performed after right lead dislodgement. Six months later skin redness and itching at the pacemaker site occurred. Symptoms persisted for another six months, empirical antibiotic therapy with Cefuroxime was initiated, though there were no signs of systemic infection. The condition remained unchanged prompting a revision of the pacemaker pocket. During the procedure no visual signs of infection were found; microbiological culture yielded negative results. Days after the revision a yellowish exudate was observed while changing the wound dressings. Microbiological analysis revealed growth of coagulase-negative *S. epidermidis*. Based on these findings, the wound was re-opened, resulting in drainage of a found abscess. Within a week *S. epidermidis* growth reappeared leading to device extraction and contralateral implantation of a new pacemaker with absorbable antibacterial envelope.

Summary

Itching and redness are subjective symptoms that could be falsely interpreted as infection since healing scar mimics certain inflammatory manifestation. Accordingly, symptoms must be considered alongside clinical findings such as inflammatory markers. Surgical intervention ought to be reserved for well-defined indications, since it represents a traumatic procedure that compromises the natural barrier of the skin and may predispose to infections by opportunistic organisms.

Conclusions

This case highlights that isolated symptoms in the absence of infectious markers can be misdiagnosed and lead to unnecessary pocket revision, facilitating pathogen invasion and associated complications.

LEFT ANTERIOR DESCENDING ARTERY ANEURYSM COMPLICATED BY THROMBOSIS: A CASE REPORT

Ms. Gytė Gužauskaitė¹

1. Vilnius University, Lithuania

Keywords

Coronary artery; Aneurysm

Introduction

Coronary artery aneurysms (CCA) represent a relatively uncommon manifestation of coronary artery disease, with a reported prevalence of 0.3%–5.3%. Although often asymptomatic, they may lead to serious complications, including intraluminal thrombosis, coronary embolization, or rupture. We report a case of coronary artery aneurysm complicated by intraluminal thrombosis.

Case Description

A 34-year-old man presented with pressure-like chest pain. His medical history included hypertension, dyslipidemia, Gilbert's syndrome, and a 15-year history of smoking. ECG revealed ST-segment elevation in the anterior wall of the left ventricle. High-sensitivity troponin I was elevated to 88ng/L. Urgent coronary angiography revealed no obvious occlusions. While hospitalized, the patient experienced recurrent chest pain, managed with nitrate infusion and opioid analgesics. During this time troponin I rose to 57,998ng/L before declining to 29,804ng/L. Echocardiography demonstrated ischemic damage of the left ventricular apex, anterior wall, and interventricular septum, with a developing apical aneurysm and left ventricular ejection fraction of 35%. Once the patient's condition stabilized, coronary CT angiography was performed, revealing an 18mm dilation of the left anterior descending artery (LAD) S7 segment with a peripheral mass consistent with thrombus, leaving a residual lumen of approximately 1–2mm. Review of prior imaging, which was performed one year earlier, showed a 16mm LAD aneurysm without evidence of thrombus, indicating mild aneurysmal progression with new thrombus formation. Interventional or surgical treatment was deferred; the aneurysm is expected to fully thrombose over time, with retrograde embolism considered unlikely. In the absence of intracardiac thrombi, antiplatelet therapy with aspirin was recommended.

Summary

A 34-year-old man with STEMI was found to have a thrombus-containing 18mm aneurysm in the LAD S7 segment. Conservative management with aspirin was initiated.

Conclusions

Although often silent, CCA complicated by thrombosis may present as myocardial infarction. As optimal treatment remains undefined, careful assessment of the risk–benefit ratio is essential before any therapeutic intervention.

LONG TERM OUTCOMES ON FIRST PULMONARY ENDARTERECTOMY PERFORMED IN LATVIA

Mr. Haralds Cēsnieks¹, Mr. Matīss Zicāns², Mr. Mārtiņš Bode²

1. University of Latvia, Latvia, 2. Riga Stradins University, Latvia

Keywords

Chronic thromboembolic pulmonary hypertension; Pulmonary endarterectomy; Long-term outcome

Introduction

Chronic thromboembolic pulmonary hypertension (CTEPH) is a severe, progressive form of pulmonary hypertension with high mortality if untreated. Pulmonary endarterectomy (PEA) is the definitive treatment for surgically accessible disease. We report an exceptional 12-year outcome following first PEA in Latvia, highlighting both the diagnostic challenges of CTEPH and the long-term benefits of surgical treatment.

Case Description

A 31-year-old male without prior thromboembolic history presented in 2010 with fever and dyspnea. Initially diagnosed with pneumonia, persistent symptoms led to multiple specialist consultations with exclusion of other diagnoses. Computed tomography angiography revealed organized thrombi in the pulmonary arteries, establishing the diagnosis. Right heart catheterization confirmed severe CTEPH with mean pulmonary artery pressure (mPAP) of 64 mmHg, pulmonary vascular resistance - 864 dyn·sec·cm⁻⁵. The patient was NYHA Class IV and the six-minute walk test was contraindicated. Despite adequate anticoagulant therapy, the condition worsened over three years. In July 2013, the patient underwent PEA with assistance from experienced Polish colleagues. This was the first such procedure performed in Latvia. Chronic thromboembolic material with vessel intima was successfully removed from both pulmonary arteries. Postoperatively, mPAP decreased to 22 mmHg and brain natriuretic peptide (BNP) from 861.7 to 173.0 pg/ml. The patient was discharged on day 18 with anticoagulation therapy. At 12-year follow-up, the patient remains clinically well with normalized BNP (50 pg/ml) and excellent functional capacity, achieving 600 meters on six-minute walk test.

Summary

This case demonstrates successful treatment of severe CTEPH by PEA, resulting in sustained clinical, biochemical, and functional improvement over 12 years – the longest follow-up period at Pulmonary Hypertension Center of Latvia.

Conclusions

CTEPH should be considered in patients with persistent unexplained dyspnea; specialized centers are essential for identifying surgical candidates, and PEA provides long-lasting benefits even in advanced disease.

MULTIFACTORIAL CHRONIC COUGH: FROM SEVERE REFLUX ESOPHAGITIS TO PROTRACTED BACTERIAL BRONCHITIS AND SEVERE ASTHMA

Ms. Jaroslava Govorova¹, Mr. Vitālijs Zaharovs¹

1. Riga Stradins University, Latvia

Keywords

Chronic cough; Severe asthma; Multidisciplinary approach; Protracted bacterial bronchitis; Biological therapy

Introduction

Chronic cough is a frequent and diagnostically challenging symptom with multiple potential etiologies. When persistent despite standard treatment, a multidisciplinary approach is essential to identify the underlying cause and guide effective therapy.

Case Description

A 31-year-old male with a history of childhood asthma presented with a chronic cough persisting despite treatment with ICS/LABA and oral corticosteroids. Over several years, other contributing conditions were identified and treated, including chronic rhinosinusitis and GERD. Fundoplication provided temporary cough relief.

Subsequently, the patient gradually developed a purulent bronchitis. Sputum culture revealed abundant growth of *Haemophilus influenzae*, and treatment with amoxicillin-clavulanic acid, and ciprofloxacin was associated with substantial, however, partial improvement.

During antibacterial therapy, the patient started to experience severe headache, leading to hospitalisation in the neurologic department. The diagnosis of spontaneous intracerebral hypotension was made and chronic severe cough was considered a potential cause of this complication.

After oral corticosteroid therapy for asthma management, symptoms of bronchitis exacerbated. Repeated sputum culture demonstrated abundant growth of *Haemophilus influenzae* and *Acinetobacter lwoffii*, *Staphylococcus aureus* and *Candida albicans*. The diagnoses of protracted bacterial bronchitis and bronchial and oesophageal candidosis were made. Treatment with trimetoprim/sulfamethoxazole, fluconazole and anti-TSLP monoclonal antibody, tezepelumab every 4 weeks, was initiated.

Summary

This case illustrates the complexity of chronic cough with overlapping etiologies. Comprehensive multidisciplinary evaluation and asthma phenotyping were required to identify the primary inflammatory driver and enable targeted treatment.

Conclusions

Chronic cough in multimorbid patients may have changing and overlapping causes over time. A stepwise diagnostic and therapeutic approach is required, as treatment of one condition may introduce new complications. Optimal management depends on careful integration of all comorbid diagnoses and treatment-related risks.

OBSTRUCTIVE SLEEP APNEA MIMICKING ACUTE CORONARY SYNDROME: A CASE REPORT

Ms. Edita Družaitė¹, Mr. Matas Šimkus¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Acute coronary syndrome; Obstructive sleep apnea

Introduction

Obstructive sleep apnea (OSA) is increasingly recognized as a contributor to cardiovascular morbidity, including arrhythmias and conduction disorders. Its clinical manifestations may overlap with acute coronary syndromes (ACS), representing a diagnostic challenge.

Case Description

A 47-year-old male presented to emergency department with worsening chest pain and shortness of breath. He reported dull chest pain, upper-extremity numbness, lower-extremity edema, lasting for one week, dyspnea at rest and on exertion, persisting for a month. The patient had multiple cardiovascular risk factors, including obesity, smoking, hypertension, hypothyroidism, dyslipidemia and type 2 diabetes mellitus. Further evaluation revealed normal BP and HR, elevated hs-troponin and BNP levels, bilateral basal pulmonary crackles, and T-wave inversions in leads V2–V3. Based on the presenting symptoms, ECG abnormalities, and laboratory findings, the patient was admitted with a preliminary diagnosis of ACS.

Chest radiography demonstrated venous congestion and an increased cardiothoracic ratio. To rule out ACS, invasive coronary angiography was performed - no coronary artery stenoses were detected. Transthoracic echocardiography did not show any abnormalities. Holter monitoring demonstrated sinus rhythm with average heart rate of 83 bpm, rare supraventricular and ventricular extrasystoles and asystolic episodes lasting up to 9 seconds during day and night. Sinus node dysfunction was diagnosed, and a dual-chamber (DDDR) pacemaker was successfully implanted.

A history of excessive snoring and sleep disorders raised clinical suspicion of OSA. Polysomnography confirmed severe OSA with significant nocturnal hypoxemia, and positive airway pressure therapy was initiated.

Summary

This case shows that OSA related sinus node pathology can imitate ACS, emphasizing the importance of careful clinical evaluation and testing to prevent misdiagnosis.

Conclusions

Patients with unexplained bradyarrhythmias or sinus pauses should be screened for sleep-related breathing disorders, as timely treatment may improve cardiac outcomes.

Pacemaker Atrial Oversensing Due to Lead Damage in Severe Anorexia Nervosa: A Management Challenge

Ms. Everita Kupriša¹

1. Riga Stradins University, Latvia

Keywords

Sick sinus syndrome; Pacemaker lead damage; Myopotential oversensing; Anorexia nervosa

Introduction

Severe malnutrition due to anorexia nervosa may lead to cardiovascular complications, including sick sinus syndrome requiring permanent pacing. Lead dysfunction in profoundly underweight patients presents unique diagnostic and management challenges, particularly when accompanied by immunosuppression. Atrial noise oversensing may be dangerous in such patients, as it can inhibit necessary pacing, trigger inappropriate mode switching, or cause pauses and syncope.

Case Description

A 43-year-old female with longstanding anorexia nervosa developed sick sinus syndrome in 2020. A DDDR pacemaker was implanted with good initial effect. During routine ambulatory follow-up in 2026, noise on the atrial channel suggested lead damage with myopotential sensing; the device was switched to ventricular-only pacing (VVIR) mode. On admission in in-patient clinic, atrial noise was reproducible by provocation test, while pacing thresholds were normal. Chest X-ray demonstrated damage of the proximal atrial lead. Laboratory tests revealed pancytopenia, increasing infection risk, especially after potential device revision.

Summary

Immediate surgical revision was considered high risk because of extreme malnutrition and immunosuppression. The pacemaker was reprogrammed to DDDR 65/min with atrial sensing disabled and unipolar configuration; ventricular sensing and pacing remained bipolar. Exercise testing showed adequate rate response and the patient reported improved well-being. Programming to VVIR may protect from oversensing but results in loss of atrioventricular synchrony, potentially leading to pacemaker syndrome, reduced cardiac output, and impaired exercise tolerance when intrinsic atrial function is preserved. Close follow-up with hematology and psychiatry was recommended.

Conclusions

Profound anorexia nervosa can contribute to pacemaker complications through loss of tissue protection and enhanced myopotential interference. Atrial oversensing may expose patients with sick sinus syndrome to clinically significant pauses, while VVIR pacing, although protective, sacrifices AV synchrony. Individualized device reprogramming can serve as a safe interim strategy when lead revision is hazardous. Optimal care requires coordinated multi-disciplinary management.

Recurrent vasovagal syncope with a cardioinhibitory response in a young woman: a case report

Mrs. Valērija Isakoviča¹

1. Riga Stradins University, Latvia

Keywords

Vasovagal syncope; cardioinhibitory response; parasympathetic hyperactivity; tilt table test; parasympathetic ganglia ablation.

Introduction

Vasovagal syncope (VVS) is the most common form of reflex syncope, caused by autonomic nervous system dysfunction and resulting in transient cerebral hypoperfusion. Although usually benign, a cardioinhibitory response with prolonged sinus pauses is rare in young individuals and poses challenges. This case report describes recurrent vasovagal syncope in a young woman, emphasising accurate diagnosis and targeted treatment.

Case Description

A 28-year-old woman experienced three episodes of transient loss of consciousness over six months. Epilepsy was initially suspected; however, electroencephalography (EEG) was normal. Transcranial duplex ultrasonography, echocardiography, and Holter monitoring were unremarkable. During a tilt table test with nitroglycerin provocation, arterial hypotension and sinus node arrest with a pause up to 10 seconds were observed. The test was positive, confirming vasovagal syncope with a cardioinhibitory response. An electrophysiological study confirmed parasympathetic predominance, and parasympathetic epicardial ganglia were ablated on January 28, 2025. Heart rate stabilised at 60-80 beats per minute, and no further syncopal episodes occurred.

Summary

This case demonstrates that cardioinhibitory vasovagal syncope may occur in young patients and that targeted treatment can result in symptom resolution.

Conclusions

Cardioinhibitory vasovagal syncope may occur in young patients. The tilt table test is an essential diagnostic tool. Parasympathetic ganglia ablation is an effective treatment option for recurrent cardioinhibitory vasovagal syncope.

RVOT VENTRICULAR TACHYCARDIA: DIAGNOSTIC CHALLENGES AND RADIOFREQUENCY CATHETER ABLATION — A CLINICAL CASE ILLUSTRATING DIFFICULTIES IN DIFFERENTIATING VENTRICULAR AND SUPRAVENTRICULAR TACHYCARDIAS

*Mr. Daniels Silconoks*¹

1. Riga Stradins University, Latvia

Keywords

Right ventricular outflow tract; ventricular tachycardia; supraventricular tachycardia; adenosine; radiofrequency catheter ablation.

Introduction

Right ventricular outflow tract (RVOT) ventricular tachycardia (VT) is the most common form of idiopathic VT, usually monomorphic. It typically presents as recurrent, nonsustained, spontaneously terminating episodes, though rarely it may progress to life-threatening arrhythmia. RVOT VT often affects patients aged 20–50 years without structural heart diseases but can also be an initial manifestation of arrhythmogenic right ventricular cardiomyopathy. This case illustrates the challenges in differentiating RVOT VT from other VT forms or supraventricular tachycardia (SVT) with conduction disturbances.

Case Description

A 48-year-old woman experienced syncope during meditation. Emergency medical team documented a wide QRS complex tachycardia. After adenosine administration, the arrhythmia terminated. The initial diagnosis was paroxysmal SVT. She was admitted to hospital, where ventricular premature beats (VPBs) were observed and treated with amiodarone and metoprolol tartrate. Her history included palpitations for seven years. Echocardiography, coronary angiography, and cardiac magnetic resonance imaging showed no structural and functional disease. Following consultation with an electrophysiologist, an invasive electrophysiological study using CARTO 3D mapping was performed. A VPB trigger focus was identified on the posterior RVOT wall, and radiofrequency catheter ablation (RFCA) was successfully completed. She was discharged for outpatient follow-up and remained asymptomatic at two months, with complete resolution of palpitations.

Summary

This case describes idiopathic RVOT adenosine-sensitive VT, a rare VT form. The initial diagnosis was revised from SVT to VT with VPBs, with the final diagnosis confirmed by CARTO 3D-guided RFCA. Despite a complex diagnostic process, the patient received appropriate treatment, though the underlying cause was not identified.

Conclusions

Despite an initially inaccurate diagnosis, the patient underwent comprehensive evaluation and was treated according to ESC guidelines for RVOT VT. The clinical outcome was favorable, with resolution of symptoms, and only routine follow-up was required.

SEVERE OBSTRUCTIVE SLEEP APNOEA COMPLICATED BY OBESITY HYPOVENTILATION AND ATRIOVENTRICULAR BLOCK: A CASE REPORT

Ms. Žavinta Laikūnaitė¹, Ms. Elija Jankauskaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

obstructive sleep apnoea, obesity hypoventilation syndrome, non-invasive ventilation, atrioventricular block, pacemaker

Introduction

Severe obstructive sleep apnoea (OSA), particularly when associated with obesity hypoventilation syndrome (OHS), may result in chronic hypercapnic respiratory failure and cardiovascular complications. Significant nocturnal hypoxemia and hypercapnia can contribute to the development of cardiac conduction abnormalities. Differentiating reversible sleep-related arrhythmias from those requiring permanent cardiac intervention remains a clinical challenge.

Case Description

A 50-year-old male with morbid obesity (BMI 41.3 kg/m²), arterial hypertension, and a long smoking history was admitted for evaluation of sleep-related breathing disorders. He reported loud snoring, witnessed apnoeas, nocturnal dyspnea, and excessive daytime sleepiness. Daytime spirometry and arterial blood gas analysis were within normal limits. Physical examination revealed obesity without signs of heart failure. Polysomnography demonstrated severe OSA with an apnoea-hypopnea index of 72.8 events/hour, significant nocturnal hypoxemia (minimum SpO₂ 39%), frequent prolonged desaturation episodes, and marked nocturnal hypercapnia (transcutaneous CO₂ up to 80 mmHg), consistent with OHS. Continuous ECG monitoring during polysomnography revealed recurrent second-degree atrioventricular block with pauses of up to 6.5 seconds, temporally associated with respiratory events. Non-invasive ventilation (BiLevel S/T AVAPS mode) was initiated and titrated under polysomnographic control, resulting in improved ventilation and reduced nocturnal hypercapnia. Despite optimized ventilatory support, clinically significant conduction pauses persisted. Following multidisciplinary evaluation involving pulmonology, cardiology, and electrophysiology specialists, permanent dual-chamber pacemaker (DDDR) implantation was performed. The patient was discharged with optimized home non-invasive ventilation and demonstrated good adherence.

Summary

This case of a 50-year-old man represents clinically significant nocturnal atrioventricular block associated with severe obstructive sleep apnoea and obesity hypoventilation, requiring permanent pacemaker implantation.

Objectives

-

Methods

-

Results

-

Conclusions

In patients with severe sleep-disordered breathing and obesity hypoventilation, clinically significant nocturnal bradyarrhythmias may persist despite optimized non-invasive ventilation, requiring careful cardiovascular evaluation and multidisciplinary decision-making regarding permanent cardiac pacing.

SYNCOPE AS THE INITIAL MANIFESTATION OF ACUTE AORTIC DISSECTION

Ms. Lina Gastilavičiūtė¹, Mr. Ignas Jusis¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Syncope; Aortic dissection; Ischemic stroke

Introduction

Syncope is a common clinical condition with a wide differential diagnosis, ranging from benign to life-threatening cardiovascular conditions. Acute aortic dissection is a rare but critical cause of syncope and may initially be mistaken for cardiogenic syncope, especially when accompanied by chest pain or severe arterial hypertension.

Case Description

A 66-year-old woman presented to emergency department (ED) after an episode of unexplained syncope, followed by severe arterial hypertension and acute pain in the left chest area. At the ED serial ECG recordings showed no ischemic changes, coronary angiography excluded acute coronary ischemia. An urgent chest computed tomography (CT) scan demonstrated features of possible aortic intramural hematoma; however, interpretation was limited as imaging was performed according to a pulmonary embolism protocol. A repeat CT scan confirmed acute aortic syndrome (Stanford type A) with an intramural hematoma and signs of impending rupture. The patient was transferred to the cardiac surgery unit, where aortic arch replacement and thoracic endovascular stenting of the descending aorta were performed the following day. One day later, surgical chest closure was completed. The postoperative period was complicated by an ischemic stroke, respiratory failure requiring invasive mechanical ventilation due to ventilator-associated pneumonia, and intermittent third-degree atrioventricular block, for which a DDDR pacemaker was subsequently implanted.

Summary

In this case syncope was the initial presentation of acute aortic dissection, likely resulting from temporary cerebral hypoperfusion. Diagnostic delay was related to atypical presentation and limited initial aortic assessment. Disease severity and emergent aortic surgery likely contributed to severe postoperative complications, including ischemic stroke, respiratory failure, and persistent high-grade atrioventricular block requiring permanent pacemaker implantation.

Conclusions

Syncope may be the first and misleading symptom of acute aortic dissection. Early clinical recognition and targeted imaging are essential to prevent diagnostic delay and reduce morbidity.

Weil Syndrome: A Case of Severe Leptospirosis with Multiorgan Dysfunction

***Ms. Eva Kočāne**¹*

1. Riga Stradins University, Latvia

Keywords

Icterohemorrhagic leptospirosis

Pulmonary hemorrhage

Hyperbilirubinemia

Bilateral pneumonia

Atrial flutter

Introduction

Icterohemorrhagic leptospirosis is a severe zoonotic infection with high morbidity and mortality. Typical features include jaundice, acute kidney injury, and hemorrhagic manifestations. However, its broad clinical spectrum and atypical presentations can delay diagnosis and management.

Case Description

An adult male presented with jaundice, right upper quadrant discomfort, pale stools, dark urine, and fever, beginning three days before admission. He reported recent environmental exposure while cleaning a dirty basement. On hospital day three, he developed progressive dyspnea, cough, and hemoptysis. Laboratory tests showed severe conjugated hyperbilirubinemia (total bilirubin up to 503.9 $\mu\text{mol/L}$), anemia, thrombocytopenia, elevated inflammatory markers, and coagulopathy, which resolved after cryoprecipitate transfusion. Renal function remained normal. Initial chest X-ray and CT revealed bilateral pneumonia and pulmonary congestion, later progressing to cavitary changes suggestive of lung abscess. The patient experienced atrial flutter with rapid ventricular response, which resolved with intravenous medication. Serological testing confirmed leptospirosis. Targeted antimicrobial and supportive therapy led to gradual clinical and laboratory improvement.

Summary

This case shows that severe icterohemorrhagic leptospirosis can occur without acute renal failure, instead presenting with pulmonary and cardiac complications. Marked hyperbilirubinemia, pulmonary hemorrhage, and atrial flutter were key features. Early recognition and multidisciplinary management resulted in a favorable outcome.

Objectives

-

Methods

-

Results

-

Conclusions

Leptospirosis may cause life-threatening pulmonary and cardiac complications even when renal function is preserved, requiring early recognition and multidisciplinary management.

**Internal Medicine II
(Gastroenterology,
Nephrology,
Endocrinology,
Rheumatology)**

A Case report of serpiginous chorioretinitis

Ms. Raminta Liubinaitė¹, Ms. Lina Grybauskaite¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Serpiginous chorioretinitis; Optical coherence tomography;

Introduction

This clinical case illustrates the critical role of diagnostic accuracy and treatment strategy in affecting the dynamics of serpiginous chorioretinitis (SC) development.

Case Description

In March 2018, a 60-year-old man was admitted to the Eye Hospital at Lithuanian University of Health Sciences (LUHS) Kaunas Clinics due to severe visual impairment caused by suspected SC. Best corrected visual acuity (BCVA) (in Snellen) was 0.07 in the right eye (RE) and 1.0 in the left eye (LE). Fundus examination revealed bilateral elongated yellowish subretinal macular lesions with areas of retinal pigment epithelium (RPE) atrophy, more expressed in the LE. Optical coherence tomography (OCT) showed hyperreflective subretinal lesions involving the RPE with associated atrophy, and fluorescein angiography revealed active lesions in both eyes. Systemic investigations, including inflammatory, infectious, rheumatologic, pulmonary and chest computed tomography evaluations were unremarkable – an important key for differentiating from tuberculous serpiginous-like choroiditis. The patient was treated with systemic corticosteroids and immunosuppressive therapy, resulting in initial stabilization. However, treatment was discontinued twice, leading to disease reactivation and progressive visual deterioration. On readmission in 2019 and again in January 2024, OCT revealed worsening retinal edema and extensive bilateral chorioretinal atrophy. Visual acuity in RE remained 0.07 and in the LE it declined to 0.43. Due to recurrent disease activity, biologic therapy with adalimumab was initiated. At the last follow-up in April 2025, while on continuous treatment, no further disease progression was observed.

Summary

This case report demonstrates importance of accurate diagnosis and appropriate treatment in preventing progression of SC.

Conclusions

SC is a rare but potentially sight-threatening inflammatory condition that requires prompt and accurate diagnosis, as well as appropriately guided treatment. Delayed therapy or poor adherence to the treatment plan may lead to progressive retinal damage and irreversible visual loss.

A LONG ROAD TO REMISSION: INDIVIDUALIZED IMMUNOSUPPRESSIVE THERAPY IN REFRACTORY LUPUS NEPHRITIS

Ms. Luīze Driķīte¹

1. Riga Stradins University, Latvia

Keywords

Lupus nephritis, proteinuria, immunosuppressive therapy.

Introduction

Systemic lupus erythematosus is a chronic autoimmune disease characterized by multisystem inflammation. Renal involvement, known as lupus nephritis, is one of the most severe manifestations which can be progressive and potentially life-threatening. Timely diagnosis, classification and adjustment of treatment for lupus nephritis is important for the quality of life and prognosis of patients.

Case Description

A 40 year old woman presented to a nephrologist in June 2021 with Systemic lupus erythematosus complicated by nephritic-nephrotic syndrome, secondary arterial hypertension, but preserved renal function (GFR 113 ml/min/1,73 m²). Laboratory findings revealed positive ANA 3,80 and anti-dsDNA 79,5 IU/ml antibodies, proteinuria 0,26 g/L, and hematuria with dysmorphic RBC 150/μl and kidney biopsy confirmed diffuse lupus nephritis class IV A/C. The standard of care treatment was initiated including corticosteroids, mycophenolate mofetil, hydroxychloroquine on top of ACE inhibitor. Despite treatment disease activity persisted > 12 months and a second kidney biopsy was done in December 2022. It demonstrated diffuse sclerosing and membranous lupus nephritis class IV SC and class V. Therapy was intensified with a higher dose mycophenolate mofetil and later cyclosporine due to incomplete remission. Over the period of 2023 and 2024, the patient experienced fluctuations in proteinuria requiring cyclosporine dose adjustments. By October 2025, the patient achieved clinical remission, with stable chronic kidney disease stage G1A2 and controlled hypertension under combined immunosuppressive and supportive therapy.

Summary

The clinical case reflects the periods of exacerbation and remission of lupus nephritis, as well as the adjustment of treatment guided by clinical and laboratory findings.

Conclusions

Lupus nephritis requires long-term management, regular nephrologist follow ups and individualized immunosuppressive therapy. Close patient monitoring is crucial to achieving remission, preventing relapses, and preserving renal function in the long term.

ACUTE SYSTEMIC INFLAMMATORY REACTION FOLLOWING INTRAVENOUS CALCIUM GLUCONATE IN A PATIENT WITH SEVERE PSORIASIS

Mrs. Natalja Guiska¹

1. University of Latvia, Latvia

Keywords

Psoriasis; systemic inflammatory reaction; calcium gluconate; neutrophilia; drug-induced adverse reaction

Introduction

Psoriasis is a chronic immune-mediated inflammatory skin disease that may require systemic therapy in moderate to severe cases. Drug-induced systemic inflammatory reactions can pose significant diagnostic challenges, particularly when they mimic infectious processes. This case highlights the importance of differentiating between infectious and non-infectious causes of acute clinical deterioration in patients with active inflammatory dermatoses.

Case Description

In August 2025, a 60-year-old man was admitted to a dermatovenerology inpatient unit due to an exacerbation of psoriasis. Dermatological examination revealed disseminated, symmetrical, polygonal, infiltrated erythematous papulosquamous lesions with silvery-white scales on the trunk and extremities. Disease severity was significant, with a Body Surface Area (BSA) involvement of 24% and a Psoriasis Area and Severity Index (PASI) score of 17.6.

Systemic desensitizing therapy, including intravenous calcium gluconate, was initiated in combination with topical anti-inflammatory treatment. On the day following the first calcium gluconate infusion, the patient's condition deteriorated rapidly, presenting with fever and marked neutrophilic leukocytosis ($24.2 \times 10^9/L$). Simultaneously, the cutaneous condition worsened, progressing to severe erythrodermia. Other potential contributing factors, including possible alcohol consumption, could not be excluded.

Blood cultures were obtained to rule out bacteremia and returned negative. Calcium gluconate was discontinued, and systemic therapy with methotrexate was initiated, resulting in gradual clinical and laboratory improvement.

Summary

This case describes an acute systemic inflammatory reaction temporally associated with intravenous calcium gluconate administration in a patient with severe psoriasis, clinically mimicking infection but lacking microbiological evidence.

Conclusions

Intravenous medications may trigger acute systemic inflammatory reactions in patients with active psoriasis. Awareness of such adverse effects is essential to prevent misdiagnosis and unnecessary antimicrobial therapy. This case underscores the importance of evidence-based systemic treatment and careful monitoring in severe inflammatory skin diseases.

ACUTE TUBULOINTERSTITIAL NEPHRITIS CAUSED BY HANTAVIRUS INFECTION: A CASE REPORT

Ms. Kristīne Locika¹

1. Riga Stradins University, Latvia

Keywords

Hemorrhagic fever with renal syndrome, hantavirus, acute kidney injury, acute tubulointerstitial nephritis

Introduction

Hemorrhagic fever with renal syndrome (HFRS) is an acute zoonotic disease caused by hantaviruses and transmitted through inhalation of aerosolized rodent excreta. Acute tubulointerstitial nephritis is the predominant clinical manifestation of HFRS, and acute kidney injury represents a major contributor to disease-related mortality. The disease is endemic in several regions of Asia and Europe. Between 2016 and 2024, 37 cases of hantavirus infection were reported in Latvia; however, country-specific data on confirmed HFRS cases have not been available since 2010.

Case Description

A 40-year-old woman was admitted with a five-day history of fever, vomiting, and knee arthralgia. Initial evaluation revealed acute kidney injury, thrombocytopenia, hyponatremia, and elevated C-reactive protein levels. Imaging studies were unremarkable, and baseline renal function was normal. Urine protein/creatinine ratio was 2.5 g/g, immunological testing was negative, and both blood and urine cultures showed no growth. Due to progressive renal dysfunction, a kidney biopsy was performed and methylprednisolone therapy was initiated. Histopathological examination revealed mild focal interstitial nephritis. Subsequent serological testing confirmed hantavirus infection, and management was therefore continued with supportive care alone. Renal function gradually improved, with normalization of the glomerular filtration rate by day 11 after symptom onset, and the patient was discharged asymptomatic. Retrospective analysis identified unprotected exposure to rodent feces during gazebo cleaning as the likely source of infection.

Summary

This is a rare case of hantavirus-associated hemorrhagic fever with renal syndrome (histologically proven acute tubulointerstitial nephritis) in a previously healthy woman in Latvia, a country with a low incidence of this disease.

Conclusions

This case highlights the need to consider HFRS in patients presenting with unexplained acute kidney injury, thrombocytopenia, and fever, even in non-endemic regions, and underscores the importance of effective rodent control.

ATYPICAL PRESENTATION OF SYSTEMIC HERPES INFECTION MIMICKING HEPATOBILIARY PATHOLOGY: A CASE REPORT

Ms. Nadina Judeika¹

1. Riga Stradins University, Latvia

Keywords

Systemic herpes infection; Atypical presentation; Hepatobiliary pathology; Immunosuppression; Right upper quadrant abdominal pain

Introduction

Right upper quadrant abdominal pain is most commonly associated with hepatobiliary disorders such as cholelithiasis or choledocholithiasis. However, infectious diseases may rarely present with atypical abdominal symptoms, leading to diagnostic challenges. Systemic herpes infection is an uncommon cause of abdominal pain and may mimic hepatobiliary pathology, particularly in patients with recent immunosuppression.

Case Description

A 37-year-old woman was admitted with acute right upper quadrant abdominal pain. Initial clinical assessment, laboratory investigations and imaging suggested possible hepatobiliary pathology, including suspected choledocholithiasis. Laboratory investigations revealed elevated liver transaminases with mildly increased alkaline phosphatase. CT, abdominal ultrasound and MRI were performed and revealed no gallstones, biliary duct obstruction or other hepatobiliary abnormalities. Despite extensive evaluation, the cause of symptoms remained unclear. During repeated anamnesis performed by an infectologist, additional relevant history was obtained. The patient reported a first episode of genital herpes. It was also revealed that she had recently completed a scheduled course of systemic glucocorticoid therapy, prescribed biannually for the treatment of nasal polyps. At the time of the infectologist's consultation, the patient's clinical condition was already improving and signs of active infection were resolving. Therefore, antiviral therapy was not initiated. The patient recovered with supportive care and was discharged in stable condition.

Summary

An atypical presentation of systemic herpes infection presented as abdominal pain mimicking hepatobiliary disease, leading to a challenging diagnostic process. The diagnosis became evident only after repeated and detailed anamnesis.

Conclusions

Systemic herpes infection should be considered in the differential diagnosis of unexplained abdominal pain mimicking hepatobiliary pathology. This case highlights the clinical value of thorough history taking and reassessment, particularly in patients with recent immunosuppression, to avoid diagnostic delay and unnecessary investigations.

CAN HEMATURIA PERSIST FROM CHILDHOOD THROUGH TRANSPLANTATION?

Ms. Anna Dobele¹

1. Riga Stradins University, Latvia

Keywords

Hematuria, proteinuria, kidney transplantation, IgA nephropathy.

Introduction

Immunoglobulin A nephropathy is a chronic immune-mediated glomerulonephritis that commonly presents with hematuria and often progresses to end-stage kidney disease. Renal biopsy findings demonstrate mesangial deposition of IgA, which may occur as either recurrent or *de novo* disease, particularly in the post-transplant setting.

Case Description

A 34-year-old male patient presents with a long-standing history of recurrent hematuria since childhood, initially occurring in the absence of proteinuria or impaired kidney function. Following completion of secondary education, the patient resided abroad. Although detailed medical documentation from this period is absent, available information indicates that in 2012 hospitalization resulted in a diagnosis of end-stage renal disease and initiation of hemodialysis. After returning to Latvia in 2015, the patient underwent pre-transplant evaluation, including a renal biopsy that revealed thrombotic microangiopathy. Kidney transplantation from a deceased donor was performed on 04.09.2015., and graft function remained stable for several years. In May 2019, the development of proteinuria and hematuria with dysmorphic erythrocytes prompted further diagnostic evaluation. Renal allograft biopsy concluded IgA nephropathy, considered possibly recurrent. Treatment with pulse corticosteroids, intensified immunosuppressive therapy and sodium–glucose cotransporter 2 inhibitors was introduced; however, complete remission was not achieved. Repeat renal allograft biopsy, performed in July 2025, demonstrated active IgA nephropathy, and pathogenetic therapy with modified-release budesonide capsules was indicated and initiated.

Summary

Persistent post-transplant hematuria with dysmorphic erythrocytes represents a clear indication for a thorough medical examination, including multiple renal biopsies, to identify the underlying cause.

Conclusions

This case highlights the diagnostic and therapeutic challenges of managing recurrent glomerular disease after kidney transplantation and raises questions regarding optimal monitoring strategies, timing of repeat biopsy, and the role of targeted pathogenetic therapy in preventing disease progression and preserving graft longevity in young transplant recipients.

COMPLICATED SIGMOID DIVERTICULITIS WITH FISTULAS TO BLADDER, FALLOPIAN TUBE, AND ILEUM IN A HEALTHY 69-YEAR-OLD WOMAN WITH NO RISK FACTORS FOR FISTULATION

*Ms. Lorīna Jesse*¹

1. Riga Stradins University, Latvia

Keywords

Complicated diverticulosis; fistulation.

Introduction

Although diverticular disease is common, complicated diverticulosis with abscess, fistula, or stenosis is rarer, especially without risk factors like advanced age, comorbidities, immunosuppression, or medications. Its non-specific symptoms hinder early recognition.

Case Description

A 69-year-old woman with no known chronic diseases, previously healthy, presented with complaints of progressive 30 kg weight loss (32% body weight), fatigue, irregular diarrhea and loss of appetite starting March 2025. Outpatient evaluation (July-September) revealed anemia (HGB 10.5 g/dL dropping to 9.7 g/dL), leukocytosis (WBC $13.49 \times 10^9/L$), elevated CRP (86.5-153.9 mg/L) and mildly raised CA-125 (44 U/mL). CT showed sigmoid wall thickening and diverticulitis; colonoscopy confirmed diverticulosis, stenosis but differential diagnosis between diverticulitis and malignancy existed. The patient's status continued to get worse, even after a course of antibiotics.

During hospitalization (October 2) MRI evidence revealed multiple fistulas to bladder, left fallopian tube, and ileum; biopsies and cystoscopy excluded malignancy. After antibiotics (Ceftriaxone, Amoxiclav, Metronidazole), Hartmann procedure (November 4) involved sigmoid/ileum/appendix/salpinx resection, bladder repair, and descendostomy. Pathology confirmed diverticulitis with adhesions, no dysplasia (12 negative lymph nodes).

Summary

This clinical case illustrates that while complex diverticulosis is very rare, there is a risk of fistulation even in healthy patients, with no identified risk factors that repeatedly emphasize timely diagnosis of diverticulosis.

Conclusions

This case underscores the value of early multimodal imaging and endoscopy in diverticulitis to detect complex fistulas, necessitating multidisciplinary surgical intervention.

DIAGNOSIS AND MANAGEMENT OF IMMUNE THROMBOCYTOPENIA IN ALCOHOLIC LIVER CIRRHOSIS - A CASE REPORT

Ms. Maria Curean¹

1. Iuliu Hațieganu University of Medicine and Pharmacy Cluj-Napoca

Keywords

Cirrhosis, ITP, TIPS

Introduction

Thrombocytopenia is the most common haematological complication seen in liver cirrhosis. When thrombocytopenia seems disproportionate to the degree of liver disease and other etiologies of thrombocytopenia have been excluded, immune thrombocytopenia (ITP) should be taken into consideration.

Case Description

We present the case of a 53-year-old man with a past medical history of alcoholic liver cirrhosis who presents to the hospital reporting weakness, fatigue and an increased abdominal circumference. During his stay, the patient presented multiple episodes of refractory ascites and was programmed for a TIPS procedure, but 10 days after his admission the patient's condition started to worsen, presenting with hematemesis, haematochezia and melena, severe anaemic syndrome and severe thrombocytopenia (Plt=4000). Peripheral blood smear revealed very rare platelets and megathrombocytes and the patient had no history of serious underlying illness or high inflammatory markers, excluding disseminated intravascular coagulation or infection. Haematology consult was performed and the suspicion of ITP was raised, after which the patient received platelet transfusions and was started on a 4-day Dexamethasone course of treatment. The patient recovered and successfully underwent TIPS procedure 1 month after the ITP episode.

Summary

Although ITP is usually characteristic for autoimmune liver diseases and chronic hepatitis C, when severe thrombocytopenia is present that is inconsistent with the degree of liver disease, ITP should be part of the differential diagnosis. There is limited data demonstrating a correlation between alcoholic liver disease and ITP and the correspondence deems future research. There is no consensus target platelet count before a patient is undergoing TIPS, and the absence of randomized studies available in this context contributes to the clinical challenge of periprocedural management in these patients.

Conclusions

Diagnosing and managing ITP in patients with liver disease requires a multidisciplinary and personalized approach and is crucial in preventing bleeding and the delay of therapeutic procedures.

DISCORDANCE BETWEEN LONG-TERM GLUCOCORTICOID THERAPY AND BONE MINERAL DENSITY: DUAL-ENERGY X-RAY ABSORPTIOMETRY-BASED ASSESSMENT

***Ms. Eliza Marta Budava**¹*

1. Riga Stradins University, Latvia

Keywords

Glucocorticoid-induced osteoporosis; Bone Mineral Density; Dual-energy X-ray Absorptiometry

Introduction

Long-term glucocorticoid therapy is the leading cause of secondary osteoporosis. High daily doses and high cumulative glucocorticoid doses increase the risk of rapid bone density loss and fractures.

Case Description

A 66-year-old woman with a history of seronegative rheumatoid arthritis, which was managed with long-term high-dose glucocorticoids - 3 years with maximum prednisolone dosage of 20 mg, during disease flare, and disease-modifying antirheumatic drugs. Serial Dual-energy X-ray absorptiometry (DXA) scans were performed over 9 year period. In initial DXA assessments, the T-score did not meet criteria for glucocorticoid-induced osteoporosis (GIO). Following measurements demonstrated a temporary decrease in bone mineral density (BMD) T-score -1,5 SD in vL1 and -1,8 SD in vL4 - consistent with GIO. Anti-osteoporotic treatment was not initiated. Follow-up measurements demonstrated a fluctuating pattern, with alternating decreases and partial recoveries of BMD over time. Despite these changes, none of the other DXA scans met the criteria for GIO. Thoracic computed tomography revealed signs of vertebral osteoporosis and thoracic hyperkyphosis without evidence of vertebral fractures. After glucocorticoid discontinuation, BMD values in DXA scans improved. No fragility fractures were detected. No DXA scans, rheumatologist and endocrinologist consultations were documented for 5 years after discontinuation of glucocorticoids. The patient underwent a right-sided hemicolectomy due to colon cancer during this time period. Last DXA scan reveals improvement of BMD compared to the last DXA scan 6 years prior.

Summary

Both steroid exposure and inflammatory disease activity influence GIO. The inconsistency between the severity of therapy, imaging findings and densitometric values highlights known limitations of DXA in assessing skeletal fragility.

Conclusions

Repeated rheumatologist consultation is indicated to discuss therapy and the latest DXA scan results. Advanced imaging modalities, such as quantitative computed tomography (QCT), may provide additional diagnostic insight in this case.

ENDOGENOUS HYPERCORTISOLISM IN A PATIENT WITH ADDISON'S DISEASE: AN UNUSUAL CASE OF ADRENAL CORTICAL ADENOMA

Ms. Kotryna Simkunaite¹, Mr. Norbertas Snapkauskas¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Adrenal cortical adenoma, Cushing syndrome, ACTH-independent hypercortisolism, Adrenal tumor

Introduction

Endogenous hypercortisolism is most commonly caused adrenal tumors and results from autonomous cortisol secretion [1]. Addison's disease represents primary adrenal insufficiency requiring lifelong glucocorticoid replacement. The coexistence of endogenous hypercortisolism in a patient with established Addison's disease is exceptionally rare [2] and poses significant diagnostic challenges due to confounding clinical and biochemical effects of exogenous glucocorticoids.

Case Description

A 64-year-old woman with a complex medical history including long-standing Addison's disease (diagnosed in 2009) on hydrocortisone replacement, thyroidectomy with subsequent hypothyroidism and hypoparathyroidism, type 2 diabetes, hepatitis C, hypertension, and treated cervical cancer was referred for endocrinological evaluation. She reported fatigue, weakness, irritability, hair loss, and loose stools without weight gain (BMI 33,53). Biochemical testing demonstrated endogenous hypercortisolism despite tapering and discontinuing hydrocortisone. Abdominal CT demonstrated a heterogeneous left adrenal mass measuring 5.4 × 4.6 cm with fatty components, calcifications, and solid areas, radiologically suggestive of adrenal myelolipoma. Nearly a year later, ACTH-independent Cushing syndrome was confirmed. The patient underwent total left laparoscopic adrenalectomy. Intraoperatively, a 6x6,5x5 cm adrenal tumor was removed without complications. Histopathology confirmed an adrenal cortical adenoma. Postoperatively, hydrocortisone replacement therapy was resumed, and she was discharged in stable condition 4 days after surgery.

Summary

This report describes a rare presentation of ACTH-independent endogenous hypercortisolism in a patient with long-standing Addison's disease. Progressive hypercortisolism despite withdrawal of glucocorticoid therapy prompted further evaluation, leading to identification of an adrenal cortical adenoma and definitive surgical treatment.

Conclusions

Functional adrenal tumors should be considered in Addison's disease when biochemical results are atypical. Adrenalectomy offers definitive management in ACTH-independent hypercortisolism.

FEVER PERSISTING DESPITE STANDARD THERAPY IN AN ADULT PATIENT: A CLINICAL CASE REPORT

*Mr. Huberts Zimackis*¹

1. Riga Stradins University, Latvia

Keywords

fever, vasculitis, PET-CT, systemic inflammation, diagnostic challenge

Introduction

Fever of unknown origin (FUO) remains a significant diagnostic challenge in clinical practice and requires a structured, multidisciplinary approach. When standard microbiological tests and conventional imaging fail to identify the underlying cause, inflammatory and autoimmune conditions must be considered. Positron emission tomography combined with computed tomography (PET-CT) has become an important diagnostic modality for detecting occult inflammatory processes.

Case Description

We present the case of a 70-year-old patient admitted to Riga East Clinical University Hospital with persistent daily fever up to 39.5 °C lasting for more than three weeks. The patient had no significant past medical history, recent travel, or immunosuppressive conditions. Initial laboratory investigations revealed markedly elevated inflammatory markers, including C-reactive protein (CRP 285 mg/L), accompanied by mild leukocytosis ($13.1 \times 10^3/\mu\text{L}$). Blood and urine cultures, tuberculosis testing, viral serology, and autoimmune screening were negative. Conventional imaging, including chest and abdominal computed tomography, did not identify any infectious focus or evidence of malignancy.

Due to persistent fever and ongoing systemic inflammation, PET-CT was performed. The examination demonstrated increased metabolic activity in the walls of multiple large arteries, including the ascending aorta, aortic arch, axillary arteries, abdominal aorta, iliac arteries, and femoral arteries, consistent with large-vessel vasculitis. Targeted immunosuppressive therapy with glucocorticoids and methotrexate was initiated, resulting in rapid resolution of fever and a significant reduction in inflammatory markers.

Summary

This case highlights large-vessel vasculitis as an important and potentially underrecognized cause of prolonged fever. PET-CT played a crucial role in establishing the diagnosis when conventional diagnostic methods were non-diagnostic.

Conclusions

In patients with persistent unexplained fever and elevated inflammatory markers after exclusion of infectious causes, large-vessel vasculitis should be considered. PET-CT represents a valuable diagnostic modality that can enable timely diagnosis and appropriate treatment, thereby improving clinical outcomes.

METABOLIC AND ENDOCRINE FAILURE IN SEVERE ANOREXIA NERVOSA

Ms. Elīna Priede¹

1. Rīga Stradiņš University, Latvia

Keywords

Anorexia nervosa; Malnutrition; Metabolic failure.

Introduction

Anorexia nervosa (AN) is associated with the highest mortality among psychiatric disorders. Prolonged starvation leads to profound loss of adipose tissue, an essential endocrine organ, resulting in hormonal and metabolic disruption that, together with cardiovascular and electrolyte disturbances, may be fatal.

Case Description

A 30-year-old woman with more than 5-year history of AN was admitted with hypoglycaemic coma. Over several years, the patient repeatedly refused treatment and developed profound metabolic alterations, including impaired counterregulatory hormonal responses and depletion of metabolic substrate for gluconeogenesis, resulting in severe recurrent hypoglycaemic episodes. At admission, blood glucose was 0.6 mmol/L and body mass index (BMI) was 7.2 kg/m². Laboratory evaluation revealed pancytopenia, hypoalbuminemia and hypoproteinaemia, electrolyte and micronutrient derangements, significant elevation of liver aminotransferases, lipase and pro-BNP levels, indicating advanced malnutrition with dystrophic malnutrition-related hepatitis, pancreatitis, and cardiomyopathy. Hypercortisolism, low-T3 syndrome and undetectable IGF-1 levels reflected catabolic dominance, adaptive hypothyroidism and impaired hepatic protein synthesis. Chest computed tomography revealed bilateral upper-lobe mycetomas and radiological features of aspiration pneumonia. Due to critically low BMI, the patient was considered at high risk for refeeding syndrome and was transferred to intensive care unit. Gradual parenteral and eventually enteral nutrition was initiated, together with correction of electrolyte and micronutrient imbalances, erythrocyte transfusions, and support of counterregulatory hormonal function. Following electrolyte stabilisation and initiation of enteral feeding, anabolic hormonal therapy was introduced. Despite therapy efforts, patient's condition deteriorated rapidly, with progressive metabolic and organ failure. Intensification of nutritional therapy was not possible due to volume overload, causing cardiovascular decompensation, and the patient subsequently died.

Summary

Severe AN can evolve from adaptive endocrine changes to progressive multiorgan dysfunction and metabolic failure.

Conclusions

In advanced anorexia nervosa, once metabolic reserves are critically depleted, endocrine and nutritional therapeutic options become limited, highlighting the importance of early recognition and intervention.

ONSET OF SARCOIDOSIS AFTER RIGHT ADRENALECTOMY FOR A CORTISOL-PRODUCING TUMOR

*Ms. Jelizaveta Kasterova*¹

1. Riga Stradins University, Latvia

Keywords

Adrenalectomy; Adrenal tumor; Löfgren syndrome

Introduction

Adrenalectomy is the treatment of choice for cortisol-secreting adrenal neoplasms. Due to the immunosuppressive effects of cortisol, such tumors may mask underlying systemic inflammatory disease, which may manifest after surgical correction of hypercortisolism. We present a case of Löfgren syndrome developing after adrenalectomy for a cortisol-producing adrenal tumor.

Case Description

A 50-year-old woman with a history of laparoscopic right adrenalectomy (18.08.2025) for a cortisol-secreting tumor was admitted approximately four months after surgery. Postoperatively, she developed hypocortisolism and has been receiving hydrocortisone replacement therapy. Three weeks prior to admission, she developed arthralgia, myalgia, and stiffness involving multiple joints, as well as pain at the sites of Achilles tendon insertion. Physical examination revealed firm, tender subcutaneous nodules on the lower legs, raising suspicion of a systemic inflammatory disease. Chest computed tomography demonstrated mediastinal and bilateral hilar lymphadenopathy. Laboratory investigations showed elevated angiotensin-converting enzyme levels (103 U/L) and hypercalciuria (14.54 mmol/day), suggesting active granulomatous inflammation. Musculoskeletal ultrasound confirmed synovitis of the hand and foot joints and marked tendinopathy. Bronchoalveolar lavage cytology was consistent with neutrophilic alveolitis, with a reduced CD4⁺/CD8⁺ ratio (0.238). While sarcoidosis is typically associated with an elevated ratio, normal or decreased values may occur. Transbronchial lung biopsy identified multiple non-necrotizing granulomas, supporting the diagnosis of sarcoidosis. Infectious causes were excluded. Despite corticosteroids being first-line treatment for sarcoidosis, glucocorticoid therapy was not initiated due to the neutrophilic alveolitis pattern. Treatment with nonsteroidal anti-inflammatory drugs was prescribed, with planned clinical reassessment after three months.

Summary

Correction of endogenous hypercortisolism may unmask previously suppressed inflammatory disease.

Conclusions

Sarcoidosis is a diagnostically challenging multisystem disease with an unpredictable course. Commonly used biomarkers such as angiotensin-converting enzyme provide supportive but nonspecific diagnostic information. Diagnosis relies on compatible clinical features, exclusion of alternative granulomatous conditions, imaging findings, and histological confirmation of noncaseating granulomas.

PALOPEGTERIPARATIDE ACHIEVES IMMEDIATE METABOLIC STABILITY IN LIFE-THREATENING POSTSURGICAL HYPOCALCEMIA: FIRST EXPERIENCE IN LATVIA

Ms. Marta Štromberga¹

1. Riga Stradins University, Latvia

Keywords

Hypoparathyroidism; Hypocalcemia; Palopegteriparatide; PTH analog; Parathyroid surgery

Introduction

Refractory hypocalcemia due to postsurgical hypoparathyroidism is a severe and potentially life-threatening complication. Conventional management with calcium and active vitamin D may be insufficient in cases of markedly reduced or absent parathormone secretion. Palopegteriparatide, a long-acting pegylated parathyroid hormone analog, restores physiological calcium regulation through sustained PTH exposure. This case represents the first clinical use of palopegteriparatide in Latvia.

Case Description

A 54-year-old woman was hospitalized with community acquired pneumonia and pulmonary embolism, during which marked moderate hypercalcemia (corrected calcium 3.4 mmol/L) and elevated parathormone levels (345 pg/mL) were detected, prompting evaluation for primary hyperparathyroidism. Neck ultrasound suggested a left superior parathyroid adenoma. However, urgent surgical exploration failed to identify a typical adenoma. During extensive cervical revision, several suspected lymph nodes were excised, but histopathology later confirmed parathyroid hyperplasia in an atypical location.

Postoperatively, the patient developed severe postsurgical hypoparathyroidism with undetectable parathormone levels, resulting in profound symptomatic hypocalcemia (ionized calcium 0.89 mmol/L), presenting with perioral/distal paresthesias, generalized tetanic muscle cramps, neuromuscular hyperexcitability, tetraparesis, tachypnea, stridor, and chest tightness. Despite frequent intravenous calcium administration, maximal oral calcium and active vitamin D, intravenous calcium dependence persisted for weeks. Conventional therapy failed to achieve sustained biochemical or clinical control.

Palopegteriparatide 18 mcg subcutaneously daily was initiated, resulting in rapid stabilization of calcium levels and discontinuation of intravenous calcium. Over subsequent weeks, active vitamin D and oral calcium were reduced. Serum calcium has remained stable for over one year on daily palopegteriparatide therapy.

Summary

Palopegteriparatide enabled rapid biochemical stabilization and durable clinical recovery in life-threatening postsurgical hypocalcemia.

Conclusions

Palopegteriparatide demonstrated rapid and sustained effectiveness in managing severe refractory hypocalcemia due to postsurgical hypoparathyroidism. Early consideration of PTH replacement therapy may prevent prolonged hospitalization and repeated emergency interventions.

PANCREATIC NEUROENDOCRINE TUMOR. CLINICAL CASE.

Ms. Agne Talackaite¹, Ms. Gabija Dadurkaite¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Pancreatic neuroendocrine tumors; Insulinoma; Chromogranin-A

Introduction

Pancreatic neuroendocrine tumors (PNETs) are rare cancers from pancreatic islet cells, making up 1–2% of pancreatic tumors. Most are nonfunctioning, but some secrete hormones such as insulin or gastrin. While immunotherapy has shown benefit in other cancers, its role in well-differentiated PNETs remains uncertain. This case report examines treatment outcomes in a 52-year-old patient with insulinoma.

Case Description

A 52-year-old man was diagnosed with a well-differentiated pancreatic neuroendocrinetumor (NET G2, Ki-67 4%) with extensive liver metastases (stage IV) in 2014. He achieved a prolonged response to first-line capecitabine and temozolomide, followed by sequential treatments including somatostatin analogues, everolimus, interferon and multiple courses of peptide receptor radionuclide therapy (PRRT) with lutetium-177. Despite periods of clinical and radiological benefit, the disease gradually progressed and was complicated by refractory hypoglycemia, liver failure, ascites and pleural effusions. The patient died on October 2024, more than 10 years after diagnosis. This case highlights the potential for long-term survival in metastatic pancreatic NET with multimodal therapy and the complexity of managing late-stage disease complications.

Summary

Pancreatic neuroendocrine tumors (PNETs) are rare cancers of pancreatic islet cells, comprising 1–2% of pancreatic neoplasms with a rising incidence. Their presentation depends on tumor growth hormone secretion; most are nonfunctioning, while functioning tumors produce hormones such as insulin. Treatment remains challenging and the role of immunotherapy in well-differentiated PNETs is not yet established.

Objectives

-

Methods

-

Results

-

Conclusions

This case describes a well-differentiated metastatic insulin-secreting PNET with a prolonged but progressive course despite multiple therapies. Multimodal treatment provided temporary disease control, but resistance and complications ultimately led to a poor outcome, highlighting the need for individualized long-term management in advanced PNETs.

PERIPHERAL ULCERATIVE KERATITIS IN PATIENT WITH RHEUMATOID ARTHRITIS

Ms. Ryte Liutkauskaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Peripheral ulcerative keratitis, rheumatoid arthritis

Introduction

Seropositive rheumatoid arthritis is a leading cause of peripheral ulcerative keratitis. PUK is defined as destructive inflammation of the cornea and stromal thinning. We present you with a case of long-standing and untreated RA with peripheral corneal thinning. It is an ocular emergency that can result in corneal perforation and permanent vision loss if not treated correctly.

Case Description

An 86-year-old woman presented ocular pain, festering and impaired vision in her right eye. The patient's medical history revealed seropositive rheumatoid arthritis that had remained untreated for a few decades. Objectively, right eye cornea appeared opaque with a neovascularization along the limbus. The slit-lamp examination revealed deep peripheral crescent-shaped corneal ulceration. OCT demonstrated a minimum corneal thickness of 120 μm . Ocular changes were also observed in the left eye, such as epithelial irregularity. A diagnosis of peripheral ulcerative keratitis was established. Treatment consisted of intravenous methylprednisolone pulse therapy, later followed by oral prednisolone. In addition to systemic steroids, the patient was given topical antibiotics and cycloplegics. For RA control, the patient received methotrexate; however, it was discontinued due to intolerance. Therefore, a TNF- α inhibitor was introduced. Once the acute phase has passed, a therapeutic contact lens was added to the right eye. After a month of treatment, the patient's ocular condition improved. Corneal ulceration showed signs of re-epithelization; however, neovascularization remained.

Summary

Urgent clinical ophthalmologic examination and medical history are essential to diagnose PUK associated with RA. Peripheral corneal thinning and crescent-shaped corneal ulceration are the main findings of PUK. A combination of systemic steroids, biological therapy, topical antibiotics, cycloplegics and therapeutics contact lens resulted in clinical improvement.

Conclusions

This case highlights the importance of recognizing PUK associated with RA. Immunosuppressive treatment combined with antibiotics and cycloplegics are crucial to prevent further corneal thinning and vision loss.

PLASMA EXCHANGE THERAPY IN A PATIENT WITH SEVERE HYPERTRIGLYCERIDEMIA - A CASE REPORT

***Ms. Linda Podniece**¹*

1. Riga Stradins University, Latvia

Keywords

Hypertriglyceridemia, plasma exchange therapy, pancreatitis.

Introduction

The incidence of hypertriglyceridemia (HTG) associated acute pancreatitis is increasing. HTG treatment mainly consists of pharmacological management, however in critical cases therapeutic plasma exchange (TPE) may be used to rapidly reduce triglyceride (TG) levels. In this study we present a successful case of TPE for severe HTG induced acute pancreatitis (HTG-AP), performed using the Prismaflex TPE 2000 in accordance with American Society for Apheresis guidelines

Case Description

A 35-year-old male, with a history of uncontrolled hyperlipidemia, arterial hypertension, previous acute pancreatitis episodes, was admitted to the emergency department.. Complains of severe abdominal pain, diaphoresis, nausea, vomiting. Laboratory findings show total cholesterol 25,44 mmol/L, WBC $18,37 \cdot 10^3/\mu\text{L}$, HGB 22,7 g/dL, RBC $4,58 \cdot 10^6/\mu\text{L}$, HCT 39,2 %, TG 66,29 mmol/L, Glu 8,0 mmol/l, Lipase 468,6 U/L, Amylase in urine 903,6 U/L, CRP 131,09 mg/L. ECG showed transient nonspecific changes without persistent ischemia. Transferred to the intensive care unit (ICU) for TPE. In the ICU patient received analgesic therapy with opioids, rehydration, fenofibrate, atorvastatin, ezetimibe, low-molecular-weight heparins for thromboprophylaxis, TPE with unfractionated heparin for anticoagulation, performed once daily for 3 consecutive days with 3000mL per session. Second day TG 41,3 mmol/L, third day TG 13,45 mmol/L Following clinical improvement, TG 6,88 mmol/L, the patient was transferred for further management to the surgical department.

Summary

No significant complications were observed, highlighting the importance and clinical benefits of early TPE in successful management of severe HTG-AP.

Conclusions

TPE is an effective method for the management of severe HTG and may reduce hospitalization duration as well as morbidity and mortality. Further studies are required to better define its efficacy and potential complications, and continued reporting of clinical cases remains essential.

POST-THYROIDECTOMY HYPOPARATHYROIDISM AND THYROTOXICOSIS: A RARE CASE REPORT AND IMPORTANCE OF ADHERENCE TO TREATMENT

Ms. Dana Šēra¹

1. Riga Stradins University, Latvia

Keywords

Post-thyroidectomy; Hypoparathyroidism; Thyrotoxicosis

Introduction

Hypoparathyroidism (HypoPT) is the most common post-thyroidectomy complication (approximately 15-30%). Although usually transient, it may become permanent, requiring lifelong therapy. Recurrence of thyrotoxicosis post-thyroidectomy is rare (about 10%) and may occur from thyroid tissue in ectopic sites. The coexistence of these complications is extremely uncommon; therefore, appropriate treatment and strict adherence to treatment are essential.

Case Description

A 62-year-old woman with a 10-year history of post-thyroidectomy HypoPT presented with a generalised seizure and hypocalcaemic crisis (serum calcium 1.03 mmol/L, iPTH 0.5 pg/mL). Treatment was initiated with calcium gluconate infusion, along with oral carbamazepine, calcitriol, and calcium. Further evaluation revealed multiple complications of chronic hypocalcaemia, including calcifications of subcortical nuclei with secondary epilepsy, and bilateral secondary cataracts. Concurrently, postoperative autoimmune thyrotoxicosis (TSH 0.0 mIU/mL, anti-TSHR 35.87 IU/L, anti-TPO 0.67 IU/mL) and multinodular goitre were found. Treatment with thiamazole, a sedative and a beta-blocker, was started for thyrotoxicosis. She was discharged 20 days later with a regimen of calcitriol, calcium, cholecalciferol, carbamazepine, thiamazole. Three months later, she suffered a similar episode (serum calcium 1.5 mmol/L, iPTH 0.7 pg/mL). After stabilisation, she was discharged with strict instructions regarding treatment adherence.

Over the subsequent thirteen years, the patient has attended her endocrinologist regularly and has strictly adhered to the recommended treatment. During this period, she has remained seizure-free due to strict adherence to therapy. Recent laboratory findings show serum calcium of 2.51 mmol/L, iPTH <4.6 pg/mL.

Summary

This case highlights the coexistence of post-thyroidectomy HypoPT with complications of chronic hypocalcaemia and autoimmune thyrotoxicosis. It demonstrates how strict adherence to treatment can prevent recurrent seizures and hospitalisations.

Conclusions

In patients with post-thyroidectomy HypoPT and thyrotoxicosis, strict adherence to treatment is essential. It not only reduces hospitalisations but also prevents life-threatening complications, such as hypocalcaemic crisis, and improves long-term outcomes

RECURRENT CENTRAL VENOUS CATHETER MALPOSITION INTO THE AXILLARY VEINS: CASE REPORT

Ms. Elena Lukoševičiūtė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Central venous catheter; Ultrasound-guided central venous catheterization; Catheter malposition; Axillary vein; Hemodialysis

Introduction

Malposition of the central venous catheter is defined as the tip residing outside the intended central venous pathway. Malposition of hemodialysis catheters inserted via the internal jugular vein into peripheral veins is a rare but clinically significant event that can result in complications such as inadequate flow, venous thrombosis, vessel perforation or stenosis. Misplacement most often results from anatomical variation, operator inexperience, or improper technique.

Case Description

A 72-year-old male, with history of prostate cancer and acute kidney injury caused by obstruction experienced a failed nephrostomy. The patient required a temporary central venous catheter for hemodialysis. The first hemodialysis catheter, using ultrasound, was placed via the right internal jugular vein. On control chest x-ray after procedure, the tip was seen to closely project towards the right axillary vein. The catheter was removed and a second attempt via the left internal jugular was performed. On control chest x-ray, this attempt had also resulted in a left axillary vein projection. The catheter was left and an immediate third insertion on the opposite side, via right internal jugular vein again has been performed. X-ray control showed the third attempt to result in a correct tip projection towards the right atrium. After performing successful hemodialysis, the catheter left on the left side has been removed.

Summary

This case describes repeated hemodialysis catheter insertions via both internal jugular veins, each resulting in a rare catheter tip malposition into the axillary veins on imaging.

Conclusions

This case highlights that ultrasound use not only for initial central venous catheter insertion, but also for catheter tip projection verification is warranted to reduce complications associated with repeated central venous catheter placements.

Recurrent Primary Focal Segmental Glomerulosclerosis After Kidney Transplantation: Diagnostic Challenges and Therapeutic Implications

*Mx. Līga Pūsepa*¹

1. Riga Stradins University, Latvia

Keywords

Focal segmental glomerulosclerosis; Kidney transplantation; Recurrent glomerular disease; Plasma exchange

Introduction

Primary focal segmental glomerulosclerosis (FSGS) presents as morphologic pattern of glomerular injury, characterized by podocyte dysfunction causing nephrotic syndrome. It is thought to be mediated by an unidentified circulating permeability factor. Early intervention is crucial to prevent further progression. In Latvia, the estimated incidence of primary FSGS based on native kidney biopsy data (2013-2024) was 0.9 cases p.m.p/year.

Case Description

A currently 30-year-old woman with childhood-onset steroid-resistant nephrotic syndrome (diagnosed as mesangioproliferative glomerulonephritis at 13) was lost to follow-up and developed SARS-CoV-2-associated acute kidney injury in 2021, progressing to end-stage kidney disease requiring peritoneal dialysis. A deceased-donor kidney transplantation was performed in July 2022 (proteinuria-0.8g/24h, creatinine-108μmol/L). Four months post-transplant (proteinuria-4.36g/24h, creatinine-122μmol/L) allograft biopsy revealed nonspecific changes. Despite immunosuppression (tacrolimus, MMF, corticosteroids), graft function declined furthermore. 2 years post-transplant, allograft biopsy was repeated (proteinuria-10.4g/24h, creatinine-122μmol/L) revealing diffuse podocyte-foot-process effacement without electron-dense/immune-complex deposits, which together with severe nephrotic syndrome strongly supported diagnosis of recurrent primary FSGS.

Genetic testing revealed heterozygous pathogenic NPHS2 variant (c.868G>A, Central European founder variant); no second variant was identified, making its pathogenic role uncertain.

Treatment with double-filtration-plasmapheresis (DFPP 5 sessions) and rituximab was ineffective (proteinuria-3.3→6.9g/24h; creatinine-159→195μmol/L) in February 2025, therefore conventional plasma exchange (PEX 5 sessions) was initiated in November 2025 not repeating rituximab due to low CD19-positive B cells (5/μL). Following PEX, clinical improvement was observed (proteinuria-5.1→2.3g/24, creatinine-173→164μmol/L).

Summary

We present a 30-year-old woman with recurrent primary FSGS after kidney transplantation, with nonspecific early biopsy findings, negative IF delaying diagnosis, while PEX resulted in clinical improvement.

Conclusions

Recurrent primary FSGS is challenging to diagnose when early biopsies are nonspecific; diffuse podocyte-foot-process effacement was the key feature. PEX resulted in clinical improvement, supporting its therapeutic role. Accurate native kidney biopsy diagnosis is crucial for pre-transplant preventive strategies leading to longer graft function.

RENAL FUNCTION RECOVERY IN A PATIENT WITH ATYPICAL HEMOLYTIC UREMIC SYNDROME ON RENAL REPLACEMENT THERAPY AFTER PATHOGENETIC C5 INHIBITOR TREATMENT

Mr. Martins Izmailovs¹

1. University of Latvia, Latvia

Keywords

Atypical hemolytic uremic syndrome, thrombotic microangiopathy, acute renal failure, hemodialysis.

Introduction

Atypical hemolytic uremic syndrome (aHUS) is a rare, life-threatening disease characterized by microangiopathic hemolytic anemia, thrombocytopenia, and renal failure. The disease often progresses rapidly with a high risk of severe kidney damage, making early diagnosis and timely treatment important.

Case Description

A 49-year-old man was hospitalized in May 2025 with headache, weakness, and elevated blood pressure. In the hospital, acute renal failure, anemia, thrombocytopenia, and elevated lactate dehydrogenase were detected. An initial kidney biopsy was inconclusive. Hemodialysis was started as renal replacement therapy.

Approximately one month later, a repeat kidney biopsy identified thrombotic microangiopathy (TMA). ADAMTS13 activity was normal, Shiga toxin test in stool was negative, so thrombotic thrombocytopenic purpura (TTP) and typical HUS were ruled out. Based on these results, clinical presentation and repeat biopsy findings, aHUS was diagnosed.

The patient was started on pathogenetic therapy with a C5 inhibitor (eculizumab), while hemodialysis was continued three times weekly. Renal function improved over time, and hemodialysis was stopped after two months.

Summary

In a patient with thrombocytopenia, anemia, and acute renal failure, TMA was identified on kidney biopsy. Other causes of TMA were excluded, and aHUS was diagnosed. Despite severe renal failure and the need for renal replacement therapy, initiation of specific treatment with a C5 inhibitor resulted in improvement of renal function.

Objectives

Methods

Results

Conclusions

This clinical case shows that kidney biopsy is essential for diagnostic clarification and that specific pathogenetic treatment can improve renal function even when renal replacement therapy has already been initiated.

SEVERE HEADACHE AS A MANIFESTATION OF POST-TRANSPLANT LYMPHOPROLIFERATIVE DISORDER IN A YOUNG WOMAN AFTER KIDNEY TRANSPLANTATION: A CASE REPORT

Mr. Ernestas Gulbickis¹

1. Vilnius University, Lithuania

Keywords

Central nervous system; Headache; Kidney transplantation; Post-transplant lymphoproliferative disorder.

Introduction

Kidney transplantation and long-term immunosuppression is associated with serious complications, including post-transplant lymphoproliferative disorders (PTLD). PTLD represent a heterogeneous spectrum of lymphoid malignancies and commonly involve extranodal sites. Central nervous system involvement is infrequent, notably after kidney transplantation. It may present with nonspecific neurological symptoms, potentially delaying diagnosis.

Case Description

A 29-year-old female kidney transplant recipient was admitted to the hospital for cytomegalovirus infection treatment. She had a complex medical history, including vesicoureteral reflux, chronic pyelonephritis, and two kidney transplantations. She received a living-donor transplant from her mother at the age of 20 and a cadaveric transplant at 27 due to the chronic rejection of the first graft. Her post-transplant period was complicated by repeated infections, cytomegalovirus viremia, and antibody-mediated rejection. During her hospitalization, the patient developed severe headaches. Brain imaging revealed focal lesions in the cerebellum and cerebral cortex. The differential diagnosis included infections of various etiology, prompting extensive evaluation with cerebrospinal fluid analysis and 18S PCR. It confirmed a presence of aspergillosis and EBV. Despite voriconazole and ganciclovir therapy, there was no clinical improvement, additionally, the motor skills of the left hand became impaired, and subsequent brain lesion biopsy confirmed PTLD diagnosis. Treatment included reduction of immunosuppression, cessation of antifungal therapy, and initiation of rituximab. The patient's condition improved. On repeat imaging, no new lesions were detected.

Summary

This case presents central nervous system (CNS) post-transplant lymphoproliferative disorder following kidney transplantation. It was initially differentiated from infectious etiologies. Lack of clinical improvement ultimately led to the CNS PTLD diagnosis.

Conclusions

This case illustrates the intricacy of transplant recipient management and emphasizes the importance of histopathological examination, which remains the gold standard for diagnosis of PTLD.

SIMULTANEOUS LIVER TRANSPLANTATION AND SLEEVE GASTRECTOMY FOR MASLD CIRRHOSIS: A CASE REPORT

Ms. Žavinta Laikūnaitė¹, Ms. Elija Jančauskaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

MASLD, liver transplantation, sleeve gastrectomy, obesity, metabolic comorbidities

Introduction

Metabolic dysfunction-associated steatotic liver disease (MASLD) has rapidly emerged as a silent global pandemic. Its prevalence continues to rise with obesity, making MASLD one of the leading indications for liver transplantation. Patients with advanced MASLD frequently have significant excess body weight accompanied by metabolic comorbidities, which complicate transplant candidacy and negatively impact postoperative outcomes. To address these challenges, combined liver transplantation with bariatric surgery – most commonly sleeve gastrectomy – has been increasingly explored as an integrated therapeutic approach.

Case Description

A 45-year-old woman presented with long-standing obesity since childhood and MASLD-related decompensated liver cirrhosis requiring repeated large-volume paracenteses and pleural punctures due to massive ascites and hydrothorax. On admission, her weight was 140 kg, corresponding to class III obesity (BMI >40), with comorbid type 2 diabetes and arterial hypertension. At the time of evaluation, the patient had a MELD score of 27, with progressive hepatic decompensation despite treatment. She was included in the liver transplantation waiting list with a plan to perform concomitant bariatric surgery once a suitable donor became available. Following successful restoration of graft circulation during liver transplantation, and given the patient's stable intraoperative status, a sleeve gastrectomy was performed in the same surgical session.

Summary

The postoperative course was favourable. The patient demonstrated good graft synthetic function on follow-up and experienced significant clinical improvement, including 50 kg weight reduction. Metabolic comorbidities improved, and immunosuppression was successfully managed with tacrolimus as the core agent. At 6 months after transplantation, liver biochemistry remained stable, and tacrolimus dosing was adjusted according to therapeutic levels.

Objectives

-

Methods

-

Results

-

Conclusions

This case demonstrates that simultaneous liver transplantation and sleeve gastrectomy can be safely performed in selected patients with MASLD and severe obesity. The combined surgical approach may effectively address metabolic risk factors without compromising graft function.

THE (UN)USUAL SUSPECT: CANCER AS A CULPRIT OF ATYPICAL AUTOIMMUNE RHEUMATIC DISEASE - A CASE REPORT

Ms. Goda Ivaškevičiūtė¹, Ms. Ugnė Brazauskaitė¹

1. Vilnius University, Lithuania

Keywords

Paraneoplastic dermatomyositis; Systemic lupus erythematosus;

Introduction

Dermatomyositis (DM) is an autoimmune disease that presents with cutaneous and extracutaneous manifestations, such as Gottron's papules, heliotropic rash and muscle weakness. It is associated with other autoimmune disorders, including systemic lupus erythematosus (SLE), and a higher risk of malignancy compared with the general population.

Case Description

A 70-year-old female presented with progressive muscle weakness, nausea and skin manifestations, including pruritus, erythema, pain and alopecia. Immunological testing revealed positive ANA, while anti-dsDNA and ANCA were negative. Inflammatory markers were within normal limits. Initial skin punch biopsy from the forehead showed histological changes consistent with lupus erythematosus. Despite initiated therapy, skin lesions spread.

Later the rash partially regressed, but alopecia developed, along with muscle pain and malaise. Increasing doses of glucocorticoids and methotrexate failed to achieve sufficient clinical response. Due to the refractory disease course, further evaluation was undertaken. Myositis-specific autoantibodies were positive, while CK activity remained within normal limits. PET demonstrated increased metabolic activity in the skeletal muscles. Muscle biopsy showed no structural abnormalities. Extensive oncological evaluation revealed no evidence of malignancy.

Given the presence of clinical features of both SLE and DM, an overlap syndrome was diagnosed. Despite multiple immunosuppressive therapies, disease control remained insufficient and treatment with rituximab was initiated. Only a partial response was observed, prompting repeat oncological evaluation. Whole-body CT showed an omental lesion and a biopsy was performed. Histology revealed a high-grade (G3) serous papillary carcinoma. Primary tumor of fallopian tube is suspected, patient was referred to surgical treatment.

Summary

This report presents a diagnostically challenging case of overlap syndrome and demonstrates the value of diagnostic reassessment in treatment-resistant cases.

Conclusions

In cases of treatment-resistant atypical rheumatic disease, a potential paraneoplastic etiology must be excluded. Even in the absence of initial diagnostic evidence, investigations should be repeated.

TREATMENT OF ANTI-HMGCR IMMUNE-MEDIATED NECROTISING MYOPATHY WITH A COMBINATION OF RITUXIMAB AND INTRAVENOUS IMMUNOGLOBULIN: A CASE REPORT

Ms. Krista Kļaviņa¹

1. Riga Stradins University, Latvia

Keywords

Immune-mediated necrotising myopathy; Anti-HMGCR antibodies; Rituximab;

Introduction

Anti-HMGCR antibody-associated immune-mediated necrotising myopathy is a rare and often treatment-refractory myopathy. Standard immunosuppressive therapy may be ineffective or poorly tolerated, while evidence for long-term biologic therapy remains limited. This report presents a complex case in which rituximab was used as a long-term disease-stabilising therapy.

Case Description

A 72-year-old woman with a history of progressive proximal muscle weakness was initially diagnosed with idiopathic polymyositis in 2010 based on clinical presentation, electromyography, muscle biopsy, and laboratory findings. Despite treatment with corticosteroids, azathioprine, methotrexate, and cyclophosphamide, the patient achieved no clinical improvement. The disease course was complicated by steroid-induced myopathy, severe steroid-induced osteoporosis, and multiple low-energy fractures. The patient was ultimately diagnosed with anti-HMGCR-associated immune-mediated necrotising myopathy. Additionally, the patient developed isolated autonomic dysfunction with predominant orthostatic intolerance, significantly increasing the risk of falls and functional impairment. Due to treatment resistance and severe adverse effects, conventional immunosuppressive therapy was discontinued. Since 2016, long-term therapy with rituximab has been initiated following a multidisciplinary decision and national reimbursement approval, resulting in partial disease stabilisation and slower progression. In 2024, intravenous immunoglobulin therapy was introduced as an adjunctive treatment to rituximab. Management of orthostatic intolerance with fludrocortisone or midodrine was considered.

Summary

This report presents a rare case of anti-HMGCR-associated immune-mediated necrotising myopathy in which long-term rituximab therapy was implemented, resulting in sustained disease stabilisation after intolerance of standard immunosuppressive treatment.

Conclusions

In this patient with anti-HMGCR-associated immune-mediated necrotising myopathy, long-term rituximab therapy enabled sustained disease stabilisation after intolerance of conventional immunosuppressive treatment. This case highlights prolonged B-cell-targeted therapy as a potential option after unsuccessful conventional immunosuppressive treatment.

WHEN A RARE PATHOGEN PERSISTS – RELAPSING *BREVIBACTERIUM CASEI* PERITONITIS IN A FARMER ON A PERITONEAL DIALYSIS

Ms. Izabelė Gervelytė¹, Mr. Ernestas Gulbickis¹

1. Vilnius University, Lithuania

Keywords

Brevibacterium casei; peritoneal dialysis; peritonitis.

Introduction

Peritonitis is a frequent adverse event of peritoneal dialysis (PD), affecting up to 45 % of patients. It is usually caused by Gram-positive bacteria, such as *Staphylococcus epidermidis* and *Staphylococcus aureus*. In some cases, atypical pathogens could be involved. An example of such microorganism is *Brevibacterium casei*, a Gram-positive, aerobic, non-spore-forming, non-motile coryneform bacteria. It is known to cause sepsis, salpingitis, cholangitis, and meningitis.

Case Description

A 66-year-old man, a farmer, presented with the complaints of fatigue, abdominal pain, hypotension and cloudy dialysate. He had been receiving automated peritoneal dialysis for three years. Laboratory tests showed that the level of C-reactive protein and creatinine were elevated with the results of 171 mg/l and 662 µmol/l, respectively. Analysis of PD-effluent showed a white blood cell count of 4595. Empiric intraperitoneal therapy with vancomycin and gentamycin was started. Initial culture results indicated possible growth of *Brevibacterium casei*. Antibiotic susceptibility testing demonstrated sensitivity to vancomycin, clindamycin, tetracycline, and linezolid, therefore, the treatment was adjusted to intraperitoneal vancomycin and clindamycin. The patient's clinical symptoms resolved, laboratory parameters normalized, and subsequently, he was discharged. However, after two months the patient was admitted to the hospital because of the peritonitis relapse. *Brevibacterium casei* was isolated from the dialysate, again. Intraperitoneal vancomycin and clindamycin were prescribed, the PD catheter was removed, and the patient was transitioned to hemodialysis. His clinical condition improved, and no further episodes of peritonitis have occurred.

Summary

The patient was diagnosed with relapsing peritonitis, caused by *Brevibacterium casei*. Following relapse, no modification of the previous antibacterial therapy was made, the PD catheter was removed, and the patient had no further relapses of peritonitis.

Conclusions

This case emphasizes the need to consider rare etiologies of PD-associated peritonitis, even though there are only a few cases of *Brevibacterium casei* peritonitis reported worldwide.

WHEN RENAL FINDINGS MASK CARDIAC DISEASE: A CASE OF CARDIORENAL SYNDROME

Ms. Milda Lekšaitė¹, Ms. Emilija Daugėlaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Hypervolemia; Point-of-care ultrasound (PoCUS); Cardiorenal syndrome

Introduction

Cardiorenal syndrome reflects a complex interplay between cardiac and renal dysfunction, often compounded by fragmented management between cardiology and nephrology. Traditional phrases like “the heart likes it dry and the kidneys like it wet” oversimplify care and perpetuate misconceptions about diuretic use and fluid management. Evidence implicates venous congestion, rather than reduced cardiac output, as a key driver of worsening renal function and adverse outcomes in heart failure.

Case Description

A 56-year-old man presented with progressive dyspnea over two weeks following a viral infection, accompanied by severe hypertension. Initial emergency evaluation suggested acute kidney injury (AKI) with nephritic-like urinary sediment. The patient was admitted to the Nephrology Department for further investigation. Subsequent evaluation raised suspicion for type 1 cardiorenal syndrome, supported by elevated BNP (2407.8 ng/L) and signs of pulmonary hypertension on chest CT. Point-of-care ultrasound (PoCUS) facilitated the quantitative assessment of tissue characteristics and venous congestion, thereby guiding decongestive therapy. Volume status was monitored daily using PoCUS. Following targeted treatment, the patient achieved euvolemia, renal function normalized, and urinary abnormalities resolved. Further cardiac evaluation, including echocardiography and cardiac MRI, revealed a congenital bicuspid aortic valve, left ventricular dysfunction, and suspected infiltrative cardiomyopathy. The patient was transferred to the Cardiology Clinic for mechanical aortic valve replacement and was subsequently discharged to a rehabilitation facility in stable condition.

Summary

This case highlights the utility of PoCUS in managing complex cardiorenal syndromes. Monitoring volume status allowed for safe decongestion and normalization of kidney function. This case illustrates the diagnostic complexity of acute kidney injury and the importance of distinguishing between primary renal disease and cardiac-related dysfunction.

Conclusions

Hypervolemia and venous congestion represent reversible contributors to acute kidney injury in heart failure-associated cardiorenal syndrome. Precise differentiation, along with timely decongestive therapy, is critical to restore renal function and avert unnecessary nephrological interventions.

WHEN RHEUMATOID ARTHRITIS MASKS LUPUS: A RARE CASE OF RHUPUS SYNDROME

Ms. Anita Stepena¹

1. Riga Stradins University, Latvia

Keywords

Rhupus syndrome; lupus nephritis; overlap syndrome

Introduction

Rhupus syndrome is a rare overlap of rheumatoid arthritis (RA) and systemic lupus erythematosus (SLE), combining erosive polyarthritis typical of RA with immunological and systemic features of SLE. Unlike SLE, which usually causes non-erosive arthritis, rhupus leads to progressive joint destruction. Its prevalence is extremely low, affecting 0.01–2% of systemic rheumatic disease cases.

Case Description

A 57-year-old woman with a 12-year history of seropositive RA was treated with NSAIDs, methotrexate, leflunomide, and etanercept. In February 2025, she was hospitalized with acute kidney injury, normocytic anemia, proteinuria, and microscopic hematuria (hemoglobin 9.9 g/dL, proteinuria 1.5 g/L). These findings were initially attributed to drug toxicity or NSAID-associated nephropathy. Despite withdrawal of suspected agents, renal abnormalities progressed over the following weeks, with worsening anemia and increasing proteinuria to 2.5 g/24 h. CT revealed a previously unrecognized pericardial effusion, prompting systemic evaluation. Immunological testing showed high-titer ANA (1:640) with weak anti-dsDNA and anti-Ro52/anti-SSB positivity—an immunological profile suggestive but difficult to interpret in the context of long-standing RA. Subsequently, the disease rapidly progressed to nephrotic-range proteinuria, accompanied by peripheral edema and weight gain. Renal biopsy initially demonstrated membranous glomerulonephritis with IgG and C3 deposits. Due to discordance with clinical severity, a second expert review revealed active membranoproliferative lupus nephritis with endocapillary and extracapillary involvement, confirming late-onset SLE overlapping with RA. Triple immunosuppressive therapy was initiated in July 2025, resulting in clinical and laboratory improvement with stabilization of renal function. At follow-up, inflammatory arthritis of the hands remained the patient's predominant complaint.

Summary

This case illustrates a rare presentation of rhupus syndrome, with long-standing RA preceding a delayed and severe SLE with visceral involvement, including lupus nephritis.

Conclusions

Rhupus syndrome should be considered in patients with established RA who develop unexplained systemic or renal manifestations, as organ-threatening SLE features may be masked by arthritis.

**Surgery (traumatology,
urology, gynaecology,
otorhinolaryngology etc.)**

A CASE OF LAPAROSCOPIC REVERSAL OF ROUX-EN-Y GASTRIC BYPASS FOR REFRACTORY POSTOPERATIVE NAUSEA

***Ms. Una Gadzāne**¹*

1. Riga Stradins University, Latvia

Keywords

Bariatric surgery, Roux-en-Y gastric bypass, obesity, complications, reversal

Introduction

Reversal of Roux-en-Y gastric bypass (RYGB) is an uncommon but sometimes necessary intervention for patients who develop severe, therapy-resistant postoperative symptoms, for example, dumping syndrome, excessive weight loss and refractory nausea.

Case Description

We report the case of a 39-year-old female who developed persistent nausea, anorexia, weakness, and profound weight loss following uncomplicated RYGB. Despite nutritional counselling, antiemetic therapy, and subsequent laparoscopic repair of Petersen's defect, her symptoms recurred without identifiable radiologic or biochemical abnormalities. Given the persistence and intensity of her symptoms, a laparoscopic reversal to normal anatomy was performed 15 months after the initial operation. Postoperatively, she experienced complete resolution of nausea and anorexia, with weight stabilisation and remission of prior musculoskeletal pain and gastroesophageal reflux disease.

Summary

This case highlights the diagnostic and therapeutic challenges associated with refractory postoperative nausea after RYGB, the need for careful multidisciplinary evaluation, including consideration of psychological contributors, and the role of reversal surgery as a last resort when conservative management fails.

Conclusions

Bariatric surgery effectively treats obesity, but rare complications such as refractory nausea can increase morbidity. Management should prioritise conservative therapy, with surgical intervention reserved for unresponsive cases.

SQUAMOUS CELL CARCINOMA OF THE EYELID RESULTING IN ORBITAL EXENTERATION

Ms. Agilė Kučinskaitė¹

1. Vilnius University, Lithuania

Keywords

Squamous cell carcinoma; orbital cancer; eyelid cancer; exenteration.

Introduction

Eyelid cancers are one of the most common indications for exenteration. Squamous cell carcinoma (SCC) is the second most common cancer of the eyelids, representing about 10–15% of malignant tumours. Exenteration is usually required in cases involving orbital infiltration. Due to large scale of the surgery it is important to choose a suitable technique for reconstructing the exenterated orbital cavity.

Case description

In June 2023, 65 y.o. male presented with a left lower eyelid growth. Tumour excisions under local anaesthetic were performed in June, July, and October 2023. Biopsy in December 2023 revealed moderately differentiated (G2) SCC. MRI showed retrobulbar muscle infiltration. In February 2024, orbital exenteration was performed with incisions above the eyebrow, along the lateral orbit, through the lower eyelid, and medially via the lateral nose; reconstruction utilized a rotational forehead–scalp flap. Histology showed a 3.5×3×2 cm tumour reaching the resection margin without globe involvement. Postoperative radiotherapy was administered March–May 2024.

In January 2025, imaging revealed periosteal, bone marrow and dura mater involvement, and biopsy confirmed recurrent SCC. Flap collapse was observed. In May 2025, resection of the superior, medial, and inferior orbital walls, duroplasty, and vascularized latissimus dorsi flap reconstruction were performed. On October 2025, the flap was viable, well-fixed, and MRI showed no residual lesions.

Summary

This case describes eyelid squamous cell carcinoma requiring orbital exenteration for retrobulbar muscle invasion. Due to positive margins, flap collapse, and dural involvement, orbital wall resection and duroplasty were performed. Reconstruction was achieved using a vascularized latissimus dorsi muscle flap.

Conclusions

Squamous cell carcinoma of the eyelid can invade periorbital soft tissue and bone, sometimes necessitating orbital exenteration for disease control. Large or recurrent tumors may compromise reconstruction, highlighting the need for adaptable surgical and reconstructive planning.

A challenging management course of a cranial gunshot injury in a 6-year-old.

*Ms. Marija Kairāne*¹

1. Riga Stradins University, Latvia

Keywords

Penetrating gunshot injury; gunshot wound; pediatric neurosurgery, traumatic brain injury

Introduction

Penetrating cranial gunshot injuries in children are exceptionally rare, associated with high mortality and morbidity, and require complex, staged neurosurgical management. We present the case of a 6-year-old following such an injury.

Case Description

A 6-year-old patient was admitted emergently to the hospital after sustaining a severe penetrating cranial injury caused by a gunshot wound to the right temporal bone. The projectile traversed the right temporal, parietal, and occipital lobes, resulting in extensive cerebral contusions, intracranial hemorrhage, and cerebral edema. The first urgent neurosurgical intervention was performed immediately after completion of CT and included wound revision with partial removal of projectile fragments, decompressive trepanation, and implantation of an ICP sensor. Postoperatively, the patient was managed in the ICU for 4 days and, following neurological improvement, was transferred to the neurosurgery department, continuing rehabilitation. Due to a skull defect, a protective cranial helmet was fitted. After clinical stabilization, the patient was discharged. Five months later, the patient underwent removal of the residual projectile fragments and two-piece cranioplasty of the skull defect; complete fragment removal was not feasible due to the proximity of eloquent structures. Two months later, the implant fractured following a trauma, requiring revision surgery. The damaged cranioplasty was removed and replaced with a single-piece implant. Following revision surgery, the patient demonstrated a stable neurological status and continues rehabilitation.

Summary

A 6-year-old patient sustained a penetrating cranial gunshot injury requiring emergency decompression, partial fragment removal, and delayed cranioplasty, later revised due to implant fracture.

Conclusions

This case highlights the challenging management of penetrating cranial gunshot injury. Complete removal of projectile fragments is not always feasible or necessary, as retained fragments may migrate over time without causing any complications. Additionally, single-piece cranioplasty offers greater durability and may be preferred over two-piece implants.

A COMPLEX COURSE OF BENIGN PROSTATIC HYPERPLASIA COMPLICATED BY *CORYNEBACTERIUM UREALYTICUM* INFECTION

Mr. Maksimilians Rate¹, Ms. Jeļizaveta Ponomarjova¹, Mr. Gustavs Viļums¹

1. University of Latvia, Latvia

Keywords

Benign prostatic hyperplasia; *Corynebacterium urealyticum*; encrusted uropathy; recurrent urinary calculi

Introduction

Corynebacterium urealyticum is an uncommon uropathogen associated with encrusted uropathy, multidrug resistance, and persistent stone formation. The organism is estimated to be present in less than 1% of the general population and does not routinely grow on standard urine cultures, as it requires prolonged incubation and specific culture conditions.

Case Description

A 76 year old male with a long-standing history of BPH, initially treated conservatively, who progressed to severe infravesical obstruction requiring transvesical simple prostatectomy in 2021. Despite surgery, the patient developed recurrent calculi in the prostatic lodge and urinary bladder, necessitating multiple endoscopic interventions, including repeated laser cystolithotripsy between 2022 and 2024. Episodes of acute urinary retention and chronic cystitis were frequent.

From 2023 onward, abdominal imaging revealed indeterminate hepatic lesions. Contrast-enhanced CT demonstrated hepatomegaly with focal liver lesions initially described as hepatomas.

In 2025, urine and operative material cultures repeatedly isolated *Corynebacterium urealyticum*, exhibiting multidrug resistance with susceptibility limited to vancomycin and rifampicin. Histopathological examination showed multiple calculi, chronic active inflammation, and focal necrosis, consistent with chronic encrusted uropathy. Targeted vancomycin therapy led to microbiological eradication.

Later in 2025, CT urography performed for evaluation of macroscopic hematuria demonstrated resolution of urolithiasis, with no residual urinary calculi identified.

Summary

This case illustrates a prolonged and complex postoperative course complicated by infection with an extremely rare, difficult to diagnose, and challenging to treat uropathogen, *Corynebacterium urealyticum*. Persistent infection led to recurrent urinary calculi, chronic inflammation, and repeated surgical interventions, significantly complicating long-term management.

Conclusions

Chronic *Corynebacterium urealyticum* infection should be considered in patients presenting with recurrent urinary calculi, persistent cystitis, and a history of urological surgery or instrumentation. Early recognition, targeted microbiological investigation, and appropriate antimicrobial therapy are essential to prevent ongoing morbidity and avoid misinterpretation of imaging findings.

ADULT PRESENTATION OF DUPLICATED COLLECTING SYSTEM WITH URETEROCELE AND MULTIPLE URETERIC CALCULI

***Ms. Arathi Nair*¹**

1. Riga Stradins University, Latvia

Keywords

Duplicated collecting system; Ureterocele; Hydroureteronephrosis; Ureteric calculi; Cystolithotripsy

Introduction

Birth defects of the urinary tract are usually caught in childhood, but some remain hidden until adulthood. One such rarity is “ureteral duplication,” where a kidney has two separate ureters instead of one. This is often complicated by a “ureterocele”—a balloon-like swelling at the end of the tube where it enters the bladder. While ureteroceles can cause blockages, it is exceptionally rare to find them packed with a massive number of stones in an adult.

Case Description

A 44-year-old woman presented with intermittent left flank pain. She had no alarming history, infections or prior surgeries. While her physical exam was normal, imaging revealed complete ureteral duplication on her left side. The lower end of one ureter was swollen into a large ureterocele inside her bladder and was filled with multiple renal calculi (approx. 30 stones), causing hydronephrosis and scarring of the upper renal moiety. A functional DTPA scan showed that her left kidney had a 45% reduction in filtering ability due to this lifelong blockage (GFR 40.5 ml/min).

Summary

She underwent endoscopic smiley incision of the ureterocele with cystolithotripsy to relieve the pressure and break the calculi under general anesthesia. The surgery was successful, and the patient recovered without complications, preserving her remaining kidney function.

Conclusions

This case illustrates the critical intersection of embryology and adult medicine. While congenital anomalies like ureteroceles cannot be prevented, their progression into a clinical crisis is avoidable through early detection. This case serves as a medium for the use of routine prenatal and pediatric screenings to identify these glitches before they escalate. Ultimately, it reinforces the vital role of minimally invasive intervention as the gold standard, proving that even the most complex congenital obstructions can be managed safely, effectively, and with minimal impact on the patient’s life.

AN EXTENSIVE NETWORK OF VASCULAR COLLATERALS IN MALE WITH ABDOMINAL AORTA OCCLUSION

Ms. Anete Labalaika¹

1. Riga Stradins University, Latvia

Keywords

Aortoiliac occlusive disease; Abdominal aortic occlusion; Leriche syndrome; Collateral circulation; Computed tomography angiography

Introduction

Aortoiliac occlusive disease is defined by the narrowing of arteries or embolic blockage, which results in diminished blood flow to distal organs. Leriche syndrome typically affects the aortic bifurcation. The primary underlying factor contributing to this condition is atherosclerosis, which is associated with prevalent demographic, lifestyle, genetic, and cardiovascular risk factors.

Case Description

A 76-year-old man was referred for an ambulatory computed tomography angiography examination due to lower limb sensory changes. The findings from the CTA revealed a total infrarenal abdominal aortic occlusion that involved both common iliac arteries and a complete occlusion of the external iliac arteries along their full lengths. Even with the thorough occlusion, blood circulation was restored at the common femoral artery level via collateral vessels deriving from the pelvic arteries and the anterior abdominal wall. Mixed-density atherosclerotic plaques were found in the proximal superficial femoral arteries, being more pronounced on the left side and causing stenosis of up to 55%. No considerable pathological constriction or expansion was observed in the arteries of the lower leg and deep femoral regions.

Summary

This case report demonstrates the development of a significant collateral vascular network due to chronic subrenal abdominal aortic occlusion, aiding in the perfusion of the pelvic organs and lower limbs. The main collateral pathways comprised the superior-inferior epigastric arterial system supplying the common femoral arteries, anastomoses between intercostal and lumbar arteries with the internal/external iliac arteries, and connections between the superior and inferior mesenteric arteries through the artery of Moskowicz and the marginal arch of the colon.

Conclusions

In cases of chronic subrenal abdominal aortic occlusion, a clinically significant multilevel collateral network can develop that partially compensates for the decreased blood flow to the pelvis.

An Unidentified Mobile Abdominal Mass in a Newborn of Gynecologic Origin

Ms. Viktorija Lovniece¹

1. Riga Stradins University, Latvia

Keywords

Antenatal ovarian torsion , Autoamputation, Wandering abdominal mass, Abdominal mass in neonate, Conservative management

Introduction

Antenatal ovarian torsion is rare, with autoamputation being exceptional. We report a newborn with a mobile abdominal mass, demonstrating that expectant management with serial imaging can safely obviate surgical intervention.

Case Description

At 32 weeks' gestation, antenatal ultrasound identified a left pelvic cystic lesion with absent vascular flow, suggestive of ovarian torsion.

The infant was delivered at term in good health. Postnatal ultrasound on 2nd revealed multicameral left abdominal cyst. MRI on 6th day displayed a multiloculated lesion with hemorrhagic content and diffusion restriction, consistent with an autoamputated ovary; the left ovary was not visualized.

A multidisciplinary team recommended conservative management with serial imaging. Ultrasound on 13th day confirmed a mobile mass at the umbilical level. Oncology markers were drawn, results were inconclusive of increased malignancy risk. MRI day 20 showed migration of the mass, and subsequent ultrasounds documented further movement to the right pelvis with progressive size reduction.

By fifth month, the mass was no longer detectable and the infant remained asymptomatic.

Summary

A mobile abdominal mass was safely monitored using serial imaging. Expectant management led to complete spontaneous resolution, avoiding unnecessary surgery.

Conclusions

Autoamputated antenatal ovarian torsion can present as a mobile neonatal mass. Serial imaging and multidisciplinary follow-up allow safe expectant management, avoiding unnecessary surgery in absence of established guidelines.

ANTEPARTUM PREECLAMPSIA WITH DEVELOPMENT OF ECLAMPSIA AT 34 WEEKS GESTATION - CASE REPORT

Ms. Linda Podniece¹

1. Riga Stradins University, Latvia

Keywords

Preeclampsia, eclampsia, antepartum.

Introduction

Hypertensive disorders of pregnancy remain a leading cause of maternal and perinatal morbidity. Preeclampsia, characterized by hypertension and proteinuria, may rapidly progress to eclampsia, defined by new-onset seizures, posing significant risk to both mother and fetus. This case report describes the development of eclampsia in a patient with preeclampsia at 34 weeks gestation (WG).

Case Description

A 42-year-old woman (G4P3) was admitted at 34⁺⁵ WG with known gestational diabetes, arterial hypertension and iron deficiency anemia, since 1st trimester, brought to the emergency department by emergency medical services with signs of preeclampsia - strong headache, visual disturbances, edema on both lower legs with a blood pressure (BP) on right arm 218/124 mmHg and 210/128 on left arm. HGB 10.9g/dL, PLT 141 10³/uL, protein in urine 1.48 g/dL, spinal tap without pathology. Transferred to gynecology ward for further treatment. Patient received i/v MgSO₄, i/v Labetalol, but the hypertension persisted and 30 min after initial admission the patient had a seizure 30-60s long with loss of consciousness and was prepped for an acute C-section, with general anesthesia, the baby was delivered and sedation continued in ICU for 24h. Blood transfusion was performed due to postoperative HGB 6.6 g/dL. She is currently improving, with continued antihypertensive therapy due to resistant hypertension.

Summary

This case highlights rapid progression of antepartum preeclampsia to eclampsia with recurrent seizures and resistant hypertension. Quick diagnosis, immediate anticonvulsive, antihypertensive therapy, and urgent C-section were essential to prevent further maternal and fetal complications.

Conclusions

Antepartum eclampsia is a life-threatening emergency that requires rapid diagnosis and decisive management. Prompt delivery remains the definitive treatment. Early recognition, close antenatal monitoring of high-risk pregnancies, and timely multidisciplinary intervention are crucial to reduce maternal and perinatal morbidity and mortality.

ANTERIOR-INFERIOR DISLOCATION OF THE FEMORAL COMPONENT OF A TOTAL HIP JOINT ENDOPROSTHESIS

Ms. Liza Panicuka¹

1. Riga Stradins University, Latvia

Keywords

Total hip arthroplasty; Anterior-inferior dislocation; Revision surgery; Alcohol-related trauma

Introduction

Anterior-inferior dislocation, also known as obturator dislocation, of the femoral component after a total hip arthroplasty (THA) is a rare but potentially serious complication, with only a few case reports published to date. This case contributes to the existing knowledge concerning its mechanisms, risk factors, and management strategies.

Case Description

A 51-year-old male was first admitted to the hospital after a fall from a staircase while intoxicated. Initial evaluation revealed a left femoral intracervical fracture along with a head injury, generalized atherosclerosis, alcohol intoxication, and secondary anemia. The patient underwent total hip arthroplasty. Postoperatively, regular wound care was performed, the surgical site healed primarily, and sutures were removed. The patient was educated on mobilization with assistive devices and was discharged in satisfactory condition. 22 days after the initial THA, the patient suffered a second fall while intoxicated and was readmitted. Radiographic findings demonstrated a medial dislocation of the femoral head component. A closed reduction attempt was performed, but was unsuccessful. Three days later, the patient underwent open reduction, during which the femoral head component was replaced with a size one larger. Postoperatively, the surgical wound healed primarily, sutures were removed, and the patient was discharged in satisfactory condition.

Summary

Recurrent alcohol-related trauma led to an early prosthetic dislocation requiring revision. Close postoperative supervision, patient education regarding fall prevention, and the added risk of complications due to alcohol consumption are essential to prevent complications and recurrent traumas.

Conclusions

In the management of trauma patients, patient adherence to postoperative recommendations is as critical as the technical success of surgery. Regardless of surgical outcomes, engagement in risky behaviors, including alcohol consumption, significantly increases the risk of complications or recurrent trauma. Strict avoidance of alcohol is essential in the postoperative period of any patient to minimize preventable adverse events.

Aseptic loosening of glenohumeral joint reverse arthroplasty case report.

***Mr. Oskars Otaņķis**¹*

1. Riga Stradins University, Latvia

Keywords

Aseptic endoprosthesis loosening. Arthroplasty revision.

Introduction

This case highlights aseptic loosening as an uncommon but clinically important complication following reverse arthroplasty in patient treated for osteoarthritis. It emphasizes the importance of postoperative surveillance, early recognition of implant-related complications and timely revision surgery.

Case Description

A 75 year old female patient with shoulder osteoarthritis had complaints of shoulder pain. After injection therapy did not result in significant clinical improvement, surgical treatment with shoulder joint arthroplasty was indicated. Within the same year aseptic endoprosthesis loosening was identified and a revision arthroplasty was performed with subsequent clinical improvement at follow-up.

Summary

This case demonstrates that even when the initial postoperative course is uneventful, aseptic loosening can occur as an early complication. Timely diagnosis and revision can result in pain relief and satisfactory outcomes, even in elderly patients.

Conclusions

This case underscores the importance of vigilant follow-up after arthroplasty, as endoprosthesis loosening, although uncommon, can be successfully managed with revision surgery and good clinical outcomes.

BEYOND GLIOMAS: 5-ALA–GUIDED RADICAL RESECTION OF EN PLAQUE MENINGIOMA WITH EXTENSIVE HYPEROSTOSIS

*Mr. Zenons Beļskis*¹

1. Riga Stradins University, Latvia

Keywords

En plaque meningioma; 5-ALA; fluorescence-guided resection; Simpson Grade I; calvarial hyperostosis; transitional meningioma.

Introduction

En plaque meningiomas are a rare (2–9%) WHO Grade I subtype with extensive calvarial hyperostosis. Complete excision (Simpson Grade I, including the involved dura and bone) is required to minimize recurrence. Fluorescence-guided surgery with 5-ALA is established in glioma resection and has been proposed to improve delineation of infiltrative meningioma margins.

Case Description

A 50-year-old male presented with a 2-year history of headache and left frontal swelling. Imaging showed extensive left frontoparietal bone hyperostosis and dural thickening with dural-tail enhancement, consistent with en plaque meningioma. A left frontoparietal craniotomy was performed after 20 mg/kg oral 5-ALA administration. Under blue-light fluorescence, the involved bone and dura glowed red, delineating tumor extent. The hyperostotic bone flap and fluorescent dura were resected with a 1.5-cm margin. The dura was repaired with a pericranial patch and the skull defect reconstructed with a PMMA cranioplasty. Histology confirmed WHO Grade I transitional meningioma infiltrating bone and dura, with tumor-free margins (Simpson Grade I). Postoperatively, the patient had immediate headache relief and at 12 months remained asymptomatic with no recurrence.

Summary

5-ALA fluorescence marked tumor-involved bone and dura, enabling Simpson Grade I resection. This is the first reported use of 5-ALA guidance for calvarial meningioma in Latvia. Fluorescence guidance thus enabled radical excision of this diffuse tumor that would be difficult to visualize under white light.

Conclusions

5-ALA–guided surgery can achieve Simpson Grade I resection with clear margins in en plaque meningiomas, leading to excellent outcome. This novel application in a benign meningioma highlights its potential beyond malignant gliomas. We recommend 5-ALA guidance in similar cases to maximize resection and minimize recurrence.

BIOLOGIC MODULATION OF A CHRONIC POST-SURGICAL WOUND IN A HIGH-RISK GERIATRIC PATIENT: A CASE REPORT

***Ms. Mikeila Jazbutytė**¹*

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Chronic wounds, Post-surgical wounds, Geriatric patients, Amniotic membrane skin substitutes

Introduction

Chronic wounds are characterized by impaired progression through normal wound healing phases and are particularly common in elderly patients due to age-related changes, including cellular senescence, reduced skin elasticity, impaired immune response, and delayed cellular regeneration [1–4]. When standard wound care fails to achieve healing within the expected timeframe, escalation to advanced therapies, including acellular and cellular skin substitutes, may be considered in high-risk patients [5].

Case Description

An 87-year-old homebound male with multiple cardiovascular comorbidities developed a chronic non-healing post-surgical wound following thrombectomy for left superficial femoral artery occlusion. Despite more than four weeks of conservative wound management, the wound failed to demonstrate meaningful progression toward closure. Clinical assessment revealed a clean, full-thickness wound without signs of infection but persistent impaired healing. Given the patient's high-risk clinical profile and failure of standard care, a dehydrated amniotic membrane skin substitute was applied as a second-line biologic therapy. Following treatment, the wound demonstrated progressive contraction, healthy granulation tissue formation, and measurable reduction in wound dimensions without local or systemic complications.

Summary

This case demonstrates the use of amniotic membrane-based biologic therapy in a chronic post-surgical wound after failure of standard care, resulting in measurable wound improvement in a high-risk geriatric patient.

Conclusions

In chronic post-surgical wounds unresponsive to optimized standard care, amniotic membrane-based skin substitutes may serve as a useful adjunctive therapeutic option, supporting epithelialization and clinically meaningful wound healing in selected high-risk geriatric patients.

BIOPROSTHETIC AORTIC VALVE REPLACEMENT FOR RADIATION-INDUCED SEVERE SYMPTOMATIC AORTIC STENOSIS IN A 38-YEAR-OLD HODGKIN LYMPHOMA SURVIVOR: CASE REPORT

***Mr. Reinis Rudzītis**¹*

1. Riga Stradins University, Latvia

Keywords

Aortic stenosis, Bioprosthetic aortic valve, Hodgkin lymphoma.

Introduction

Aortic valve stenosis is the most common valvular heart disease in developed countries and is predominantly caused by age-related calcific degeneration. However, prior mediastinal radiotherapy is an established cause of late-onset valvular disease. In this setting, aortic stenosis may manifest decades after treatment and progress to severe symptomatic disease at a younger age, highlighting the importance of long-term cardiovascular surveillance in cancer survivors.

Case Description

A 38-year-old female with a history of combined radiotherapy and chemotherapy for stage IVB Hodgkin lymphoma in 2008 presented in 2025 with progressive chest pain, shortness of breath and fatigue. Transthoracic echocardiography revealed severe aortic stenosis with regurgitation (Vmax 4.6m/s, AVA 0.7cm², PG 85/56mmHg, AR II). Considering the severity of valvular disease and symptomatic status, surgical intervention was indicated. The patient underwent surgical aortic valve replacement with an Inspiris Resilia 21mm bioprosthetic valve via median sternotomy under cardiopulmonary bypass. The postoperative period was without significant complications. Follow-up echocardiography showed significant hemodynamic improvements (Vmax 2.8m/s PG 30/16mmHg). These findings confirmed satisfactory prosthetic valve function and a favorable early postoperative outcome.

Summary

This case illustrates severe symptomatic aortic valve stenosis developing years after combined radiotherapy and chemotherapy for Hodgkin lymphoma. The patient presented with advanced valvular disease at a young age and was successfully treated with surgical aortic valve replacement using a bioprosthetic valve. Postoperative recovery was uneventful, with significant hemodynamic improvement on follow-up echocardiography.

Conclusions

This case highlights radiation-associated aortic stenosis as a serious late cardiovascular complication in cancer survivors. Continued cardiac surveillance is essential in patients exposed to mediastinal radiotherapy to ensure timely diagnosis and intervention before irreversible damage develops, especially in younger patients without traditional cardiovascular risk factors and with prior exposure to cardiotoxic therapy.

BIPHENOTYPIC SINONASAL SARCOMA: CASE REPORT

***Mr. Emīls Zandersons**¹*

1. Rīga Stradiņš University, Latvia

Keywords

Biphenotypic sinonasal sarcoma (BSNS), FESS, rare malignancies.

Introduction

BSNS is a rare, recently recognized sinonasal malignancy characterized by distinct molecular alterations, recurrent gene fusion products, unique phenotypic features. Since its first description, just over 100 cases have been reported – through retrospective pathological reviews, case reports. Although typically slow-growing, BSNS may demonstrate locally aggressive behavior with progressive growth, infiltration of adjacent bone structures, often presenting with nonspecific sinonasal symptoms. Due to its rarity, evidence-based management remains limited.

Case Description

A 55-year-old woman was evaluated at Pauls Stradiņš Clinical University Hospital on 25 May 2025 with progressive right-sided nasal obstruction, rhinorrhea, recurrent epistaxis, especially during physical exertion. The patient had a history of nasal angioleiomyoma diagnosed in 2005, for which she had undergone five surgical resections. Her medical history was significant for breast cancer, type 2 diabetes mellitus, arterial hypertension, thyroid disorder managed with conventional therapy. Family history revealed gastric, prostate cancer in first-degree relatives. Clinical examination revealed a recurrent mass in the right nasal cavity at the site of previous excision, and surgical resection was planned.

The patient underwent FESS including excision of the nasal mass, ethmoidotomy, lysis of intranasal synechiae. Intraoperative bleeding was successfully managed with bilateral nasal packing using hemostatic materials. The postoperative course was uneventful. Histopathological examination confirmed the diagnosis of BSNS. The patient was discharged in stable condition two days postoperatively with recommendations for a follow-up.

Summary

This case describes a rare diagnosis of BSNS following surgical treatment of a presumed recurrent benign nasal tumor.

Conclusions

This case underscores the diagnostic challenges posed by BSNS, which presents nonspecific symptoms, mimic benign recurrent tumors. Complete surgical resection remains the standard treatment. Given the limited number of reported cases, long-term follow-up and further clinical data are essential to define prognosis and adjuvant therapy.

BRANCHIAL CLEFT CYST AS A CAUSE OF CERVICAL MASS IN A YOUNG WOMAN: DIFFERENTIATION FROM OROPHARYNGEAL MALIGNANCY

Ms. Elizabete Gitendorfa¹

1. Riga Stradins University, Latvia

Keywords

Cervical mass; branchial cleft cyst; differential diagnosis; oropharyngeal metastasis; head and neck pathology;

Introduction

Branchial cleft cysts are typically benign and congenital but their presentation in adults may cause worry and resemble oropharyngeal cancer metastasis. This case is about the importance of differentiating seemingly benign cystic lesions from metastatic oropharyngeal cancer by lesion excision and histopathological evaluation.

Case Description

A young woman was referred to an otorhinolaryngologist for evaluation of a cervical mass. On clinical examination the mass was firm, mobile and non-tender, located along the anterior border of the sternocleidomastoid muscle.

Magnetic resonance imaging of the neck soft tissue showed right sided lymphadenopathy with the largest lymph node of the IIB group with a central cystic cavity. Associated swelling of the right parotid gland was also noted. Contrast enhanced computed tomography of the neck revealed a well defined hypodense mass at the hyoid bone level measuring 2,6x1,4x1,6 cm with peripheral contrast enhancement initially described as an abscess.

Surgical excision of the cervical mass was performed and histopathological examination confirmed a branchial cleft cyst.

Summary

A young woman presented with a well-defined, non-tender, mobile right sided cervical mass located along the anterior border of the sternocleidomastoid muscle. Imaging revealed right sided lymphadenopathy, largest being group IIB lymph node with a central cystic cavity, and a well-defined hypodense mass showing peripheral contrast enhancement.

Surgical excision of the lesion and the lymph node was done and histopathology confirmed branchial cleft cyst with reactive lymphatic changes.

Conclusions

All cervical masses in adults should be approached with suspicion even when clinical and radiologic features suggest a benign aetiology.

Imaging, surgical excision and histopathological examination are essential to establish an accurate diagnosis and avoid delayed diagnosis of head and neck cancer.

CASE OF FRONTAL SINUS MUCOPYOCELE WITH ORBITAL INVOLVEMENT SECONDARY TO CHRONIC FRONTITIS

Ms. Elizabete Gitendorfa¹

1. Riga Stradins University, Latvia

Keywords

Chronic frontitis; mucopyocele; orbital involvement; eyelid edema;

Introduction

This case demonstrates that frontal sinus mucocoeles may recur years after surgical treatment if adequate frontal sinus ventilation is not achieved. Initially self-limiting episodes of eyelid swelling progressed to persistent disease requiring surgery. Orbital involvement may present with ophthalmologic symptoms, emphasising multidisciplinary approach.

Case Description

A female patient was referred to the emergency department with left eyelid swelling, blurred vision and frontal headache. Ophthalmologists examination excluded a pathology of ocular aetiology.

Two months ago she experienced left eyelid swelling, resolved with antihistamines. Two weeks later, following a viral infection, the swelling recurred accompanied by frontal headaches. Within two weeks the swelling worsened until the left eyelid completely closed.

Computed tomography and magnetic resonance imaging revealed a 1,5x1,1x0,8 cm soft tissue density lesion involving the superior orbital wall, suggesting a mucocoele.

The patient was referred to a university hospital where functional endoscopic sinus surgery was performed including left frontotomy, superior orbital wall osteosynthesis and modified endoscopic Lothrop procedure. Postoperative period was uneventful, patient discharged a week later.

Patient's history included a similar episode 15 years earlier, following a viral infection. Back then frontal sinus trepanation was performed. Afterwards self-limiting eyelid swelling and headaches recurred during respiratory infections.

Summary

Patient presented with recurrent left eyelid swelling, blurred vision and a headache. Acute ocular condition excluded. Imaging described a lesion of the left superior orbital wall, suggesting a mucocoele. Patient successfully underwent functional endoscopic sinus surgery with left frontotomy, orbital wall osteosynthesis and a modified endoscopic Lothrop procedure. Patient's history includes a frontal sinus trepanation for a similar episode 15 years ago.

Conclusions

Frontal sinus mucocoele can cause eyelid swelling but ocular aetiology must be excluded.

Imaging is essential to identify the lesion and guide surgical planning.

Mucocoeles can recur years after surgery if adequate sinus drainage is not achieved.

CAVERNOUS MALFORMATION OF THE MEDULLA OBLONGATA MIMICKING A GLIOMA

Mr. Artūrs Laganovskis¹

1. Riga Stradins University, Latvia

Keywords

Brainstem glioma; Neurofibromatosis; Cavernoma; Cavernous malformation; Extirpation

Introduction

A cerebral cavernous malformation, also known as cavernoma, is a cluster of abnormal capillaries lacking intervening brain tissue. Most cerebral cavernomas are sporadic but up to 20% have familial autosomal dominant inheritance pattern. They are extremely rare, with an annual incidence of approximately 0.15–0.56 per 100,000 population. The treatment ranges from observation for asymptomatic patients to surgical resection.

Case Description

A 20-year old patient with type I neurofibromatosis and bilateral optic nerve gliomas since infancy. At 7-years old an increase in the lesion localized in the medulla oblongata led to decision to initiate radiotherapy. In April 2025, the patient reported intermittent headaches, as well as the appearance of multiple cutaneous neurofibromas in recent years; cognitive function was limited, as well as altered speech. An MRI performed in July 2025 to evaluate glioma dynamics showed progression of a right-sided medullary lesion compared with the February 2025 MRI, with increased size, enhanced contrast uptake, and an associated cyst compressing the fourth ventricle. In October 2025, an elective suboccipital craniotomy with extirpation of a medullary glioma was planned; intraoperatively, a hemorrhagic vascular lesion was identified, dissected, and its vascular network coagulated. The patient is clinically stable, without postoperative complications.

Summary

Type I neurofibromatosis patient underwent MRI, which revealed a lesion in the medulla oblongata suspected to be a glioma. An elective extirpation of the glioma was planned; however, intraoperatively a cavernous malformation was found instead, which was removed successfully.

Conclusions

It is possible for cerebral cavernous malformations to mimic gliomas on imaging, particularly in patients with pre-existing CNS lesions such as those with type I neurofibromatosis. Careful intraoperative assessment is essential, as preoperative diagnosis may not always reflect the true pathology. With proficiency and experience surgical extirpation can be performed successfully.

Chordoma beyond the usual course: widespread metastases and an unexpected rib localization.

Ms. Anna Sawina¹

1. Medical University of Lodz, Poland

Keywords

chordoma, bone metastasis, rib metastasis, spine surgery, rare metastasis

Introduction

Chordoma is a rare, slow-growing malignancy arising from remnants of the notochord, characterized by local aggressiveness and a high rate of local recurrence. Distant metastases are uncommon, and rib involvement represents an exceptionally rare localization. The aim of this report is to present the clinical course of a patient with an aggressive, multifocal dissemination of chordoma, including rib metastasis.

Case Description

A 45-year-old man presented with progressive sacral pain beginning in 2022. In March 2022, resection of a sacral tumor was performed, and histopathological examination confirmed chordoma. In the following months, a suspected metastasis to C2 was identified. In October 2022, a local recurrence involving the sacral canal and pelvis was resected, followed by proton therapy. Between 2023 and 2024, progressive dissemination developed, involving the cervical, thoracic, and lumbar spine, pelvis, buttock, orbit, muscles, and ribs. The patient underwent multiple surgical procedures, including laminectomies, hemilaminectomies, spinal canal decompressions, and tumor resections. In 2025, imaging revealed enlarging rib lesions with destruction of the posterior segment of the right seventh rib. In April 2025, segmental rib resection with thoracoplasty was performed; histopathological analysis confirmed metastatic chordoma. Despite surgical and palliative treatment, further progression occurred in the lumbar spine, accompanied by increasing pain, lower limb paresis, and loss of independence.

Summary

This case illustrates an exceptionally aggressive course of chordoma with numerous metastatic foci involving the spine, pelvis, ribs, and soft tissues. A particularly rare feature was rib metastasis requiring resection and thoracoplasty. Despite multimodal management—including neurosurgical and thoracic procedures as well as proton therapy—continuous disease progression was observed.

Conclusions

Chordoma may follow a far more aggressive course than typically described, involving atypical metastatic sites such as the ribs. Patients with recurrent disease require close surveillance, regular imaging, and individualized treatment within a multidisciplinary team.

CHRONIC IMPLANT-ASSOCIATED INFECTION CAUSED BY A MULTIDRUG-RESISTANT GRAM-NEGATIVE ORGANISMS IN A PATIENT WITH BLAST-RELATED PELVIC TRAUMA: CASE REPORT

*Mrs. Elizabete Lauce*¹

1. Riga Stradins University, Latvia

Keywords

Blast injury; Pelvic reconstruction; Implant-associated infection; Multidrug-resistant Gram-negative bacteria; Masquelet technique

Introduction

Blast-related pelvic injuries often require staged fixation, reconstruction and carry a high risk of implant-associated infection, particularly when contaminated by multidrug-resistant (MDR) Gram-negative pathogens. The aim of this clinical case was to describe staged source control and pelvic reconstruction in a patient with war-related pelvic injury.

Case Description

A 44-year-old man sustained blast polytrauma (July 2023) causing an open pelvic injury with left iliac/sacral bone loss and L5–S1 plexus injury, resulting in suprapubic cystostomy-dependent pelvic dysfunction and left-leg paresis.

The patient underwent multiple operations including pelvic osteosynthesis and an antibiotic-loaded cement placement.

During rehabilitation, a pelvic fistula developed. Cultures from the fistula tract, peri-implant tissues, and implant sonication fluid yielded carbapenemase-producing *Klebsiella pneumoniae* (susceptible to colistin and tigecycline), and *Providencia stuartii* (susceptible to tigecycline; later also isolated from urine).

FDG PET/CT demonstrated metabolically active zones localized to the implant region, without evidence of sacroiliac or spinal joint involvement, supporting a targeted revision approach.

The patient underwent scar revision, extensive debridement with complete implant removal, ilio-iliac fixation with two locking plates, and placement of an antibiotic-loaded cement spacer containing vancomycin, colistin and tigecycline.

Second-stage spacer removal revealed a 16 × 12 cm defect, prompting reconstruction with autologous fibular struts, cancellous grafts from the left proximal tibia and distal femur, and sacrum–ilium fixation.

Tigecycline and colistin were administered intravenously during both stages.

Postoperatively, infection eradication was supported by fistula resolution and negative microbiological/laboratory findings. Pelvic stability improved, but neuropathic pain and major mobility limitations persisted.

Summary

Chronic implant-associated MDR pelvic infection was managed with staged hardware removal, targeted local and systemic antibiotic therapy, and Masquelet-based autograft reconstruction.

Conclusions

Microbiology-guided staged source control with stable reconstruction and targeted antibiotics is a viable strategy for chronic blast-related infections caused by MDR Gram-negative pathogens.

CLINICAL CHALLENGES IN A PATIENT WITH THREE-VESSEL CORONARY ARTERY DISEASE, RUPTURED MITRAL CHORDAE AND A LARGE INFRARENAL ABDOMINAL AORTIC ANEURYSM

*Mr. Ernests Ritvars Grava*¹

1. Riga Stradins University, Latvia

Keywords

Mitral valve chordae rupture; Infrarenal aortic aneurysm; Three-vessel coronary artery disease; Pericardial cyst

Introduction

Rupture of mitral valve chordae, infrarenal aortic aneurysm, and three-vessel coronary artery disease are individually uncommon cardiovascular conditions, while their simultaneous occurrence is rarer. Management of such combined pathology is complex, particularly in elderly patients, and requires close multidisciplinary collaboration.

Case Description

A 74-year-old man presented with mild abdominal discomfort. Imaging revealed a large infrarenal aortic aneurysm (8.4x11cm), rupture of posterior mitral valve chordae with severe (grade IV) mitral regurgitation, and a large pericardial cyst (7.1x5.4cm). Due to the substantial risk of aneurysm rupture, endovascular aortic repair (EVAR) was chosen as the initial intervention, with cardiac surgery planned thereafter. Following EVAR, the patient developed a myocardial infarction; coronary angiography revealed three-vessel coronary artery disease. Percutaneous coronary intervention with stent implantation was performed, and due to ongoing antiplatelet therapy and the subsequent development of enterococcal sepsis, the interval to cardiac surgery was prolonged. The patient underwent coronary artery bypass grafting, combined with mitral valve bioprosthesis implantation; during surgery, the pericardial cyst was excised, releasing purulent-appearing but culture-negative content. Follow-up examinations demonstrated stable prosthetic valve and graft function, no contrast accumulation in the endovascularly repaired aortic aneurysm; the patient reported improved physical capacity compared with the pre-treatment period, supported by age-appropriate performance on bicycle ergometry.

Summary

This case describes a rare combination of cardiovascular diseases requiring an atypical sequence of interventions due to high aneurysm rupture risk, resulting in a favourable, patient-centred outcome despite significant complications. An additional noteworthy finding was a pericardial cyst with an atypical characteristic – containing aseptic, purulent-like material.

Conclusions

Large aneurysm size may justify prioritising EVAR over cardiac surgery, although careful, individualised risk assessment is essential. This case highlights the importance of considering preoperative coronary angiography in high cardiovascular risk patients to reduce the risk of perioperative complications.

Cochlear implantation in a patient with Treacher Collins Syndrome

Ms. Marta Borzucka¹, Ms. Julianna Stachaczyk¹

1. Medical University of Silesia

Keywords

Treacher Collins Syndrome; Mandibulofacial Dysostosis; Cochlear implant

Introduction

Treacher Collins Syndrome (TCS) is a rare congenital disorder. Features of TCS can be clinically very variable and are most commonly associated with bilateral symmetrical craniofacial dysostosis. Patients present with varying degrees of auricular dysmorphism, leading to partial or complete deafness. Due to hearing impairment, a multidisciplinary approach is essential.

Case Description

A 51 years old female diagnosed with TCS was admitted to the Laryngology Department for the right ear cochlear implantation. The patient suffered from severe bilateral hearing impairment present since birth due to genetic disorder. At a young age, two-sided hearing amplification was provided, resulting in significant clinical benefit and correct speech development. Additionally several bilateral ossiculoplasty procedures and septoplasty were performed. Over the last three years, progressive deterioration of hearing in the right ear was observed, leading to qualification for cochlear implant surgery. Following a successful procedure and sound processor activation, the patient began long-term hearing therapy. As a result, the patient now experiences much better hearing and finds it easier to understand speech on a regular basis.

Summary

Patient with TCS after many years of functioning using traditional hearing amplification experienced auditory deterioration. A clinical decision was made to perform a right-sided cochlear implantation. Postoperative follow-up speech audiometry revealed 80% word recognition at 60 dB, which is a significant improvement considering the preoperative absence of any auditory perception in the right ear.

Conclusions

This case reveals that despite anatomical challenges, successful cochlear implantation can be performed in patients with Treacher Collins Syndrome. In some individuals with progressive sensorineural hearing loss occurring alongside the syndrome's characteristic middle ear malformations, the implant effectively bypasses inner ear damage. The surgery significantly improves hearing and speech perception, enhancing the patient's quality of life.

COMPLETE CORAL STONE CLEARANCE IN A SOLITARY KIDNEY: THE EFFICIENCY OF MODERN ECIRS

Ms. Paula Vanaga¹

1. Riga Stradins University, Latvia

Keywords

Endoscopic Combined Intrarenal Surgery; solitary kidney; staghorn calculus; renal function preservation; stone clearance

Introduction

Management of complex renal calculi in a functionally solitary kidney poses a significant endourological challenge, as any residual fragments, obstruction, or elevated intrarenal pressure may lead to irreversible loss of renal function. Endoscopic Combined Intrarenal Surgery (ECIRS) is a minimally invasive technique that combines Percutaneous Nephrolithotomy (PCNL) and Retrograde Intrarenal Surgery (RIRS) for the one-step treatment of complex kidney stones.

Case Description

A 62-year-old male presented with a large staghorn-like stone occupying multiple calyces and the renal pelvis of his solitary right kidney. Computed tomography confirmed stone burden without evidence of reflux. The patient had a history of left nephrectomy due to coral stones. Given the anatomical complexity and the need to preserve residual function, ECIRS was selected for its efficacy in maximising stone clearance, while maintaining low intrarenal pressure. The patient was placed in the Galdakao – Modified Supine Valdivia (GMSV) position. Retrograde flexible ureterorenoscopy was used to assess anatomy and place a safety guidewire. Percutaneous access was achieved under ultrasound and fluoroscopic guidance, followed by placement of a 26 - 30 Fr Amplatz sheath. Stone fragmentation utilised the AMS Trilogy system for efficient debris evacuation and low intrarenal pressure. Real-time-retrograde control ensured complete fragment removal. Final nephroscopy and flexible ureteroscopy confirmed only sand-like residues.

Summary

Complete stone clearance was achieved in one session with no residual fragments >2mm. No intraoperative or early postoperative complications occurred. Low intrarenal pressure was maintained throughout.

Conclusions

Modern ECIRS with active suction lithotripsy proved highly effective and safe for single-session complete clearance of a complex coral stone in a solitary kidney, delivering excellent stone-free outcome while prioritising renal function preservation. This approach should be considered the preferred method for similar high-risk patients.

COMPLEX MANAGEMENT OF SEVERE COMPLICATIONS AFTER SUBTOTAL GASTRECTOMY LEADING TO COLONIC INTERPOSITION FOR ESOPHAGEAL RECONSTRUCTION

Ms. Beatrise Alise Sarkanābola ¹

1. Riga Stradins University, Latvia

Keywords

gastrectomy, anastomotic insufficiency, colonic interposition

Introduction

Surgical resection is the main treatment for nonmetastatic gastric cancer. One of the most serious early postoperative complications is anastomotic insufficiency, which is associated with patient morbidity and mortality. Management typically includes surgical revision or minimally invasive endoscopic techniques. In cases where severe complications require esophageal reconstruction and stomach is unavailable, colonic interposition may be required as a final treatment option.

Case Description

A 62-year-old female underwent a laparoscopic subtotal gastrectomy for gastric adenocarcinoma. The postoperative period was complicated by recurrent gastrojejunal anastomotic insufficiency, leading to repeated surgical revisions, including placement of covered self-expanding stent. Subsequently, the distal part of the stent prolapsed, and an esophageal fistula developed proximal to the stent, communicating with the pleural cavity. This resulted in pleural empyema and lung compression, requiring thoracic surgical management and endoluminal vacuum-assisted stent placement, which was later replaced with a self-expanding stent. Despite multiple surgical interventions, patient developed additional complications, including gastrointestinal bleeding requiring endovascular embolization. Ongoing management included repeated thoracotomies, stent evacuation and multiple fistula defect closures, however patient ultimately underwent cervical esophagostomy. More than seven months after initial surgery, and in cooperation with Pulmonary Hospital in Zakopane, Poland, patient receives successful definitive esophageal reconstruction with colonic interposition.

Summary

A 62-year-old female developed severe postoperative complications following a laparoscopic subtotal gastrectomy, including gastrojejunal anastomotic insufficiency and formation of esophageal fistula. These complications required extensive interventions, and the patient ultimately underwent cervical esophagostomy, followed by definitive esophageal reconstruction with colonic interposition.

Conclusions

Esophageal reconstruction with colonic interposition can be performed as a final surgical treatment in cases of esophageal damage. Severe complications after subtotal gastrectomy may initiate a cascade of events, requiring prolonged and multidisciplinary management. This case illustrates, that despite extensive morbidity, definitive surgical treatment is achievable through persistent surgical care and international collaboration.

COMPREHENSIVE SURGICAL MANAGEMENT OF A HIGH-LOCALIZATION INTERNAL CAROTID ARTERY PSEUDOANEURYSM IN A PATIENT WITH FIBROMUSCULAR DYSPLASIA: A CASE REPORT

Ms. Anna Knipše¹

1. University of Latvia, Latvia

Keywords

Internal carotid artery (ICA); Internal carotid artery pseudoaneurysm; Fibromuscular dysplasia (FMD); Mandibular osteotomy; Vascular reconstruction.

Introduction

Pseudoaneurysms of the distal ICA near the skull base present significant technical challenges due to restricted surgical access. This complexity is further compounded by systemic vascular pathologies such as FMD, which causes structural fragility and arterial wall delamination, significantly complicating the construction of stable anastomoses.

Case Description

A 54-year-old male with multifocal vascular pathologies presented with a rapidly progressing left-sided ICA pseudoaneurysm (3 cm in diameter) in the distal part of the ICA. Due to severe tortuosities endovascular approach was technically not feasible - open surgical repair was planned.

To ensure adequate distal control and visualization of the ICA, a left mandibular ramus osteotomy was performed. Intraoperative findings revealed significant arterial wall delamination characteristic of FMD. Given the extreme fragility of the native tissues, the ICA was resected and reconstructed using a synthetic graft. Both the proximal and distal anastomoses were reinforced with Teflon felt bolsters to prevent suture line disruption in the compromised arterial segments.

Since the ICA was extremely fragile, immediate postop CTA was performed, revealing focal anastomotic site ICA dissection without compromised patency. The postoperative period was complicated by injuries of the left *n. vagus* and *n. hypoglossus*, resulting partial paralysis of the left vocal cord and dysphagia.

Summary

This case demonstrates a successful surgical management strategy for a high-risk ICA pseudoaneurysm through an interdisciplinary approach, combining vascular, oral-maxillofacial surgery and a neurological team to address the technical and therapeutic challenges posed by FMD-related arterial wall deficiency.

Conclusions

This case underscores the necessity of mandibular osteotomy for achieving optimal surgical access to distal ICA segments. Furthermore, it advocates for the use of synthetic grafts and Teflon reinforcement in patients with FMD to ensure anastomotic stability.

Conservative Treatment for Firework-Related Eye Trauma: a Case Report

Ms. Jurgita Karčauskaitė¹, Ms. Gabrielė Juodžentytė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Firework-related ocular injury; hyphema; conservative treatment.

Introduction

While fireworks are widely used for entertainment, they pose a serious health risk to both operators and spectators. The severity of eye injuries ranges from minor to severe ocular trauma usually affecting young males. Firework-related eye injuries significantly contribute to preventable blindness and long-term visual morbidity worldwide, with approximately 25% of cases resulting in severe visual impairment (<6/60).

Case Description

A 33-year-old man presented with a right eye injury caused by a firework explosion. He experienced vision loss in the affected eye afterwards. On examination, corneal erosion and mixed conjunctival infection with lateral laceration were observed. There was a shallow, blood-filled anterior chamber with associated iris hemorrhages. The pupil was rigid, partially mydriatic, and reactive to light. The lens was transparent and normal red reflex was present. Orbital CT showed hematoma in the anterior chamber, small preseptal hematoma, and multiple high-density foreign bodies (up to 5 mm) in the right eyelid area. The patient was treated with topical ciprofloxacin, artificial tears, tobramycin ointment, cyclopentolate eye drops, and oral ascorutin. After one week of treatment, ocular inflammation significantly decreased, and conjunctival laceration improved. Hyphema covering approximately one third of the pupil was present in the anterior chamber. The blood clot had separated from the endothelium and iris, and the iris hemorrhages were resorbing. The lens remained clear, with no evidence of subluxation. An inferior vitreous hemorrhage was observed. Intraocular pressure was monitored and managed with topical and systemic agents, including timolol, dorzolamide, brimonidine, acetazolamide, and glycerol.

Summary

This case demonstrates that careful conservative management can achieve favorable outcomes in specific firework-related eye injuries.

Conclusions

Conservative treatment may be effective for some firework-related ocular traumas when the lens remains intact, and ocular structures are largely preserved, thereby reducing inflammation and promoting healing.

CRYPTIC PREGNANCY PRESENTING WITH UNEXPECTED LABOR: A CASE REPORT

Ms. Dominyka Rudžinskaitė¹, Ms. Benita Jonušaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Cryptic pregnancy, unexpected labor

Introduction

Cryptic pregnancy is a rare condition in which pregnancy remains unrecognized until late gestation or the onset of labor. An unexpected onset of labor poses significant diagnostic and management challenges, particularly in the absence of antenatal care, where delayed recognition may increase obstetric risk and require rapid clinical decision-making.

Case Description

A 29-year-old multiparous woman presented to the emergency department with severe intermittent lower abdominal pain that began approximately two hours prior to admission. The pain was described as spasmodic, recurring every 3–4 minutes, and was accompanied by sudden passage of mucus and fluid from the vagina. The patient denied trauma, medication use, or known pregnancy. She had a known history of polycystic ovary syndrome with amenorrhea lasting approximately two years and had not received antenatal care. On presentation, the patient was conscious and hemodynamically stable. Ultrasound performed in the emergency department confirmed pregnancy and demonstrated an advanced stage of labor, with cervical dilatation and fetal buttocks visualized in the birth canal. Due to rapid clinical assessment and diagnosis, the patient was urgently transferred to the Labor and Delivery Unit. A rapid vaginal delivery resulted in the birth of a live male neonate. The postpartum course was uncomplicated for both mother and newborn. The patient was discharged home in good condition after three days of hospitalization.

Summary

This case highlights the diagnostic challenge of cryptic pregnancy presenting with unexpected labor in a woman with prolonged amenorrhea. It underscores the importance of prompt bedside assessment, rapid evaluation, and timely transfer to obstetric care to ensure favorable maternal and neonatal outcomes.

Conclusions

Cryptic pregnancy requires rapid recognition and immediate multidisciplinary response. Early identification in the emergency setting and swift referral to obstetric care are crucial for optimizing outcomes, particularly in patients without antenatal surveillance.

Differential diagnosis of frontal sinus lesions with bone thinning: A series of two cases

Ms. Anna Kożuch¹, Mrs. Maria Marcak¹

1. Medical University of Silesia in Katowice, Poland

Keywords

mucocoele, mucopyocoele, bone destruction, orbital extension, fungal ball, secondary fungal infection

Introduction

A mucocoele is a form of chronic rhinosinusitis characterized by the accumulation of mucus within a paranasal sinus due to obstruction of its natural drainage pathway. It most commonly develops in the frontal sinus or the ethmoid air cells. Owing to the long-standing inflammatory process and sustained pressure on the bony walls, a mucocoele may lead to bone destruction and extension into the orbit or the anterior cranial fossa.

Case Description

This study presents two cases of frontal sinus mucocoeles managed surgically. A female patient with a mucocoele involving the frontal and ethmoid sinuses underwent emergency surgery under general anesthesia using functional endoscopic sinus surgery (FESS) due to acute orbital complications, including proptosis and diplopia. An asymptomatic patient with a frontal sinus mucocoele associated with dehiscence of the posterior sinus wall was treated electively using a combined endoscopic and external surgical approach. In both cases, the surgical procedures and the postoperative courses were uncomplicated.

Summary

This report presents two surgically treated cases of frontal sinus mucocoeles with differing clinical presentations and indications for intervention. One patient required urgent surgery due to orbital complications, while the other underwent elective treatment despite being asymptomatic, owing to posterior wall dehiscence. The outcomes highlight the effectiveness and safety of functional endoscopic sinus surgery as the primary treatment modality for sinonasal mucocoeles.

Conclusions

The short postoperative recovery period and the absence of facial and cranial scarring associated with endoscopic approaches support the use of functional endoscopic sinus surgery (FESS) as the treatment of choice for sinonasal mucocoeles. In selected cases, conversion to an external approach under endoscopic guidance allows for improved visualization and control of the posterior wall of the frontal sinus.

DIVERTICULITIS WITH PERFORATION IN YOUNG ADULTS: A CASE REPORT

Mr. Joris Ribikauskas¹, Mrs. Gerda Ražauskienė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Diverticulitis; Perforation; Obesity; Diverticulosis; Young adults

Introduction

Acute diverticulitis is a painful inflammation or perforation of colonic diverticula, occurring in about 10 – 25 % of people with diverticulosis. Though more common after age 50, it can appear in younger patients. Also, obesity has been shown to increase the risk of developing both diverticulosis and acute diverticulitis. This case report describes a perforated diverticulitis episode in an 18-year-old male with obesity.

Case Description

An 18-year-old obese male presented with left lower abdominal pain, fever with chills, and elevated inflammatory markers, including C-reactive protein and leukocytosis. CT imaging revealed perforated sigmoid diverticulitis with pericolic inflammation but no organized abscess, and the patient underwent urgent diagnostic laparoscopy with peritoneal lavage and placement of three drains. Despite initial improvement with tazocin, repeated CT on day 8 showed multiple pelvic abscesses, requiring percutaneous drainage and escalation of antimicrobial therapy based on cultures. The patient was discharged with a drain. However, he was readmitted on the second day after leaving hospital with fever and drain dysfunction, and imaging demonstrated a recurrent multiloculated pelvic abscess with evidence of fistulization into the sigmoid colon. After further conservative management and clinical stabilization, he was discharged with dietary and follow-up recommendations. Three months later, he was re-presented with recurrent left lower quadrant pain, and CT demonstrated acute diverticulitis with microperforation, successfully managed with intravenous cefuroxime and metronidazole.

Summary

Acute diverticulitis treatment in younger obese adults soon after prior management can be challenging due to its unpredictable course. The aim of this case is to highlight the rising incidence of acute diverticulitis recurrence in patients with complicated disease, obesity, and a history of abscess formation.

Conclusions

Younger obese patients with acute diverticulitis are at higher risk for recurrence and complicated disease. Targeted management is necessary to minimize complications.

EARLY CT AND CT ANGIOGRAPHY AS A DECISION-MAKING TOOL IN SEVERE POLYTRAUMA

*Ms. Reičēla Santana Dījeva*¹

1. Rīga Stradiņš University, Latvia

Keywords

Polytrauma CT; CT angiography; Whole body-CT; Traumatic vascular injury; Limb-threatening injury

Introduction

Early diagnosis is critical in polytrauma patients, where rapid identification of life-threatening and limb-threatening injuries directly influences management priorities. Whole-body computed tomography (CT) and CT angiography (CTA) are central components of modern polytrauma protocols, allowing comprehensive assessment of complex injuries and supporting timely multidisciplinary decision-making.

Case Description

A 59-year-old male cyclist was admitted to the emergency department after being struck by a car in the early morning hours under low-visibility conditions. Due to the high-energy mechanism of injury, immediate contrast-enhanced whole-body CT according to a polytrauma protocol and CTA of the lower extremities were performed.

Summary

Whole-body CT and CTA enabled rapid identification of extensive skeletal trauma and critical vascular compromise in a severe polytrauma patient. Based on imaging findings, a multidisciplinary polytrauma consultation concluded that vascular surgical intervention should be prioritized to attempt arterial repair and limb salvage.

Conclusions

This case highlights the decisive role of early CT and CT angiography in polytrauma, demonstrating how radiological findings directly influence treatment prioritization and support urgent, limb-saving clinical decisions.

EMERGENCY ASCENDING AORTIC REPLACEMENT FOR ACUTE TYPE A AORTIC DISSECTION IN A 31-WEEK PREGNANT PATIENT WITH MARFAN SYNDROME

Mr. Krišjānis Upenieks¹

1. Riga Stradins University, Latvia

Keywords

Type A aortic dissection, Pregnancy, Marfan syndrome, Emergency cardiac surgery

Introduction

Acute aortic dissection during pregnancy is a rare but life-threatening condition, with an estimated incidence of approximately 4 cases per 1 million women aged 15-45 years. Hormonal and hemodynamic changes during pregnancy are factors that may predispose to aortic dissection. These changes begin in the first and second trimesters but are most pronounced in the third trimester and the early postpartum period. Genetic syndromes, such as Marfan syndrome, significantly increase the risk of aortic dissection.

Case Description

A 41-year-old pregnant woman at 31 weeks of gestation with genetically confirmed Marfan syndrome presented with acute, severe, sharp retrosternal chest pain lasting four hours, radiating to the neck, accompanied by weakness and dizziness. Transthoracic echocardiography revealed dilatation of the ascending aorta without significant aortic valve regurgitation. Computed tomography angiography confirmed the diagnosis of Stanford type A aortic dissection. Following a multidisciplinary team decision, an initial cesarean section with subsequent uterine artery embolization was performed, followed by emergency supracoronary ascending aortic replacement. The patient and the newborn were successfully discharged on postoperative day 20.

Summary

We report a rare case of acute type A aortic dissection in a 31-week pregnant patient with Marfan syndrome, successfully managed with cesarean delivery with subsequent uterine artery embolization, followed by emergency ascending aortic replacement. This case highlights the importance of early diagnosis and timely multidisciplinary intervention in pregnant patients with acute chest pain.

Conclusions

Although aortic dissection during pregnancy is rare, clinicians must maintain a high suspicion index for pregnant women presenting with severe chest pain. Careful monitoring of patients with suspected or confirmed connective tissue disorders is essential. In patients with type A aortic dissection and pregnancy, a multidisciplinary specialist team approach is crucial for a successful outcome.

EMPHYSEMATOUS PSOAS ABSCESS SECONDARY TO A RETROPERITONEAL SHORT BOWEL FISTULA: A RARE PRESENTATION—A CASE REPORT

*Ms. Priscila Pozzoco*¹

1. Riga Stradins University, Latvia

Keywords

Emphysematous psoas abscess; Retroperitoneal short bowel fistula; Enteric fistula

Introduction

Emphysematous psoas abscess is a rare and life-threatening condition where psoas muscle infection occurs and is characterized by gas formation within the abscess cavity and surrounding tissues. A retroperitoneal short bowel fistula allows direct spread of enteric contents into the psoas muscle, leading to abscess formation and presentation.

Case Description

A 74-year-old woman with extensive medical and surgical history, including non-Hodgkin lymphoma and prior abdominal procedures, presented with sensory disturbances in her left leg at the knee-thigh level and lumbar pain for one year. One week before admission, she developed sensory disturbances in the entire left leg and diffuse left flank and thigh pain, along with an episode of large-volume vomiting. Examination showed dry, pale skin, hypotension, tachycardia, and crepitation over the left hypogastrium and anterior thigh. Non-contrast CT scan revealed emphysematous changes of the iliopsoas, quadriceps muscle, and chronic sacroiliac joint infection on the left side. She had an absent left leg pulse. She was admitted to the intensive care unit due to septic shock and eventually underwent left lumbotomy with anterior femoral contraperture to drain the iliopsoas and quadriceps abscess. She remains hospitalized with close monitoring and ongoing abscess drainage. Surgery to locate and close the enteral defect will be considered once the abscess improves.

Summary

A 74-year-old woman with complex history presented with pain in left leg and left flank, and hemodynamic instability. She underwent drainage of the left iliopsoas and quadriceps femoris abscess. She is clinically stable, and drainages remain in place. Surgery to find and close the enteral fistula will be considered once abscess improves.

Conclusions

This case illustrates how a retroperitoneal short bowel fistula can lead to a potentially life-threatening emphysematous psoas abscess. This rare mechanism emphasizes the significance of early detection, drainage and planning for fistula repair.

FEMUR PERIPROSTHETIC FRACTURE OSTEOSYNTHESIS WITH INTRAMEDULLARY RETROGRADE NAIL WITH SUBSEQUENT HIP ARTHROPLASTY

***Mr. Ricards Levciks**¹*

1. Riga Stradins University, Latvia

Keywords

Femoral fracture; Knee arthroplasty; Retrograde intramedullary nail; UCPF classification

Introduction

Distal femoral periprosthetic fractures are usually treated with plates. When the fracture is distal and close to a prosthesis, stable fixation with screws and plates can not be achieved, therefore intramedullary retrograde nail can be used.

Case Description

67 year old woman with knee prosthesis got into an accident and was admitted in the hospital with leg pain. X-ray findings revealed a displaced comminuted periprosthetic fracture of the distal femur. Classification according to AO Unified Classification System for Periprosthetic Fractures (UCPF) is V.3-B1.

Surgery with plate and screws was impossible, because femoral fracture was very distal and the fragment was too small for plate and screw fixation. Osteosynthesis with intramedullary retrograde nail through prosthesis and stable distal interlocking with multiplanar locking screws was performed.

Post-surgery the patient received prophylactic antibacterial therapy with cefazolin, thromboembolic prophylaxis with fraxiparine, proton pump inhibitors, analgesia with pethidini hydrochloridum and peripheral nerve block. Rehabilitation was recommended. Full consolidation was achieved and no complications were observed. Three years after the surgery the patient developed symptoms of hip osteoarthritis and was admitted for a total hip replacement surgery. Intramedullary nail was removed and the total hip arthroplasty was performed.

Summary

The intramedullary retrograde nail is rarely used for distal femur periprosthetic fracture treatment in Latvia, however it shows great results and is able to fix very distal multifragmentary fractures, where plates and screws can not be used.

Conclusions

For treatment of specific periprosthetic distal femoral fractures retrograde intramedullary nail is more beneficial and shows better results than plates and screws, however possibility of future hip arthroplasty should be considered.

FUNCTIONAL CLITORAL RECONSTRUCTION FOLLOWING RESECTION OF VULVAR SQUAMOUS CELL CARCINOMA

Mr. Kristiāns Vištarts¹

1. Riga Stradins University, Latvia

Keywords

Vulvar squamous cell carcinoma, clitoral reconstruction, microvascular innervated radial forearm flap, gracilis muscle flaps.

Introduction

Vulvar squamous cell carcinoma is a rare gynecologic malignancy associated with high-risk human papillomavirus (HPV) infection and vulvar intraepithelial neoplasia (VIN). Radical surgical excision remains the cornerstone of treatment; however, extensive vulvar resections may result in significant excretory, sexual, and psychological impairment. Functional reconstruction is therefore essential to enable radical surgical excision while preserving postoperative quality of life.

Case Description

A 38-year-old female presented to the Oncology Centre of Latvia with progressively enlarging vulvar lesions. In 2011, she underwent partial vulvectomy for vulvar *condylomata acuminata* and electrosurgical cervical conization, followed by total hysterectomy in 2017. Histology confirmed cervical squamous cell carcinoma on both occasions. Vulvar biopsy revealed lesions of high-grade vulvar intraepithelial neoplasia (VIN III), Bowen's disease and Grade I squamous cell carcinoma. CT showed no evidence of disease dissemination. Surgical treatment was performed in February 2023. Radical vulvar excision, including the clitoris, was done. This was followed by one-stage functional reconstruction of the vulva and clitoris using a microvascular innervated radial forearm flap for clitoral reconstruction and bilateral gracilis muscle flaps. At 3-year follow-up, the patient demonstrates preserved excretory function, good clitoral sensory function, and remains disease-free.

Summary

This case details the complex surgical treatment of vulvar squamous cell carcinoma. Radical surgical treatment was followed by a functional reconstruction of the clitoris and vulva using a microvascular innervated radial forearm flap and rotated gracilis muscle flaps. 3 years after surgery, the patient has good sensory functionality of the clitoris and is disease-free.

Conclusions

This reconstruction method highlights a novel approach in reconstructing all anatomical subunits following wide vulvar excision, including the clitoris. It demonstrates feasibility and functional benefit in the absence of established reconstructive methods.

GALLSTONE ILEUS OF THE DESCENDING DUODENUM COMPLICATED BY PROLONGED POSTOPERATIVE GASTRIC STASIS

Ms. Sāra Krustiņa¹

1. Riga Stradins University, Latvia

Keywords

gallstone ileus; duodenal obstruction; postoperative gastric stasis; cholecystoduodenal fistula.

Introduction

Gallstone ileus is a rare cause of mechanical bowel obstruction, predominantly affecting elderly patients with multiple comorbidities. This case illustrates the clinical course, surgical management, and prolonged postoperative gastric stasis in a high-risk patient, emphasizing the importance of patient cooperation and early mobilization in postoperative recovery.

Case Description

A 78-year-old woman was admitted with a two-week history of epigastric pain, nausea, and recurrent vomiting. She was functionally dependent, largely immobile for over a year, and had multiple comorbidities, including coronary artery disease, chronic heart failure, primary arterial hypertension, and type 2 diabetes mellitus. CT of the abdomen revealed a cholecystoduodenal fistula with a gallstone impacted in the descending part of the duodenum, consistent with gallstone ileus. A nasogastric tube was inserted, and conservative management was initially attempted.

Due to persistent vomiting and lack of clinical improvement, surgical intervention was performed on day three, consisting of laparotomy with gastroenteric and enteroenteric anastomoses using a Roux-en-Y reconstruction. Postoperatively, the patient required prolonged intensive care, parenteral nutrition, and glycemic control. She developed severe and persistent gastric stasis, with nasogastric output reaching up to 2000 mL/day. Bowel movements resumed intermittently, while imaging excluded mechanical obstruction.

Despite physiotherapy, the patient remained poorly cooperative and predominantly bedridden, which was associated with slow functional recovery and persistent gastric dysmotility. Gradual oral feeding was reintroduced. After radiological confirmation of gastrointestinal passage, she was discharged with outpatient follow-up.

Summary

This case demonstrates the therapeutic challenges of gallstone ileus with duodenal involvement in an elderly, multimorbid patient, complicated by prolonged postoperative gastric stasis and delayed functional recovery.

Conclusions

Gallstone ileus with duodenal involvement may result in a prolonged and complicated postoperative course in elderly, immobile patients. Early mobilization, patient cooperation, and multidisciplinary care are essential to prevent persistent gastric stasis and delayed recovery.

Hemodynamically significant spontaneous splenorenal shunt closure after liver transplantation: case report

Mr. Kārlis Stāks¹

1. Riga Stradins University, Latvia

Keywords

Liver transplantation, Overlap syndrome, Spontaneous splenorenal shunt

Introduction

Autoimmune hepatitis/Primary sclerosing cholangitis (AIH/PSC) is an overlap syndrome, characterized by progressive hepatocyte and bile duct injury due to immune system dysfunction. Untreated, it can progress to liver cirrhosis and subsequent portal hypertension. Consequently, in some patients spontaneous splenorenal shunt (SSRS) can develop to decompress portal hypertension. Closure of SSRS during liver transplantation is crucial to prevent graft dysfunction.

Case Description

A 23-year-old female was admitted to liver retransplantation in Pauls Stradins Clinical University hospital in February 2025. The first transplantation was performed in the University Hospital Hamburg-Eppendorf (2016), with AIH/PSC being the cause of cirrhosis.

Since 2020, repeated hospitalisation episodes marked with high liver transaminases, hyperbilirubinemia, and discoagulation due to nonadherence to immunosuppressive therapy resulted in recurrence of AIH/PSC in the liver graft with subsequent graft failure. In concordance with her clinical signs, including hepatic encephalopathy, a large SSRS (14-16 mm) was diagnosed in abdominal CT scan. Patients' eligibility for retransplantation was approved in multidisciplinary consensus statement.

Liver retransplantation was performed on 05.02.2025. with intraoperative closure of SSRS. Biochemically, after an initial downward trend, a steady increase of liver transaminases was observed from 16.02.2025. onwards. Radiological measurements confirmed still functioning SSRS (diameter 16 mm, velocity 32-37 cm/s) with considerable reduction of portal blood flow (23 cm/s), causing graft dysfunction due to insufficient portal blood flow. After SSRS closure by endovascular approach with multiple coils improvement of liver transaminases was observed.

Summary

This case represents the association between SSRS and graft malfunction, marked by persistently elevated serum transaminases. Still-functioning SSRS was confirmed by CT angiography. Endovascular closure of SSRS regardless of the diameter is advised after transplantation to improve portal blood flow and graft function.

Conclusions

Early recognition and targeted interventional treatment of hemodynamically significant portosystemic shunts in liver transplant recipients are necessary to improve graft inflow.

HIDDEN IN PLAIN SIGHT: URETHRAL DIVERTICULUM WITH CALCULUS IN AN ADULT FEMALE

Ms. Beata Krasovska ¹

1. Riga Stradins University, Latvia

Keywords

Urology, diverticulum, urogynecology

Introduction

A localized outpouching of the urethral lumen through the surrounding periurethral fascia is known as a urethral diverticulum. It is rare pathology particularly in adult females with a prevalence of 1–5%. Because of inconsistent presentation, this ailment is frequently disregarded in clinical practice. Diagnosis might be difficult since patients may present with a wide range of genital tract and lower urinary symptoms. Accurate identification requires a comprehensive medical history and a close physical examination.

Case Description

A 52-year-old female was admitted to the urology outpatient clinic with complaints of frequent urination, purulent-bloody discharge, dysuria, recurrent episodes of urethral irritation. The patient denied history of perineal surgery or trauma. On local examination a painful cystic lesion with edema and signs of irritation was observed on the posterior urethral wall at six o'clock. Pelvic and urethral MRI identified a calculus within a cystic structure located on the posterior urethral wall. Cystoscopy confirmed the presence of a diverticular opening at the same site. The patient underwent urethral diverticulectomy with reconstruction, multilayer closure of the urethral wall involving both the inner mucosal and outer muscular layers. Histopathological analysis confirmed a urethral diverticulum containing an intraluminal calculus. At two months postoperatively, the patient reported complete resolution of pain, normalization of urination, restored continence with no signs of disease recurrence.

Summary

A 52-year-old woman presented with lower urinary tract symptoms. Examination revealed a painful cystic lesion on the posterior urethral wall. MRI and cystoscopy confirmed the presence of a urethral diverticulum containing a calculus. The patient was successfully treated with diverticulectomy and urethroplasty, resulting in complete resolution of symptoms.

Conclusions

Dysuria and perineal discomfort are common symptoms reflect a range of conditions, including urethral diverticulum. This case underscores the importance of performing a thorough local examination in such patients to identify, or rule out, underlying anatomical abnormalities.

HIDING IN PLAIN SIGHT: LAPAROSCOPIC MANAGEMENT OF A GIANT HIGH-GRADE ADULT GRANULOSA CELL TUMOR

Ms. Arina-Ilinca Gheorghe¹

1. "Carol Davila" University of Medicine and Pharmacy, Romania

Keywords

Adult Granulosa Cell Tumor; Giant Ovarian Cyst; Laparoscopic Adnexectomy.

Introduction

Adult granulosa cell tumors (AGCT) are rare sex-cord stromal malignancies, representing 2-5% of ovarian cancers. Typically indolent and Inhibin-positive, they are often associated with estrogenic manifestations and perimenopausal age. This case describes the diagnostic challenges and laparoscopic management of a giant, Inhibin-negative AGCT in a 25-year-old patient, initially suspected to be a mucinous cystadenoma.

Case Description

A 25-year-old nulliparous patient presented to our department with progressive pelvic-abdominal pain. Clinical examination revealed a palpable, mobile tumor extending to the epigastrium. MRI revealed a voluminous, multi-loculated cystic mass (29 x 17 x 13.7 cm), causing mass effect on the aorta and inferior vena cava, initially suggesting a mucinous cystadenoma. Tumor markers (CA-125, HE4, CEA, CA 19-9) were within normal limits and indicated a low-risk ROMA score. The patient underwent laparoscopic left adnexectomy with viscerolysis. Histopathological and immunohistochemical evaluation confirmed the diagnosis of AGCT with a high mitotic index (15/10 HPF) and a Ki-67 index of 50%. Remarkably, the tumor was Inhibin-negative, but positive for FOXL2, WT1, and CD99. Postoperative recovery was favorable. The patient was referred to a multidisciplinary oncology board for staging, therapy planning, and fertility preservation counseling.

Summary

This case describes a rare presentation of a giant AGCT in a young woman, mimicking a borderline mucinous tumor. Furthermore, it showed an Inhibin-negative phenotype, diagnosed decisively via FOXL2 expression. Despite the tumor's massive size of 29 cm, successful diagnosis and management were achieved through laparoscopy, preserving the uterus and contralateral ovary.

Conclusions

Giant ovarian masses in young patients pose significant surgical challenges and require careful differential diagnosis, as rare malignancies like AGCT can mimic epithelial tumors. This case emphasizes the utility of laparoscopy in large masses and the importance of specific molecular markers, such as FOXL2, in confirming atypical AGCT variants.

INTERVENTIONAL RADIOLOGY–GUIDED MANAGEMENT OF OLIGOMETASTATIC COLORECTAL CANCER IN A FRAIL PATIENT WITH ATYPICAL HEPATIC IMAGING FINDINGS: A CASE REPORT

Ms. R Charu - ¹

1. Riga Stradins University, Latvia

Keywords

Oligometastatic colorectal cancer; Interventional radiology; Cryoablation; Pulmonary metastasis; Hepatic metastasis

Introduction

Management of oligometastatic colorectal cancer (omCRC) is increasingly individualized, particularly in elderly or frail patients who may not tolerate aggressive surgical approaches. Prior surgery and tumor-related changes can complicate imaging interpretation, making it difficult to distinguish metastatic from benign lesions. This case demonstrates such diagnostic uncertainty in a clinically complex patient, highlighting interventional radiology as a locoregional option.

Case Description

An elderly patient with sigmoid colon adenocarcinoma diagnosed in 2020 experienced disease progression in 2021 and 2023 despite combination therapy. On 24 April 2025, CT imaging demonstrated increased in dynamics of a lesion in the left lower lung lobe compared with December 2024, consistent with recurrence after prior pulmonary metastasectomy. Histology confirmed metastatic colorectal adenocarcinoma (G2) in the lung tissue. Following lung resection, the patient's Eastern Cooperative Oncology Group (ECOG) status was 0. At the time of intervention, the patient was considered frail, and repeat surgical resection was refused by the patient, and image-guided cryoablation was performed as a locoregional treatment.

Simultaneously, CT of the liver demonstrated multiple slowly progressive lesions with atypical cystic morphology, initially interpreted as probably benign. Image-guided biopsy confirmed colorectal adenocarcinoma metastasis (CK20+, CDX2+, SATB2-), clarifying the diagnosis and guiding further management.

At the time of reporting, management of hepatic metastasis remained under multidisciplinary evaluation.

Summary

An elderly patient with colorectal cancer developed recurrent pulmonary metastasis treated with image-guided cryoablation after surgical options were refused. Concomitant hepatic lesions demonstrated atypical cystic morphology with slow progression and were later confirmed as metastatic disease on biopsy.

Conclusions

Image-guided locoregional therapies represent an essential component of multidisciplinary care in selected patients with omCRC. Interventional radiology offers effective local treatment when surgery is not feasible and facilitates diagnostic resolution when metastatic disease presents with atypical, benign-appearing imaging features that may obscure clinical decision-making

Intralobar Pulmonary Sequestration in an Adult Patient: A Case Report

Ms. Elzė Keburytė¹, Ms. Lina Martyna Stankevičiūtė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Intralobar pulmonary sequestration; lobectomy; congenital lung malformation

Introduction

Pulmonary sequestration is a rare congenital lung malformation characterized by non-functioning lung tissue with no normal connection to the tracheobronchial tree and an anomalous systemic blood supply. Intralobar pulmonary sequestration (ILS) is usually diagnosed in childhood and is rarely detected in older adults. In adults, the condition is often misdiagnosed due to non-specific symptoms and atypical radiological findings, making this case clinically relevant and educational.

Case Description

A 58-year-old woman presented with a three-month history of cough, mild sputum production, episodic chest discomfort, general weakness, and unintended weight loss of 7 kg. She was a non-smoker with a history of arterial hypertension and previous pneumonia. Physical examination and routine laboratory tests were unremarkable. Chest X-ray revealed a well-defined mass in the left lower lung field. Chest CT showed a 5.0 × 3.6 cm lesion in segment S10 of the left lower lobe, initially interpreted as a bronchogenic cyst.

Further evaluation with aorto-pulmonary angiography demonstrated a large aberrant artery originating from the thoracic aorta supplying a hypervascular lesion above the diaphragm, consistent with intralobar pulmonary sequestration. The feeding vessel was embolized; however, the patient developed severe chest pain and progressive inflammatory changes in the left lung. Due to clinical deterioration, left lower lobectomy via thoracotomy was performed. Postoperative recovery was uneventful. Histopathological examination confirmed intralobar pulmonary sequestration with no malignant changes.

Summary

This case highlights the diagnostic challenges of intralobar pulmonary sequestration in adults and the risk of misdiagnosis. Despite preoperative embolization, surgical treatment was required due to complications.

Conclusions

Intralobar pulmonary sequestration should be considered in adults presenting with unexplained lung masses. Accurate vascular imaging is crucial, and surgical resection remains the definitive treatment to prevent complications and ensure favorable outcomes.

ISOLATED MOTOR TICS AS THE SOLE MANIFESTATION OF MASKED MASTOIDITIS IN A CHILD: A CASE REPORT

Ms. Weronika Nowicka¹, Ms. Paulina Włodarczyk¹, Ms. Barbara Ziaja¹

1. Medical University of Silesia, Poland

Keywords

Masked mastoiditis, Mastoiditis latent, Children

Introduction

Masked mastoiditis (MM) represents a rare entity characterized by inflammation of the temporal bone structure, with a higher prevalence in children. Its nonspecific clinical presentation poses a diagnostic challenge due to a variety of symptoms that may occur.

Case Description

We report a case of a 4-year-old boy, admitted to the Emergency Department due to progressively worsening motor tics. The child had been repeatedly, involuntarily pulling his head back and blinking frequently. While walking, he repeatedly bent his knees and squatted. There was no history of acute otitis media. The computed tomography showed a non-pneumatized right mastoid process filled with inflammatory masses, with evidence of segmental osteolysis of the walls. Moreover, a suspicion of a thrombus was raised in the right sigmoid sinus. The magnetic resonance imaging identified a band-like lesion measuring approximately 12 x 8 x 8 mm, which demonstrated restricted diffusion and heterogeneous peripheral enhancement, located anterior to the central segment of the right sigmoid sinus. Imaging characteristics were highly suggestive of an abscess located in the posterior portion of the petrous pyramid. The patient was treated with an amoxicillin-clavulanate antibiotic. Myringotomy and mastoidectomy were performed. The motor tics resolved completely, and the patient remains asymptomatic under follow-up of the Otolaryngology Outpatient Care.

Summary

This case highlights the importance of maintaining a high index of suspicion for MM presenting with nonspecific neurological manifestations, even in the absence of preceding acute otitis media. Motor tics have not been previously reported in the literature as a symptom of mastoid-related complications.

Conclusions

Early diagnostic imaging is crucial for accurate diagnosis and effective intervention. Surgical management remains the gold standard of treatment when conservative antibiotic therapy is insufficient or when intracranial complications are suspected.

LARYNGOTRACHEAL RECONSTRUCTION USING A COSTAL CARTILAGE GRAFT: A CASE REPORT

Ms. Goda Ivaškevičiūtė¹

1. Vilnius University, Lithuania

Keywords

Laryngotracheal reconstruction; Costal cartilage graft.

Introduction

Laryngotracheal reconstruction with costal cartilage grafting is an effective surgical technique most commonly used in the treatment of complex laryngotracheal stenosis. However, this reconstructive method can also be successfully applied in cases of laryngotracheal defects resulting from oncological resection. In such cases laryngotracheal reconstruction may help avoid total laryngectomy, a more aggressive procedure that results in the need for a permanent tracheostomy and loss of voice function.

Case Description

A 74-year-old woman with a history of medullary thyroid carcinoma treated surgically in 2004 and 2015 presented with a long-standing feeling of tightness in the neck area. Radiological evaluation revealed locally progressive disease with suspected metastatic laryngotracheal invasion. After multidisciplinary team discussion, surgical management was recommended. The patient underwent open neck surgery under general anesthesia. Subplatysmal flaps were raised and the tumor was resected en bloc with oncologically safe margins, including partial resection of the thyroid and cricoid cartilages using an oscillating saw. Airway continuity was reconstructed using an autologous costal cartilage graft measuring 4 x 2 cm. The graft was shaped to match the laryngotracheal defect and secured to the defect margins with interrupted sutures. A temporary tracheostomy was formed distal to the reconstruction and the wound was closed over a Penrose drain. The postoperative course was uncomplicated. Histopathological examination confirmed metastatic medullary thyroid carcinoma with tracheal involvement. Follow-up endoscopic evaluation three weeks after the surgery demonstrated a well-positioned and stable graft, resulting in satisfactory airway and voice function.

Summary

This case demonstrates successful laryngotracheal reconstruction using a costal cartilage graft following a tumor resection.

Conclusions

Costal cartilage grafting is a proven strategy for restoring airway integrity and achieving satisfactory functional outcomes after oncological laryngotracheal resection.

LONG AND COMPLICATED POSTOPERATIVE COURSE AFTER LIPOSUCTION

Ms. Polina Podolako¹, Ms. Katrīna Terehova¹

1. University of Latvia, Latvia

Keywords

liposuction, bowel perforation, ileostomy, pneumothorax, subcutaneous emphysema

Introduction

Liposuction is one of the most popular cosmetic procedures and is considered relatively safe with low complication rate, most common being contour irregularities, hematoma, seroma and edema, however, bowel perforation is considered rare but is a life-threatening complication that should be suspected.

Case Description

A 61-year-old female presented on postoperative day 9 with malodorous discharge from a periumbilical wound following outpatient abdominal liposuction. Her surgical history included laparoscopic adjustable gastric banding. Laboratory evaluation revealed leukocytosis and markedly elevated C-reactive protein (263.86 mg/L).

Diagnostic laparoscopy was performed and revealed an anterior abdominal wall hernia containing a loop of ascending colon. After separation of the hernia sac contents necrosis and fecal material were found, with 2x3 cm perforation of ascending colon. The colonic defect was repaired and an ileostomy was created. Vacuum-assisted closure (VAC) therapy was applied to the abdominal wall defect. After surgery, chest and neck CT was performed and demonstrated pneumomediastinitis, subcutaneous emphysema of the chest wall and neck soft tissue, left-sided pneumothorax.

Patient required intensive care unit admission, sedation and placement on mechanical ventilation, vasopressor support and renal replacement therapy was started. The pneumothorax was drained by thoracostomy. When the patient condition improved, the patient was transferred to the surgical department.

After one month of treatment and regular VAC dressing changes and clinical improvement, successful ileostomy was reversed. The total hospital stay was 1.5 months, and after that, she was regularly monitored by a surgeon on an outpatient basis.

Summary

Liposuction is a common outpatient procedure, but complications can be life-threatening, requiring a long hospital stay and increasing risks of hospital infections.

Conclusions

This case highlights bowel perforation following liposuction as a rare but serious complication that requires early diagnosis and aggressive multidisciplinary management.

Low Rectal Adenocarcinoma in a Young Patient: A Case Report

Ms. Elzė Keburytė¹, Ms. Lina Martyna Stankevičiūtė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Low rectal adenocarcinoma; Sphincter-preserving surgery; Low anterior resection syndrome; Ileostomy; Laparoscopic anterior resection

Introduction

Rectal adenocarcinoma affects individuals over 65 years, however incidence in young adults is rising. Low rectal tumors complicate treatment due to their effect on sphincter preservation and difficulty distinguishing post-treatment fibrosis from remaining tumor or early regrowth after neoadjuvant chemoradiotherapy.

Case Description

A 30-year-old woman presented with rectal bleeding, constipation, and tenesmus. Colonoscopy revealed a low rectal mass; biopsy confirmed an ulcerating moderately differentiated adenocarcinoma. CT showed semicircumferential rectal thickening with mesorectal lymph nodes. Following ovarian transposition, neoadjuvant chemoradiotherapy was initiated. MRI staged tumor as cT3bN1b. Post-treatment MRI showed marked tumor regression, with a residual lesion measuring 16 × 5 mm located 3 cm from the anorectal junction and regression of mesorectal lymph nodes. During follow-up, a firm lesion was palpated 4 cm from anal verge and anoscopy suggested possible regrowth. Due to uncertain response, laparoscopic anterior resection with ileostomy was performed. Histopathological examination revealed ypT1N0 adenocarcinoma with clear margins and near-complete regression (TRG3). After ileostomy closure, follow-up LARS assessment revealed a score of 9, indicating no LARS, with mild abdominal bloating as the only residual symptom.

Summary

This case presents early-onset low rectal adenocarcinoma, an atypical age at diagnosis for this tumor location. Assessment of treatment response after neoadjuvant chemoradiotherapy was complicated by discordant radiological and clinical findings. Although imaging suggested significant regression, clinical evaluation raised concern for residual disease, leading to surgical management. Sphincter-preserving resection achieved near-complete pathological response with clear margins. Postoperative bowel function was preserved without clinically significant low anterior resection syndrome. The case illustrates the importance of clinical judgment in response assessment, particularly in young patients with low rectal cancer.

Conclusions

Early-onset low rectal adenocarcinoma may require surgical management despite favorable response to neoadjuvant therapy. Sphincter-preserving surgery can achieve satisfactory oncological and functional outcomes.

Management of Multiple, Large Bladder Stones in Patient with Complicated Benign Prostatic Hyperplasia and Chronic Urinary Retention: Case Report

Ms. Laura Bērziņa¹

1. Riga Stradins University, Latvia

Keywords

Bladder stones; Urinary retention; Benign prostatic hyperplasia

Introduction

Bladder stones are solid calculi that are a common complication of the lower urinary track obstruction. Often associated with incomplete bladder emptying due to benign prostatic hyperplasia (BPH) causing chronic urinary retention and stone formation. Chronic urinary stasis can lead to stone formation, recurrent urinary tract infections and hematuria. Smaller calculi can be treated endoscopically while larger or multiple often require open surgical removal. Prompt urological intervention in patients with lower urinary tract symptoms or BPH are crucial to prevent serious complications.

Case Description

An 88-year-old male with multiple comorbidities presents with a persistent history of BPH, recurrent urinary retentions and prolonged use of bladder catheter. The patient was admitted to the hospital due to severe hematuria, visible bleeding from Foley catheter, catheter dysfunction and suprapubic pain. CT scan revealed multiple, large (up to 32 mm Ø) bladder stones. Laboratory findings included hematuria, leukocyturia, bacteriuria, elevated inflammatory markers and mild renal dysfunction. Medical treatment and preoperative preparation were followed by open cystolithotomy under general anaesthesia. In total 24 bladder stones weighing 141.5 grams were successfully evacuated during the surgery. Postoperatively hematuria resolved completely, urine output normalised, and inflammatory parameters improved. Further investigation for the need for a cystostomy or BPH treatment is necessary due to prolonged bladder obstruction and comorbidities.

Summary

This case highlights severe bladder stone disease, complicating, long-standing bladder outlet obstruction caused by BPH and chronic urinary retention. Delayed definitive treatment resulted in hematuria, repeated hospitalisations and a need for open surgery.

Conclusions

Chronic urinary retention caused by BPH significantly increases the risk for bladder stone formation. Early recognition and treatment of bladder outlet obstruction are essential to prevent severe complications. Open cystolithotomy is effective for large, multiple bladder stones, while long-term management should focus on ensuring adequate bladder emptying.

MANAGEMENT OF PEDIATRIC CRANIOSPINAL TUMOR PRESENTING ONLY WITH AN EYELID TICK: A CASE REPORT

Mr. Raivis Bricis¹, Ms. Laura Sabīne Taurmane¹

1. Riga Stradins University, Latvia

Keywords

Craniospinal tumor; Intraoperative neurophysiological monitoring; Pilocytic astrocytoma

Introduction

The incidence of non-malignant brain tumors is 2.73 per 100,000 population. The most frequently reported histopathology of all pediatric brain tumors is pilocytic astrocytoma, a typically benign, slow-growing tumor. In terms of location, out of all non-malignant tumors, only 2.1% are located in the brainstem.

Case Description

A 7-year old boy presented with an eyelid tick in his left eye. An MRI scan revealed a 2,6x2,7x3,3 cm left-sided extra-axial lesion extending from the foramen of Luschka to the foramen magnum and upper cervical spinal canal, closely adherent to the pons and medulla oblongata, with no differentiation from the 7th to 10th cranial nerves and without perifocal edema. A benign brainstem lesion was suspected. Surgery consisted of craniospinal craniotomy, microsurgical tumor resection, and separation from left-sided PICA, pons, and medulla oblongata. Due to location, intraoperative neurophysiological monitoring to detect sensory and motor changes, as well as the 7th–10th cranial nerve palsy, was used. Gross total removal of the tumor was achieved. Postoperative MRI the day after the surgery showed a small remnant around the exit zone of VIII cranial nerve and dot-like remnants on the brain stem. The patient was discharged on the 8th postoperative day with no neurological focal deficit. Histopathological report confirmed pilocytic astrocytoma (WHO Grade I). A control MRI after 6 months showed minimal enlargement of tumor remnants.

Summary

A 7-year-old boy presents with eyelid tick, with MRI confirming an exophytic craniospinal tumor. Successful management required meticulous surgery and intraoperative neuromonitoring, which led to an acceptable neurological outcome. Surgical resection is the mainstay treatment of WHO Grade I pilocytic astrocytoma.

Conclusions

Pediatric craniospinal tumors can present with minor symptoms; however, their management demands multidisciplinary approach and functional assessment during surgery to avoid undesirable neurological deficits.

MANAGEMENT OF POSTOPERATIVE ARTHROFIBROSIS AFTER ACL RECONSTRUCTION AND MENISCUS REPAIR: A CASE REPORT.

Mrs. Patrīcija Paula Mūrniece¹

1. Children's Clinical University Hospital, Latvia

Keywords

ACL reconstruction; Meniscus repair; Arthrofibrosis.

Introduction

Arthrofibrosis is a complication after ACL reconstruction that can rapidly compromise knee range of motion and functional recovery. It occurs from 1% to 8%, with higher rates observed when ACL reconstruction and meniscal repair is performed at the same time. When ACL reconstruction is combined with meniscal repair, postoperative protection and delayed weight bearing may further increase stiffness risk - making early recognition and decisive treatment essential. This case report focuses on the step to step management of arthrofibrosis.

Case Description

A 14-year-old girl sustained a contact pivot injury to the right knee during a rugby match, followed by swelling, subjective instability, and early loss of full extension and flexion. MRI showed a complete ACL rupture with a radial tear of the posterior horn of the lateral meniscus and diffuse knee joint edema. Despite prehabilitation, she proceeded to surgery with a persistent extension deficit and an altered gait, increasing the risk of postoperative stiffness. She underwent arthroscopic ACL reconstruction with a gracilis–semitendinosus autograft, lateral meniscus repair, and tenolysis. Rehabilitation was complicated by recurrent motion loss, swelling, and functional decline; repeated MRI confirmed arthrofibrosis. The ongoing contracture required staged arthroscopic procedures, including tenolysis, synovectomy, and a repeated synovectomy with notchplasty, resulting in gradual improvement but a chronic residual ~5° extension deficit and intermittent effusions. In total, she underwent three surgeries aimed at restoring extension, the most recent consisting of tenolysis, synovectomy, and an intra-articular injection.

Summary

Arthrofibrosis is a challenging complication after ACL reconstruction, particularly when combined with meniscal repair, and can significantly delay recovery by restricting knee motion. This case report describes a teenage athlete who developed postoperative stiffness after ACL reconstruction with concomitant meniscal repair. The report highlights the importance of early recognition, close follow-up, and timely escalation of treatment to optimize functional outcomes.

Neglected Pediatric Quadriceps Tendon Rupture with Patellar Avulsion

***Ms. Paulina Kriauzaite*¹**

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Neglected knee tendon injury, quadriceps tendon avulsion, adolescent knee trauma, suture anchor fixation

Introduction

Quadriceps tendon ruptures in children are rare, and neglected cases lack clear treatment guidelines. We report a pediatric case of a neglected complete quadriceps tendon rupture with superior pole patellar avulsion, successfully treated with delayed suture anchor repair.

Case Description

A 17-year-old boy presented with left knee pain, swelling, and inability to extend the leg after a fall in October 2023. Initial imaging showed a superior patellar pole avulsion, and the knee was immobilized. After a reinjury later that month, symptoms worsened. CT suggested persistent avulsion, and MRI confirmed a complete quadriceps tendon rupture at the patellar insertion with ~1 cm retraction, medial patellar displacement, retinacular edema, and partial medial retinaculum tear. Menisci and ligaments were intact.

Two months post-injury, he underwent surgery on January 5, 2024. Intraoperatively, a complete quadriceps tendon rupture with superior patellar avulsion and medial retinacular tear was found. The tendon was debrided and reattached to the patella using three 5.5 × 16.3 mm suture anchors with Krakow sutures, and the medial retinaculum was repaired. Knee flexion up to 90° was achieved without tension. Postoperatively, the knee was immobilized, early physiotherapy initiated, and the patient discharged in good condition for continued rehabilitation.

Summary

A complete quadriceps tendon rupture with superior patellar avulsion—was successfully repaired with suture anchors, highlighting the importance of timely diagnosis and surgical intervention for full recovery.

Conclusions

Quadriceps tendon rupture with patellar avulsion is a rare pediatric injury. Delayed diagnosis complicates repair, while early recognition enables simpler surgery and faster recovery. Prompt suture anchor repair with guided rehabilitation yields good outcomes.

ORTNER'S SYNDROME SECONDARY TO A THORACIC AORTIC ANEURYSM: HOARSENESS AS THE INITIAL PRESENTATION

***Mr. Nils Zile**¹*

1. Riga Stradins University, Latvia

Keywords

Ortner's syndrome; Cardiovascular syndrome; Thoracic aortic aneurysm; Recurrent laryngeal nerve; Vocal cord paresis

Introduction

Ortner's syndrome is a rare cause of left vocal cord paresis due to compression of the left recurrent laryngeal nerve by cardiovascular structures. Cardiovascular causes represent less than 5% of unilateral vocal cord paresis, most commonly due to mitral valve disease or pulmonary hypertension. Ortner's syndrome secondary to thoracic aneurysm compression has been reported only 24 times. Hoarseness may be the only presenting symptom, which can delay diagnosis.

Case Description

An 82-year-old male presented with sudden-onset hoarseness for three months, without any additional symptoms. Laryngoscopy revealed immobility of the left vocal cord, without structural abnormalities. Contrast-enhanced CT of the neck and chest revealed a saccular, partially thrombosed aneurysm of the aortic arch adjacent to the left recurrent laryngeal nerve, confirming that nerve compression was the cause of the vocal cord paresis. No malignancies were detected. CT angiography confirmed aneurysm enlargement to 3,9 cm, with a total aortic diameter of 5,1 cm. The patient underwent thoracic endovascular aortic repair (TEVAR). Postoperative imaging confirmed complete exclusion of the aneurysm without endoleaks. The patient was discharged in a stable condition. Follow-up showed persistent left vocal cord paresis. Subsequent imaging revealed inflammatory changes around the endoprosthesis, which resolved with antibiotic therapy.

Summary

This case demonstrates a rare cardiovascular cause of hoarseness due to left recurrent laryngeal nerve compression by a thoracic aortic aneurysm.

Conclusions

Unilateral left vocal cord paralysis requires imaging of the entire course of the recurrent laryngeal nerve, including the mediastinum. Chest CT is essential for excluding potentially life-threatening cardiovascular pathologies, such as thoracic aortic aneurysm. Early recognition of Ortner's syndrome enables timely referral and appropriate management of the condition.

Pars Plana Vitrectomy for Firework-Related Ocular Injury: a Case Report

Ms. Gabrielė Juodžentytė¹, Ms. Jurgita Karčauskaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Firework-related ocular injury; intraocular pressure; pars plana vitrectomy.

Introduction

Fireworks are a significant part of festival celebrations. However, their use can result in severe ocular injuries. It is estimated that 18% of all firework-related injuries involve the eyes. Such trauma is often complex, involving blunt, penetrating, thermal, and chemical mechanisms. The pattern of injuries ranges from minor conjunctival and corneal abrasions that heal spontaneously to complex open-globe injuries, which may require surgical treatment and can lead to complete visual loss.

Case Description

A 33-year-old man presented with a firework-related ocular injury to the left eye. After the trauma, he lost vision in the affected eye. Examination revealed burned eyelashes and normal red reflexes bilaterally. The right eye had mixed conjunctival infection, a small medial conjunctival burn, and a corneal erosion. The left eye had a superficial injury to the upper eyelid, hyphema in the anterior chamber, a mydriatic pupil with irregular pupillary margin, and lens opacification. Orbital CT showed post-traumatic left periorbital soft tissue changes, a small preseptal hematoma, and multiple high-density foreign bodies (up to 1.8 mm). Topical ciprofloxacin, artificial tears, and tobramycin ointment were prescribed, along with oral diclofenac and ascorutin. After 4 days of conservative treatment, vitreous prolapse into the anterior chamber due to lens subluxation was observed, and intraocular pressure in the left eye reached 49 mmHg. Oral glycerol, latanoprost, and brimonidine were initiated. Subsequently, PPV was performed. The surgery involved removal of the anterior vitreous and lens, induction of a posterior vitreous detachment, shaving to the base of the vitreous, and laser photocoagulation of retinal tears.

Summary

This case highlights the vision-threatening consequences of firework-related ocular injuries.

Conclusions

This case demonstrates the importance of prompt intervention, including PPV, in the management of hyphema, lens injury, elevated intraocular pressure, and retinal tears.

PERCUTANEOUS SCREW FIXATION OF TRAUMATIC PUBIC SYMPHYSIS DISRUPTION: A CASES SERIES

***Ms. Vladislava Dikalova**¹*

1. Riga Stradins University, Latvia

Keywords

pubic symphysis disruption, percutaneous fixation, cannulated screws, minimally invasive surgery

Introduction

Percutaneous symphyseal fixation is a minimally invasive alternative to plating to stabilise the anterior pelvic ring. This case series reports our initial experience and mid-term clinical outcomes.

Case Description

We present five male patients (mean age 45.6 years, range 34–63) with unstable pelvic ring injuries involving pubic symphysis disruption treated at Riga East Clinical University Hospital between February and October 2025. The injury mechanisms included motor vehicle or motorcycle accidents. According to the Young–Burgess classification, injuries were classified as APC II (n=3), LC III (n=1) and VS (n=1). Three patients suffered polytrauma with associated injuries. All patients underwent posterior pelvic ring stabilisation using trans-ilio-transsacral screws, followed by percutaneous symphyseal fixation with one or two cannulated screws. An additional anterior column fixation was performed in three patients when required by fracture morphology. Postoperative imaging confirmed satisfactory reduction and stable fixation in all cases, with a mean postoperative symphyseal diastasis of 6.6 mm (range 5–10 mm). Postoperative protocols included thromboprophylaxis and restricted weight bearing according to the severity of the posterior ring injury. During follow-up, two patients maintained stable fixation, while three developed screw migration associated with non-compliance to weight-bearing restrictions. Despite the progression of secondary diastases, all patients remained clinically asymptomatic with satisfactory functional outcomes.

Summary

Percutaneous fixation of pubic symphysis disruption was performed successfully in five male patients with unstable pelvic ring injuries. Despite radiographic signs of secondary symphyseal diastasis in patients who did not adhere to weight-bearing restrictions, no clinically relevant symptoms or loss of function were observed.

Conclusions

This case series demonstrates that percutaneous screw fixation of pubic symphysis disruption provides adequate stabilisation of the anterior pelvic ring with satisfactory clinical outcomes.

PETERSEN'S HERNIA AFTER GASTRIC BYPASS SURGERY: A CASE REPORT

Ms. Emīlija Ezeriņa¹

1. Rīga Stradiņš University, Latvia

Keywords

Bariatric surgery; Petersen's defect; Internal hernia

Introduction

Petersen's hernia is a type of internal hernia, where small bowel loops protrude through a defect between the Roux limb mesentery, transverse mesocolon, and retroperitoneum. It can occur after any gastrojejunostomy, including bariatric surgery. The incidence is estimated at 0.9%-4.5% and is increasing with the wider availability of laparoscopic Roux-en-Y gastric bypass (RYGB) for the treatment of obesity. Even when Petersen's defect is closed, sutures may loosen, or the defect may enlarge due to weight loss.

Case Description

A 52-year-old female, 18 months after RYGB, was admitted for laparoscopic revision with suspicion of internal hernia. Since the surgery, patient had lost 45 kg. For the past 6 months, she had experienced occasional mild postprandial discomfort in the left flank. 5 days before admission, patient had acute diffuse abdominal pain, a feeling of heaviness and nausea. Patient presented to a regional hospital with stable hemodynamics. Laboratory analysis was unremarkable, and symptoms improved after a bowel movement. CT with contrast for abdomen demonstrated a mesenteric "whirl sign", suggesting an internal hernia. Laparoscopic revision revealed small intestine herniated through Petersen's defect, which was previously closed during the RYGB surgery. The small intestine was repositioned, and the defect was closed with sutures. Post-operative status was stable, patient had no complaints and was discharged the next day.

Summary

Petersen's hernia may occur despite prior defect closure. Clinical symptoms are often vague and vary in severity, making diagnosis challenging. This case demonstrates timely diagnosis and successful surgical treatment, preventing further complications and enabling rapid recovery.

Conclusions

It's important to understand the post-bypass anatomy and potential herniation sites after RYGB surgery. In any RYGB patient with abdominal pain, Petersen's hernia must be acknowledged as a differential diagnosis. Although an uncommon complication, rapid diagnosis and therapy are crucial to prevent bowel ischemia and other serious outcomes.

POSTOPERATIVE POSITIONAL NEUROPATHY IN LAPAROSCOPIC SURGERY: A CASE REPORT

Ms. Elena Lukoševičiūtė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Postoperative positional neuropathy; Brachial plexus; Surgical positioning; Lloyd-Davies position

Introduction

Postoperative positional brachial plexus neuropathy is an uncommon complication of surgeries requiring the Trendelenburg position. Other contributing factors include shoulder pads, excessive arm abduction, and prolonged operative time without positional breaks. Recovery time ranges from 1 to 9 months due to possible varying degrees of neuronal damage and may result in significant disability unassociated with the main pathology.

Case Description

A 67-year-old male patient, diagnosed with malignant neoplasm of rectum and sigmoid, underwent laparoscopic rectal resection under general anaesthesia that lasted for 5 hours. The patient was positioned in the modified Trendelenburg position “Lloyd-Davies” with legs slightly flexed at the hips and knees and supported by stirrups, arms abducted at 30-45 degrees, head looking straight and shoulder pads for weight support. Two hours after operation patient complained of left hand immobility and insensitivity. Neurological evaluation and ENMG performed within two days confirmed compressional neuropathy of the left brachial plexus. Immediate physical rehabilitation was started. After two weeks, minimal improvement could be seen, and further outpatient rehabilitation and examination were appointed for full recovery.

Summary

A 67-year-old male developed left brachial plexus neuropathy after prolonged laparoscopic rectal resection surgery in the modified Trendelenburg (“Lloyd-Davies”) position, likely due to intraoperative positioning. Diagnosis was confirmed by ENMG, and extended outpatient physiotherapy was appointed.

Conclusions

Although recent guidelines recommend minimising arm abduction and replacing shoulder pads with alternative torso supports, traditional shoulder cushioning remains widely used. This case shows that incomplete adoption of updated positioning practices may continue to contribute to postoperative positional neuropathies. There is a need for better education and stronger institutional policies on surgical positioning to address lack of up-to-date equipment available and individual practice variation.

PRE-OPERATIVE AIRWAY ASSESSMENT AND PERI-OPERATIVE MANAGEMENT IN A PATIENT WITH A MONTGOMERY VOCAL FOLD IMPLANT UNDERGOING LUMBAR SPINE SURGERY

Ms. Ance Dudarenoka¹, Mr. Kārlis Aleksis Upenieks¹, Ms. Linda Kalnīte¹

1. University of Latvia, Latvia

Keywords

Montgomery vocal cord implant; Vocal cord medialization; Airway management; Video laryngoscopy; Endotracheal intubation

Introduction

Anesthesia planning for patients with a vocal cord implant requires careful evaluation of airway anatomy, comorbidities, and baseline vocal function. Vocal fold medialization using Montgomery implants improves phonation but presents unique airway management challenges during general anesthesia.

Case Description

A patient with a history of C6–C7 microdiscectomy developed right-sided recurrent laryngeal nerve palsy, resulting in vocal fold paralysis. The patient underwent right vocal fold medialization thyroplasty using a Montgomery implant to improve phonation. Subsequently, the patient was diagnosed with lumbar spondyloarthrosis requiring lumbar fusion under general anesthesia. Preoperative airway assessment included review of otolaryngology records, baseline voice quality evaluation, and imaging studies to determine implant position. Video laryngoscopy was planned to minimize airway trauma. During surgery, the patient was successfully intubated with a size 7.0 endotracheal tube under video laryngoscopic guidance. Intubation was atraumatic with clear visualization of the implant. At procedure completion, the patient was extubated under deep anesthesia before regaining consciousness, and a laryngeal mask airway (LMA) was inserted to ensure gentle airway support during emergence. Once awake, the LMA was removed. No respiratory difficulties, stridor, or voice deterioration were noted postoperatively.

Summary

Airway management in patients with vocal fold implants requires structured preoperative assessment and tailored anesthetic planning. Video laryngoscopy enables atraumatic endotracheal intubation, while deep extubation with temporary supraglottic airway support minimizes risk of implant displacement and laryngeal trauma.

Conclusions

This case demonstrates a safe anesthetic approach for patients with Montgomery vocal fold implants. Multidisciplinary collaboration between anesthesiologists and otolaryngologists is essential. Smaller endotracheal tubes and video-assisted intubation are recommended to reduce trauma and optimize patient outcomes.

RECOGNITION AND MANAGEMENT OF COMPLEX REGIONAL PAIN SYNDROME FOLLOWING TOTAL KNEE ARTHROPLASTY: A CASE REPORT

Ms. Leticija Aelita Ločmele¹

1. Riga Stradins University, Latvia

Keywords

Complex Regional Pain Syndrome (CRPS); Budapest criteria; Pain; Total knee arthroplasty

Introduction

Complex Regional Pain Syndrome (CRPS) is a multidimensional pain condition characterized by autonomic, motor, sensory, and neuroinflammatory manifestations, typically following trauma. We present a case in which the diagnosis was established in the immediate postoperative period. This report underscores the importance of rapid recognition and diagnosis of this rare syndrome.

Case Description

We report a case of a 60-year-old woman admitted to the Hospital of Traumatology and Orthopaedics, Latvia, in late 2025 for elective total knee arthroplasty. She had a history of a motor vehicle accident in 2017, treated conservatively. On admission, she presented with severe left knee pain and, following comprehensive clinical evaluation, was scheduled for elective surgery. Preoperative assessment revealed a post-traumatic fracture and advanced osteoarthritis of the left lower limb, and osteoporosis. Patient reported severe pain in the left leg before surgery and was unable to position it for performance of an adductor canal block. During surgery, it became evident that severe osteoporosis made knee arthroplasty impossible to perform. The patient was transferred to the Intensive Care Unit for monitoring. Postoperatively, clinical examination revealed symptoms consistent with the Budapest diagnostic criteria, including edema and hyperalgesia in the left leg, on a background of osteoporosis. Pain was managed using a multimodal approach, including systemic pharmacotherapy, femoral nerve blocks, and physiotherapy.

Summary

CRPS is a rare but debilitating syndrome in which delayed diagnosis can lead to prolonged suffering and functional impairment. This case highlights that early recognition and initiation of targeted therapeutic interventions can significantly improve patient outcomes. Preventing progression to chronic pain is crucial to minimizing the physical and psychological burden on the patient.

Conclusions

This case of CRPS was successfully diagnosed using the Budapest criteria. A subsequent multimodal analgesic regimen led to complete resolution of symptoms, enabling rehabilitation and discharge.

RECONSTRUCTION OF BLADDER EXSTROPHY IN A CHILD – A COMPLEX PATH FROM BIRTH TO ADULTHOOD

Ms. Aleksandra Guzowska¹, Mr. Olivier Połec¹

1. Medical University of Silesia, Poland

Keywords

bladder exstrophy; congenital urinary tract anomalies; reconstruction

Introduction

Bladder exstrophy is one of the most severe congenital anomalies of the urinary tract, characterized by complete exposure of the bladder mucosa, associated epispadias, and separation of the pubic symphysis. The condition requires complex, staged surgical management. This study presents a case of a female infant with prenatally diagnosed bladder exstrophy who underwent delayed surgical reconstruction at six months of age.

Case Description

At six months, the patient underwent reconstructive surgery including ureteral reimplantation, bladder closure, urethral reconstruction, bilateral oblique iliac osteotomies, and closure of the pubic symphysis. Postoperatively, catheters were left in the reimplanted ureters, and two catheters were placed in the bladder. The ureteral catheters and one bladder catheter were exteriorized suprapubically, while the second bladder catheter remained in the urethra. After four weeks, the suprapubic catheters and external pelvic fixation were removed, and the urethral stenting catheter was replaced with a Foley catheter for two additional weeks. The catheter was then removed, and following parental training, clean intermittent catheterization twice daily was recommended. Pharmacological prophylaxis for urinary tract infections was initiated. The patient will require future bladder rehabilitation to achieve the best possible functional outcome.

Summary

Reconstruction of bladder exstrophy represents a cornerstone of therapeutic management, improving survival and long-term quality of life. However, it carries a significant risk of postoperative complications and functional challenges. Elevated intravesical pressure predisposes patients to vesicoureteral reflux and hydronephrosis. In adulthood, additional complications may include urinary incontinence, shortening of the vagina or penis, and reduced fertility. This case highlights the importance of long-term, multidisciplinary specialist care in patients with bladder exstrophy.

Conclusions

Delayed reconstruction of bladder exstrophy is an effective therapeutic option resulting in satisfactory clinical outcomes. Management of patients with this condition requires a multidisciplinary approach, surgical expertise, and long-term follow-up to monitor and address potential complications.

RECURRENCE OF SECONDARY HYPERPARATHYROIDISM AFTER TOTAL PARATHYROIDECTOMY WITH AUTOTRANSPLANTATION NECESSITATING REPEATED ABLATIVE THERAPY: A CASE REPORT

Ms. Gytė Gužauskaitė¹

1. Vilnius University, Lithuania

Keywords

Secondary hyperparathyroidism; Ablation

Introduction

Secondary hyperparathyroidism (SHPT) is a common but serious condition affecting over 85% of patients with end-stage chronic kidney disease. 5–10% of long-term haemodialysis patients require surgery, with total parathyroidectomy and autotransplantation (TPTX+AT) being one of the treatment options. Recurrence after surgery is uncommon, occurring in 10–15% of cases and management of recurrent disease using minimally invasive ablative techniques is rarely described.

Case Description

In 2019, a 46-year-old man on long-term hemodialysis for end-stage renal disease secondary to polycystic kidney disease presented with generalized weakness and joint pain. Laboratory tests showed elevated parathyroid hormone (PTH) levels of 138 pmol/L with normocalcemia. DEXA revealed severe osteoporosis (T-score of –3.6 in the lumbar spine, –2.6 in the left femur). The patient underwent TPTX+AT, with all parathyroid glands removed and minced tissue from the right upper gland autotransplanted into the right rectus femoris muscle. Postoperatively, PTH levels decreased to 1.87 pmol/L. However, in 2024, biochemical recurrence occurred, with PTH levels exceeding 318 pmol/L due to hyperfunction of the autograft. Radiofrequency ablation was performed, targeting approximately two-thirds of the adenomatous tissue to avoid femoral nerve injury. In June 2025, further progression of recurrent hyperparathyroidism was observed, with PTH levels of 157 pmol/L. Imaging showed invasion of the parathyroid tissue into the surrounding thigh muscles. Cryoablation of the remaining hyperfunctioning autograft was performed. At follow-up in December 2025, PTH decreased to 46 pmol/L, with persistent but stable osteoporosis.

Summary

In 2019 a 46-year-old male with SHPT underwent TPTX+AT. Despite initial PTH control, recurrent hyperparathyroidism developed in the autotransplanted tissue, requiring radiofrequency ablation in 2024 and cryoablation in 2025.

Conclusions

Recurrent hyperparathyroidism after TPTX+AT is rare but can occur even years after surgery, as illustrated by this case. Placing the autograft in subcutaneous tissue or abdominal fat may be preferable, as it allows easier removal if SHPT recurs.

Revision case analyses in patients with unicondylar knee replacement

Ms. Elisaveta Pisarenko ¹

1. Riga Stradins University, Latvia

Keywords

Unicondylar knee replacement (UKR); Total knee replacement (TKR); Revision surgery

Introduction

UKR is relatively new surgical procedure in Latvia, it is performed in case of anteromedial osteoarthritis. Analysis of UKR failures is important for identifying common mistakes and risk factors, that may help to improve surgical outcomes and reduce revisions in future. The reasons for revisions vary, however this study focuses on instability and insert luxation.

Case Description

These series include two cases.

Case 1. A 65-year-old female underwent medial UKR in May 2025. Two weeks later, she developed instability, medial knee pain, and functional hyperextension. Radiological examination demonstrated medial instability comparing to immediate postoperative X-rays. She underwent revision surgery with conversion to a TKR in July 2025.

Case 2. A 66-year-old female underwent medial UKR in November 2024. The patient experienced postoperative pain with crepitation, followed by acute pain episode flexing her knee in 3 month time. Revision surgery was performed with change of the insert due to insert luxation in March 2025. In August 2025, the patient was again admitted to hospital with another insert luxation and had to undergo conversion to TKR.

Summary

This case series report 2 patients who underwent UKR and developed postoperative complication that required revision surgery. Case 1, patient developed medial instability with hyperextension, requiring conversion to TKR. Case 2, patient experienced 2 insert luxations, while the first one was managed by UKR insert change, the second one required TKR conversion. Both cases demonstrate instability and insert luxation. Conversion to TKR is the standard approach for such failures.

Conclusions

Postoperative instability and insert luxation are serious common complications after UKR that may require conversion to TKR. Careful implant selection, as well as close monitoring of possible post-operative complications are vital to ensure optimal outcomes for patients.

Seconds Away from Cardiac Arrest: Rapid Recognition and Decompression of Bilateral Pneumothorax during Airway Surgery

*Ms. Anita Megija Mīkelsone*¹

1. Riga Stradins University, Latvia

Keywords

Bilateral pneumothorax; Pneumomediastinum; Mediastinal decompression, Tracheal stenosis; Tracheal papillomatosis

Introduction

Pneumothorax is a rare but potentially fatal complication of positive-pressure ventilation. When unrecognized, it can rapidly progress to tension pneumothorax, impaired venous return, and cardiac arrest, especially in cases of bilateral pneumothorax. Early identification and immediate treatment are therefore crucial, particularly in high-risk patients undergoing complex airway procedures.

Case Description

A 27-year-old woman with a history of tracheal papillomatosis and stenosis since childhood was scheduled for laryngeal soft-tissue reconstruction. Anamnesis revealed endoscopic mechanical dilation with argon plasma coagulation every two months for several years.

Following initiation of jet-ventilation through specialized catheter the patient rapidly developed extensive subcutaneous emphysema of the neck and chest wall, swelling in the soft tissue of oropharynx accompanied by a sudden drop in oxygen saturation. A life-threatening pneumothorax and pneumomediastinum were suspected. Immediate emergency mediastinal decompression at the jugular notch was performed, releasing air. The patient was re-intubated with a conventional endotracheal tube, and bilateral thoracostomy drains were inserted, resulting in rapid clinical stabilization.

Computed tomography confirmed bilateral pneumothorax and pneumomediastinum with air surrounding the heart, extensive subcutaneous emphysema, subpleural lung consolidations caused by compression and multiple cysts in both lungs. The patient was transferred to the intensive care unit, extubated later the same day without neurological deficits, and showed stable arterial blood gases. Subsequent imaging demonstrated gradual resolution of free air. The patient recovered without long-term complications.

Summary

This case illustrates an acute, life-threatening bilateral pneumothorax and pneumomediastinum in a patient with pre-existing tracheal and lung pathology, requiring immediate interventions - emergency mediastinal decompression and bilateral thoracostomy.

Conclusions

Pneumothorax is a critical and reversible cause of cardiac arrest. This case highlights the importance of early recognition, rapid clinical decision-making, and prompt decompression. Vigilance is essential when using jet ventilation, especially in patients with structural airway disease, to prevent catastrophic outcomes.

SEVERE FETAL ANEMIA DUE TO NON-RHD ALLOIMMUNIZATION SUCCESSFULLY MANAGED WITH SERIAL INTRAUTERINE FETAL BLOOD TRANSFUSIONS: A CASE REPORT

Mrs. Ana Gorbunova¹, Mrs. Gerda Ražauskienė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Fetal anemia; Fetal hydrops; Alloimmunization; Intrauterine fetal blood transfusions

Introduction

Fetal anemia is a rare but serious condition that can cause hydrops fetalis, heart failure, or fetal death. The most common causes include red blood cell alloimmunization, infections (particularly parvovirus B19), and hematopoietic disorders. Middle cerebral artery peak systolic velocity (MCA PSV) is the main noninvasive diagnostic tool, while intrauterine transfusion (IUT) remains the cornerstone of treatment, significantly improving perinatal outcomes.

Case Description

A 27-year-old gravida 2 para 1 woman was referred at 24 weeks of gestation because of fetal hydrops and severe anemia. Ultrasound revealed ascites, subcutaneous edema, and increased MCA PSV (2.08 MoM). Immunological testing identified multiple maternal red blood cell alloantibodies (anti-c, anti-E, anti-K, anti-Jka, anti-Fyb). Cordocentesis confirmed profound fetal anemia (hemoglobin 16 g/L, hematocrit 4.8 %) with a strongly positive direct antiglobulin test. Six serial intrauterine transfusions were performed from 24 – 25 weeks of gestation, resulting in regression of hydrops and stabilization of Doppler and hematological parameters. Pregnancy was prolonged to 37 weeks, when a live male neonate was delivered by cesarean section with a favorable neonatal outcome.

Summary

This case emphasizes the clinical significance of non-RhD alloimmunization, particularly anti-K antibodies, which can cause early-onset and severe fetal anemia through hemolysis and suppression of erythropoiesis. MCA PSV was essential for monitoring disease severity, although its reliability decreased after repeated transfusions. Despite the presence of hydrops fetalis, serial IUTs enabled pregnancy prolongation, consistent with published data.

Conclusions

Severe hemolytic disease of the fetus and newborn can occur despite RhD compatibility due to non-RhD alloantibodies. Anti-K-mediated disease requires close monitoring, and timely referral to a specialized fetal medicine center enables favorable outcomes even in severe cases.

SEVERE VASCULAR PHENOTYPE IN A FAMILY CARRYING AN ACTA2 GENE VARIANT OF UNCERTAIN SIGNIFICANCE

Ms. Viktorija Kvedaraitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Heritable thoracic aortic disease (HTAD); Thoracic aortic aneurysm and dissection (TAAD); Type-B aortic dissection (TBAD); Variant of uncertain significance (VUS);

Introduction

Up to 20% of patients with thoracic aortic disease (TAD) have a family history of the disease, called heritable thoracic aortic disease (HTAD). ACTA2-related disease represents up to one quarter of HTAD cases and highlighting the importance of early genetic detection due to its association with earlier aortic disease onset, higher mortality, and more extensive vascular involvement. This case is ACTA2 variant of uncertain significance (VUS), distinct from a confirmed pathogenic variant, yet it raises important questions regarding the management of genetically uncertain cases that present with extensive vascular involvement and a clinical course consistent with genetic aortopathy.

Case Description

A 57-year-old woman presented with an abdominal aortic aneurysm (AAA) at the age of 32. Ten years later this patient had already underwent valve-sparing aortic root replacement. Two years ago, the patient presented with TBAD and the first endovascular repair was performed (TEVAR). This time genetic testing was performed and found ACTA2 VUS, a novel variant that has not been previously described in the literature; however an independent report describing an associated vascular phenotype would have provided evidence supporting pathogenic reclassification.

For a persistent AAA, a second endovascular procedure was performed, a fenestrated EVAR (FEVAR), covering the thoracoabdominal aorta.

Summary

Although the patient in this case has a strong vascular phenotype, a VUS cannot be considered disease-causing. This raises essential questions about treatment and reclassification of gene variants. Guidelines do not specify how exactly to act in these types of cases but do emphasize individualized management by a multidisciplinary team.

Conclusions

This case highlights the importance of personalized multidisciplinary management of genetically uncertain aortopathies. It also emphasizes the value of reporting such cases, since comprehensive phenotypic data may support future variant reclassification.

Slow-Growing Benign Tumor of the Parotid Gland - Not Always Innocent: A Case Study

Ms. Kristīne Berķe¹, Ms. Sonora Darbote²

1. Riga Stradins University, Latvia, 2. University of Latvia, Latvia

Keywords

Pleomorphic adenoma, cervical mass, parotid gland

Introduction

Pleomorphic adenoma is the most common benign salivary gland tumor, typically characterized by slow growth and asymptomatic clinical presentation as a painless lump. However, if left untreated and neglected it can cause cosmetic issues and complications, including malignisation. Giant pleomorphic adenomas are rare in modern clinical practice.

Case Description

We report a case of a male patient with a right-sided cervical mass, present since 1977, progressing over several decades. Two months prior to hospitalisation, the tumor began growing rapidly, exhibited signs of necrosis and serosanguinous discharge. The patient developed progressive fatigue, rapid weight loss and increasing pain of the tumorous growth. Laboratory investigations revealed severe microcytic hypochromic anemia, leukocytosis with neutrophilia and elevated inflammatory markers. Due to the patients declining condition a erythrocyte mass transfusion was required. During the physical examination the tumor was estimated at approximately 30 x 20 cm in diameter with a 15 x 9 cm area of soft tissue necrosis at the lower pole of the tumor and active bleeding. The mass was multilobulated, firm and fixed to the adjacent tissues. Computer tomography of the neck tissues showed that the mass was originating from the parotid gland, without large blood vessel involvement. Due to worsening patients condition and possible surgical involvement, the tumor was excised and sent to histopathological evaluation, confirming pleomorphic adenoma.

Summary

We present a giant pleomorphic adenoma of the parotid gland causing severe local and systemic complications. This case emphasizes the importance of timely management of slow-growing benign tumors.

Conclusions

This case demonstrates that pleomorphic adenoma, although benign, can lead to severe local destruction and systemic complications, when neglected for prolonged periods. Rapid tumor growth, necrosis and systemic symptoms may resemble malignant disease. Patient education and timely surgical intervention are essential to prevent significant complications, malignisation of disease and reduce morbidity.

Successful pregnancy after cervical cancer surgery : a case report

Ms. Nikola Tupuriņa¹

1. Riga Stradins University, Latvia

Keywords

LEEP; HPV; Cervical cancer; Pregnancy

Introduction

Cervical cancer remains one of the most prevalent malignancies among women of reproductive age. Despite the implementation of screening programs, the annual incidence remains significant. This case report highlights that early-stage tumor detection allows for fertility-sparing surgical interventions, ensuring the preservation of reproductive function without compromising oncological outcomes.

Case Description

A 30-year-old female presented with cervical abnormalities detected during a routine gynecological examination. Cytological analysis revealed a High-grade Squamous Intraepithelial Lesion (HSIL), and HPV testing was positive. Subsequent colposcopy confirmed HSIL, leading to a direct biopsy. Histological examination identified Cervical Intraepithelial Neoplasia Grade 2 (CIN II) with focal Grade 3 (CIN III) and Grade 1 squamous cell microinvasive carcinoma. The final diagnosis was established as Stage IA1 cervical carcinoma (T1a1N0M0G1LV-R?). CT showed no evidence of lymphadenopathy or distant metastasis. The patient underwent cervical electroexcision followed by re-excision to ensure clear margins. Two years post-procedure, the patient conceived spontaneously and achieved a successful vaginal delivery. Post-operative surveillance included semi-annual colposcopies for the first two years, transitioning to annual follow-ups for the subsequent three years. As of 2025, the patient has returned to the standard population-based screening interval.

Summary

This case illustrates the feasibility of treating early-stage microinvasive cervical cancer using electroexcision—a method primarily reserved for pre-malignant intraepithelial neoplasia—thereby providing a successful fertility-sparing alternative for select patients.

Conclusions

Optimizing screening protocols and prioritizing early diagnosis are crucial in enabling conservative surgical management of cervical tumors. Such approaches allow for the effective treatment of malignancy while preserving the patient's cervix and future reproductive potential.

THE DOMINO EFFECT: SEALING A TYPE IA ENDOLEAK OF A NELLIX STENT-GRAFT ARISING AFTER BRANCHED STENT-GRAFT IMPLANTATION IN THE AORTIC ARCH

Mr. Krzysztof Kania¹, Mr. Mateusz Stępień¹, Ms. Marta Strauchman¹

1. Medical University of Silesia, Poland

Keywords

aortic arch aneurysm, abdominal aortic aneurysm, type IA endoleak, 5-branch stent-graft, BEVAR, EVAS

Introduction

Endovascular interventions in patients with prior endovascular aneurysm repair can be challenging due to difficult navigation around the previously implanted stent-graft. During such procedures, mechanical stress and the need for access-site modification can iatrogenically destabilize the primary repair.

Case Description

A 72-year-old man with 2-month Ortner syndrome was found to have an aortic arch aneurysm compressing the recurrent laryngeal nerve and causing hoarseness. Seven years prior, he had undergone endovascular repair of an abdominal aortic aneurysm using a Nellix stent-graft.

Given the patient's clinical condition, an endovascular approach was chosen for repair of the aortic arch aneurysm. A key step of the procedure involved navigating the arch branch through the Nellix system, which was facilitated by angioplasty of the axis. The procedure resulted in successful deployment of an arch-branch stent-graft with branches to the brachiocephalic trunk, left common carotid, and left subclavian arteries.

In the postoperative period, the patient reported abdominal pain in the region corresponding to the abdominal aorta. Computed tomography performed 1 and 2 weeks after the procedure revealed a type IA endoleak within the Nellix stent-graft and a slight increase in the diameter of the previously treated aortic aneurysm. To treat the endoleak, an endovascular procedure using a 5-branch stent-graft was performed, achieving complete seal of the grafts.

Summary

Successful endovascular navigation through the modified axis of the Nellix system enabled implantation of a branched stent-graft into the aortic arch. Manipulation of the previously implanted stent-graft resulted in a Type IA endoleak, which was successfully sealed using a 5-branch stent-graft.

Conclusions

Cases of Type IA endoleaks and migration of Nellix stent-grafts have been reported in the literature. In this case, we present the occurrence of an iatrogenic stent-graft endoleak, successfully treated endovascularly.

THE FIRST IMMEDIATE LYMPHATIC RECONSTRUCTION IN LATVIA DURING BREAST CANCER SURGERY: CASE REPORT

***Mr. Michal Grucki**¹*

1. Riga Stradins University, Latvia

Keywords

Breast cancer; Lymphedema; Immediate lymphatic reconstruction; Lymphovenous anastomosis

Introduction

Post-operative lymphedema is a condition resulting from lymphatic outflow disruption, affecting approximately 30% of breast cancer patients worldwide. Commonly, it is associated with axillary lymph node dissection performed as part of oncological breast surgery. Consequently, lymphatic drainage of the upper limb is compromised, leading to lymphatic obstruction and lymphedema. As a result, patients experience a significant decline in quality of life. Current management focuses primarily on symptomatic treatment, whereas the technique presented in this case aims to prevent underlying lymphatic disruption at the time of the surgery.

Case Description

A 62-year-old female with diabetes mellitus type 2, diabetic retinopathy with maculopathy presented with a suspicious lesion in her right breast. Imaging revealed an irregular solitary lesion and two enlarged axillary lymph nodes. Ultrasound-guided biopsy confirmed moderately differentiated (G2) invasive ductal carcinoma staged as cT₁N₁M₀G₂. The right breast was classified as BI-RADS 5 and the left breast was histologically confirmed as benign.

Summary

The patient was scheduled for bilateral sectoral resection with bilateral mammoplasty and right-sided lymphadenectomy with immediate lymphatic reconstruction of the upper limb. Following the axillary dissection, a 0.7mm lymphatic vessel draining the upper limb was identified with blue dye and indocyanine green (ICG), allowing end-to-side anastomosis to adjacent vein using 10-0 sutures. Intraoperatively, lymphatic flow into venous system was visualized, confirming preserved circulation.

Conclusions

This case highlights the advancement of immediate lymphatic reconstruction in breast cancer surgery in Latvia. The technique demonstrates the potential to prevent disruption of lymphatic drainage at the time of the surgery rather than after complications develop. It emphasizes a patient-focused approach supported by multidisciplinary care, focused on postoperative morbidity reduction and improvement of long-term functional outcomes. This case reflects the growing microsurgical capability in Latvia, supporting possible future applications of preventative lymphatic reconstruction in selected breast cancer patients.

UNI-PORTAL VATS SLEEVE LEFT UPPER LOBECTOMY FOR CENTRAL TYPICAL CARCINOID

***Ms. Beatriz Coelho**¹*

1. Riga Stradins University, Latvia

Keywords

Uniportal VATS; sleeve lobectomy; typical carcinoid tumor; bronchoplasty

Introduction

Typical carcinoid tumors are low-grade neuroendocrine neoplasms that often develop in the central airways. Therefore, achieving oncologically safe margins can be challenging. The current standard surgical treatment for centrally located tumors frequently involves thoracotomy and pneumonectomy, both of which are associated with significant surgical trauma and loss of functional lung parenchyma. Uniportal video-assisted thoracoscopic surgery (uVATS) limits surgical access to a single 3-4 cm incision and represents a less invasive alternative for selected carcinoid tumors.

Case Description

A 33-year-old non-smoking male, with no comorbidities, was incidentally found to have a suspicious lesion on chest radiography. Computed tomography revealed a centrally located 4 x 3.5 x 4.2 cm central left upper lobe pulmonary mass. Bronchoscopy demonstrated a smooth and highly vascular endobronchial mass that was obstructing the left upper lobe bronchus. Further biopsy confirmed a typical carcinoid tumor.

Due to the tumor's location, a sleeve lobectomy was considered the most appropriate lung-sparing strategy. Given the patient's young age and reduced postoperative morbidity, the operation was planned via a minimally invasive uVATS approach. The procedure was performed through a single incision with systematic lymphadenectomy and bronchial reconstruction using double-needle 3-0 polypropylene sutures. Anastomotic integrity was confirmed intraoperatively.

Summary

The postoperative course was unremarkable. The chest X-ray demonstrated complete lung re-expansion. Final histopathology confirmed a pT2aN0 typical carcinoid tumor with R0 resection. Follow-up imaging and bronchoscopy demonstrated a healed anastomosis and no signs of disease recurrence.

Conclusions

This case demonstrates that even complex bronchoplastic procedures, such as sleeve lobectomies, can be safely performed via uVATS approach. While achieving safe oncological resection, this technique preserves lung parenchyma and reduces surgical trauma and postoperative morbidity.

Uniportal VATS expands the scope of minimally invasive thoracic surgery, offering a feasible lung-sparing alternative to open thoracotomy for selected patients with centrally located carcinoid tumors.

UNILATERAL BIDIRECTIONAL GLENN SHUNT IN HETEROTAXY SYNDROME

***Mr. Aadi Sunil**¹*

1. Riga Stradins University, Latvia

Keywords

Heterotaxy Syndrome, Situs Ambiguous, BDG Shunt, Pulmonary Artery Hypoplasia

Introduction

Heterotaxy syndrome with interrupted inferior vena cava presents unique challenges in univentricular path management. Hypoplastic left pulmonary artery with branch discrepancy further complicates surgical planning and palliation. Bidirectional Glenn shunt would effectively be a Kawashima repair but considering the complex anatomy right unilateral palliation was performed.

Case Description

A 3-year-old girl with heterotaxy syndrome presented with severe cyanosis and failure to thrive. She had polysplenia and midline liver consistent with heterotaxy syndrome. The patient had single S2, no murmur, and oxygen saturations of 50 percent. Transthoracic echo showed single ventricle physiology with common AV valve (moderate regurgitation), double outlet right ventricle with large inlet-subaortic VSD, and severe subvalvular pulmonary stenosis. Cardiac CT angiography showed complex venous anatomy with right SVC to right atrium, dilated left SVC draining via unroofed coronary sinus, hepatic veins draining separately and interrupted IVC via hemi-azygous vein, marked branch PA discrepancy-right pulmonary artery 9mm versus left pulmonary artery stenosed of 5mm throughout with small PDA at its origin and right pulmonary veins drained into RA and left pulmonary veins into LA.

Summary

Given the LPA hypoplasia and concerns about worsening AV valve regurgitation with shunt palliation, we performed a unilateral Glenn only, with ligation of the PDA. The patient was extubated on table with Glenn pressures of 16-18mm Hg. Postoperative echocardiography on day 2 showed well functioning right BDG with saturations of 80%. A left-sided BT shunt was considered but borderline Glenn pressures posed a risk of increasing the regurgitation and worsening clinical status.

Further intervention would be based on the clinical status and the growth of LPA.

Conclusions

Branch pulmonary artery size disparity in this case requires an individualized surgical planning. Unilateral BDG shunt is a good strategy when bilateral anastomosis is not feasible while maintaining future options for completion or alternative palliation strategies (Kawashima repair). The procedure was successful and satisfactory results were acquired.

Unilateral mandibular fracture with dislocation of preschool aged child

***Ms. Nikola Gavriļenko**¹*

1. Pauls Stradiņš Clinical University Hospital, Latvia

Keywords

Oral and maxillofacial surgery; Pediatric mandibular fracture; Facial trauma in children; Osteosynthesis

Introduction

Mandibular fractures in early childhood are rare due to the elasticity of the jaw bone, the predominance of cancellous bone, and protection of soft tissues. Their management is challenging because of permanent teeth buds and growth centers. This clinical case illustrates one of these injuries and management option.

Case Description

Four year old boy presented at the Pauls Stradins Clinical University Hospital emergency department in August 2025 after a fall from approximately 1,5 meters height onto a stone with severe mandibular pain, trismus, mal-occlusion, facial bruising, and subluxation of teeth 74,75. Computer tomography revealed lower jaw's left angle fracture. Due to the presence of a wound in the submandibular region, extraoral osteosynthesis was performed using one titanium mini-plate. The postoperative period was uneventful, with no facial nerve impairment and full recovery of mandibular function. Follow-up panoramic radiography in January 2026 confirmed fracture consolidation, and plate removal was planned to prevent potential interference with mandibular growth.

Summary

This case highlights the rarity of mandibular angle fractures in preschool-aged children and the importance of individualized treatment planning. It demonstrates that extraoral osteosynthesis can be a safe and effective option when conservative or intraoral fixation methods are contraindicated due to dental trauma and anatomical limitations. Early surgical intervention and planned removal of fixation hardware allowed successful fracture healing without complications or impairment of mandibular growth.

Objectives

.

Methods

.

Results

.

Conclusions

Mandibular fractures in children are rare and require careful individualized planning of the treatment due to anatomical and developmental considerations. This case demonstrates that extraoral osteosynthesis could be an effective and safe treatment option.

USE OF AMNIOTIC MEMBRANE SKIN SUBSTITUTES IN THE MANAGEMENT OF DIFFUSE CHRONIC CUTANEOUS WOUNDS: A CASE REPORT

Ms. Emilija Urbonaitė¹, Ms. Mikeila Jazbutytė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Chronic wounds, Non-healing wounds, Amniotic membrane skin substitutes

Introduction

Chronic non-healing cutaneous wounds represent a significant clinical challenge with substantial morbidity. Diffuse blistering and erosive skin conditions are complex due to heterogeneous presentation and diagnostic uncertainty. When standard care fails, advanced treatment strategies may be considered, including amniotic membrane-based skin substitutes to support epithelialization in extensive chronic wounds, however, the current evidence remains limited, and further studies are needed to better define their role.

Case Description

A 45-year-old female was referred for specialized wound care for extensive chronic blistering and erosive skin lesions involving multiple body areas, including the face, trunk, extremities, and perineal region. The condition had been present for approximately seven months and began after a localized skin reaction to a cosmetic hair product, later progressing into diffuse non-healing wounds. Initially managed under a working diagnosis of Stevens–Johnson syndrome, systemic corticosteroids and topical therapies provided only transient improvement. Recurrent hospitalizations revealed secondary bacterial colonization, while punch biopsies showed intraepidermal vesicular and spongiotic dermatitis without definitive diagnostic features. As the disease progressed, severe diffuse desquamation with erosions and mucosal involvement led to significant pain, impaired mobility, and functional decline. Following failure of conventional wound care, amniotic membrane-based skin substitutes were applied, resulting in progressive epithelialization, decreased wound size, improved pain control, and near-complete healing of most lesions.

Summary

This report highlights the potential role of amniotic membrane-based skin substitutes in managing extensive chronic cutaneous wounds after failure of standard care, resulting in significant healing and clinical improvement.

Conclusions

In extensive chronic wounds that fail to improve with standard care, amniotic membrane-based skin substitutes may be a useful adjunct, supporting epithelialization and meaningful wound healing.

Valve-sparing aortic root replacement with reimplantation of a malignant course right coronary artery in a patient with bicuspid aortic valve

*Ms. Sirke Anna Pētersone*¹

1. Riga Stradins University, Latvia

Keywords

Valve-sparing aortic root replacement

Anomalous origin of the right coronary artery (AAORCA)

Aortic root aneurysm

Bicuspid aortic valve

Introduction

This case is clinically significant because it involves the rare coexistence of multiple congenital and acquired cardiovascular abnormalities, including a bicuspid aortic valve, aortic root aneurysm, and an anomalous aortic origin of the right coronary artery (AAORCA) in a single patient. The successful performance of a valve-sparing aortic root replacement with reimplantation of the right coronary artery highlights a complex surgical strategy aimed at preserving native valve function and minimizing the risks associated with a AAORCA and aortic root aneurysm. This approach is particularly relevant in a 51-year-old patient, as it reduces the risk of future reoperations and prosthetic valve-related complications, such as endocarditis, while ensuring long-term durability.

Case Description

At 40 years old, the patient presented with decreased exercise tolerance and chest pain and was referred for electrocardiography, transthoracic echocardiography, and computed tomography of the heart and thoracic aorta. Imaging revealed a bicuspid aortic valve, aortic root dilatation, and an anomalous aortic origin of the right coronary artery. Over the following years, progressive enlargement of the aortic root was observed. At 51 years of age, surgical intervention was indicated due to further root dilatation in the context of a bicuspid aortic valve-associated aortopathy. Preoperative echocardiography demonstrated grade II aortic regurgitation with mild leaflet sclerosis. Laboratory evaluation showed elevated pro-B-type natriuretic peptide levels, while other parameters were within normal limits.

Summary

This case demonstrates the value of valve-sparing aortic root replacement in young patients and the need to surgically address anomalous right coronary artery origin associated with sudden cardiac death.

Conclusions

This case highlights valve-sparing aortic root replacement with coronary reimplantation as a safe and effective option in selected patients with bicuspid aortopathy and coronary anomalies, emphasizing the importance of detailed imaging and individualized surgical planning.

Paediatrics

A NOVEL PUF60 GENE VARIANT AND ITS ASSOCIATED PHENOTYPE

Ms. Gytė Gužauskaitė¹

1. Vilnius University, Lithuania

Keywords

PUF60; Verheij syndrome

Introduction

Verheij syndrome is a rare genetic disorder characterized by intellectual disability, skeletal abnormalities, distinctive facial features, ocular malformations, cardiac and renal defects. It is caused by deletion or pathogenic variants in the *PUF60* gene. We present a child with a novel *PUF60* pathogenic variant and clinical manifestations of this complex neurodevelopmental disorder.

Case Description

An 8-year-old boy was born at 38 weeks' gestation (birth weight 2870g, length 50cm, head circumference 35cm). Apgar scores were 9 and 9. At birth, he was diagnosed with left kidney agenesis and congenital heart defects, including patent ductus arteriosus and an atrial septal defect. On examination at 5, his head circumference was 49.5cm (3rd–10th percentile), while height and weight were within the normal range for age. Dysmorphic features included a high forehead, hypertelorism, epicanthus, broad nasal root, broad nasal tip, thin upper lip, long philtrum, pretragial ectopia, and asymmetry of the chest with prominence on the right side. Additional findings were flat feet, joint hypermobility in the hands, short fifth fingers bilaterally, and clinodactyly. At age 7, he began experiencing brief episodes of headaches and nausea which gradually became more frequent. By age 8, they had increased to up to nine times per day, leading to a diagnosis of epilepsy, for which levetiracetam was prescribed. From early childhood, the boy demonstrated delayed expressive language and poor speech intelligibility associated with motor planning difficulties, consistent with childhood apraxia of speech. Verheij syndrome was confirmed by whole-exome sequencing revealing a novel heterozygous *PUF60* pathogenic variant (NM_078480.3:c.1471G>C,p.Gly491Arg), inherited paternally.

Summary

A patient with delayed speech, distinctive facial features, left kidney agenesis, congenital heart defects and epilepsy was diagnosed with Verheij syndrome, revealing a novel heterozygous *PUF60* variant.

Conclusions

This study shows a previously unreported *PUF60* pathogenic variant causing Verheij syndrome, further expanding the genotypic spectrum of this rare disorder.

A RARE AND LIFE-THREATENING X-LINKED LYMPHOPROLIFERATIVE DISEASE TYPE 2 PRESENTING WITH EARLY HLH

Mr. Armands Sīlis¹

1. Riga Stradins University, Latvia

Keywords

XLP2; XIAP deficiency; hemophagocytic lymphohistiocytosis; primary immunodeficiency; immune dysregulation

Introduction

X-linked lymphoproliferative disease type 2 (XLP2), caused by pathogenic variants in *XIAP* (*BIRC4*), is an exceptionally rare X-linked inborn error of immunity. Despite its rarity, XLP2 can present with severe, rapidly progressive immune dysregulation, including life-threatening hemophagocytic lymphohistiocytosis (HLH), inflammatory bowel disease-like enterocolitis, and liver involvement. Early recognition is crucial due to high morbidity and mortality without timely diagnosis and appropriate management.

Case Description

A 1-year-old male presented with acute onset of recurrent high-grade fever (>39 °C), maculopapular rash, cervical lymphadenopathy, hepatosplenomegaly, and cytopenias. Complete blood count showed anemia, neutropenia and marked relative lymphocytosis. Bone marrow trephine biopsy demonstrated reactive bone marrow with suppressed myelopoiesis, pronounced erythroid hyperplasia, diffuse CD68-positive macrophage infiltration, and moderate hemophagocytic activity, supporting HLH. Whole-exome sequencing identified a hemizygous pathogenic frameshift variant in *XIAP* (NM_001167.3:c.838_839del; p.Asn280GlnfsTer14), classified as pathogenic according to ACMG criteria (PVS1, PM2, PP4), confirming XLP2.

Summary

This case highlights an early HLH presentation of an extremely rare but potentially fatal immune dysregulation syndrome. Notably, clinical symptoms resolved with minimal therapy, emphasizing the marked phenotypic variability of XIAP deficiency

Conclusions

XLP2 should be considered in male infants presenting with HLH-like hyperinflammation, even when triggers are unclear. Genetic confirmation enables risk stratification, close monitoring for relapse, and timely planning of curative hematopoietic stem cell transplantation.

ADVERSE NEONATAL OUTCOMES ASSOCIATED WITH MATERNAL INSULIN- TREATED TYPE 2 DIABETES: A CASE REPORT

Ms. Lelde Samoviča¹

1. Riga Stradins University, Latvia

Keywords

Hypertrophic cardiomyopathy; Infant of diabetic mother; Macrosomia; Type 2 diabetes

Introduction

The global prevalence of diabetes is steadily increasing, including among women of reproductive age, leading to a growing number of pregnancies complicated by diabetes. Infants of diabetic mothers (IDM) are at risk of metabolic, respiratory and cardiovascular complications. Hypertrophic cardiomyopathy (HCM) due to interventricular septal hypertrophy is a well-recognized but usually transient condition associated with poorly controlled maternal diabetes. Feeding difficulties and hypoglycemia frequently complicate the early neonatal course and require multidisciplinary management.

Case Description

We present a male neonate delivered at 39+2 weeks of gestation by elective cesarean section to a mother with insulin-treated type 2 diabetes mellitus and chronic hypertension. The pregnancy was complicated by chronic intrauterine hypoxia. At birth the infant was macrosomic, with a birth weight at 5430 g, and had Apgar scores of 6/7. After birth, the neonate exhibited respiratory distress, hypotonia and hypoglycemia requiring continuous positive airway pressure (CPAP) and intravenous glucose infusion. Enteral feeding was complicated by poor oral intake and regurgitation, necessitating partial tube feeding. Echocardiography revealed significant interventricular septal hypertrophy without left ventricular outflow tract obstruction or hemodynamic compromise, consistent with secondary HCM related to maternal diabetes. On the 6th day of life, the infant's condition was stable upon admission to the Childrens Clinical Univerity Hospital. Serial echocardiograms demonstrated preserved ventricular function.

Summary

A case describing adverse neonatal outcomes in an infant born to a mother with insulin-treated type 2 diabetes, including macrosomia, neonatal hypoglycemia, feeding intolerance and hypertrophic cardiomyopathy.

Conclusions

Neonates of mothers with insulin-treated type 2 diabetes are at risk of multisystem complications. Diabetic hypertrophic cardiomyopathy is typically transient but requires cardiologic follow-up. Pregnancies complicated by diabetes should be managed and delivered at high-risk obstetric centers to ensure comprehensive multidisciplinary maternal and neonatal monitoring and appropriate therapeutic interventions.

ANSWER FOR A SHORT DYSPROPORTIONATE STATURE: X-LINKED SPONDYLOEPIPHYSEAL DYSPLASIA TARDA DIAGNOSIS IN ADOLESCENCE

Ms. Gabrielė Neverauskaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

X-linked Spondyloepiphyseal dysplasia tarda; *TRAPPC2* gene; growth hormone therapy

Introduction

TRAPPC2 gene encodes a protein of multi-subunit complex, that targets and fuses endoplasmic reticulum-to-Golgi transport vesicles with their acceptor part. Variants in this gene cause X-linked spondyloepiphyseal dysplasia tarda (SED)- primary bone dysplasia, with a phenotype of disproportionate stature, spinal deformities, precocious osteoarthritis. We report a patient with *TRAPPC2* gene variant and SEDT phenotype, who was diagnosed in adolescence.

Case Description

Male, born full term, birth weight 4500 g, and birth length 54 cm. Growth retardation noticed since 10 years old. History of spine abnormalities, tendon tearing near joints, alteration and pain of knee joints was present. At 13 years old, growth hormone (GH) stimulation tests with insulin and glucagon were performed and normal GH secretion was found, therefore treatment was not prescribed.

At 16 years old, due to short disproportionate stature, patient was referred to clinical geneticist. Phenotype: protruded thorax, flexible joints, short trunk, lordosis, short phalanges, elongated arms. Height was -6,5 cm < 3rd percentile (target height 50 – 75 percentile). Skeletal survey showed straightened thoracic kyphosis, shorter anterior part of vertebral bodies. Whole exome sequencing (WES) detected pathogenic hemizygous variant NM_001011658.4:c.[191_192del];[0] in *TRAPPC2* gene, that lead to SEDT diagnosis.

Summary

Prevalence of SEDT reaches 1 – 9 in 1 000 000, most common type being X-linked. Growth deficiency begins at around 6 – 8 years old, yet at birth height and bodily proportions are standard. Management of SEDT includes surgical spine and joint procedures due to precocious osteoarthritis, as well as pain management, and rehabilitation. Administering rhGH for SEDT management is still being discussed.

Conclusions

It is crucial to genetically confirm skeletal dysplasia, as it helps to create a precise patient care plan, that includes recommendations for premature osteoarthritis prevention.

CASE REPORT: ACTIVATED PI3K-DELTA SYNDROME AND DIFFUSE LARGE B-CELL LYMPHOMA OF THE ROOT OF THE TONGUE IN AN ADOLESCENT PATIENT

Ms. Dārta Valdovska ¹

1. Riga Stradins University, Latvia

Keywords

Activated PI3K-Delta Syndrome; Primary immunodeficiency; B-cell lymphoma

Introduction

Activated PI3K-Delta Syndrome is a rare primary immunodeficiency with a prevalence of 1 in 1,000,000. Based on the affected gene, the syndrome is divided into two types – APDS1 and APDS2. This syndrome is characterized by recurrent infections, growth and developmental delay, and lymphoproliferation, with an increased risk of B-cell lymphomas.

Case Description

On 10 February 2025, a 16-year-old female patient had an outpatient consultation with an otorhinolaryngologist due to snoring and enlarged tonsils. An MRI of the neck soft tissues was performed and revealed pathological tissue originating from the lingual tonsil. On 26 February, the patient was admitted to the Children's Clinical University Hospital due to suspicion of an oncological process. Physical examination revealed a large mass at the base of the tongue. On 27 February, she underwent surgery, including biopsy of the mass and bone marrow, and placement of a tracheostomy. On 17 March, the biopsy results confirmed the diagnosis of a large B-cell lymphoma, stage III, R2 risk group. The patient was transferred to the Haemato-Oncology Department and treated according to the B-NHL2013 protocol. Chemotherapy was completed in July. On multiple follow-up MRI scans, tumour regression was observed.

Due to the patient's short stature and low body weight, genetic consultation was requested. Psychomotor developmental delay was confirmed. Additional history revealed recurrent infections in childhood, hip dysplasia at birth, and growth delay. NGS analysis identified a pathogenic variant in the PI3KR1 gene (c.1425+1G>A), molecularly confirming Activated PI3K-Delta Syndrome 2 (APDS2).

Summary

This clinical case describes a patient with APDS2 and large B-cell lymphoma, which is a manifestation associated with this syndrome.

Objectives

-

Methods

-

Results

-

Conclusions

APDS2 is an extremely rare condition. This clinical case is unique in the Latvian population and it clearly demonstrates the association between this syndrome and B-cell lymphoma.

Chronic pulmonary aspergillosis (*Aspergillus fumigatus*) in a 15-year-old patient: a case report

*Ms. Elina Stāge*¹

1. Riga Stradins University, Latvia

Keywords

Chronic pulmonary aspergillosis, *Aspergillus fumigatus*, Voriconazole, Galactomannan test

Introduction

Pulmonary aspergillosis is rare in children, challenging respiratory infection caused by the environmental fungus *Aspergillus* (usually *A. fumigatus*) and mostly linked with immunocompromised patients. Clinically, aspergillomas can either remain asymptomatic or lead to symptoms such as a persistent cough. Hemoptysis, fever is rare except when the infection turns chronic. Diagnosis is based on specific radiographic indicators, such as the air crescent sign and Monod's sign. Symptomatic lesions are treated with voriconazole and surgically- typically lobectomy or segmentectomy.

Case Description

A 15-years-old adolescent was hospitalized with a 6-months history of a productive cough. Cough was mostly productive. An x-ray showed a mass in the left lung in a crescent shape, leading to concerns about mycetoma. A CT scan clearly showed signs of mycetoma in the central part of the left lung. Another significant finding was emphysematous pulmonary parenchyma in the upper part of the left lower lobe. While it is not certain, it seems possible that the fungus has taken over a part of the already existing cystic lung tissue. A fibre-optic bronchoscopy with bronchial lavage the galactomannan test showed a positive result in the fluid taken from the lungs, and the infection caused by *Aspergillus fumigatus*. The further treatment strategy was 6 weeks prolonged antifungal treatment with voriconazole followed by surgical resection

Summary

The case report illustrates the diagnostic process and successful functional and surgical outcome of a patient with Chronic Pulmonary Aspergilloma.

Conclusions

The clinical case demonstrates the complexity of diagnosing Chronic pulmonary aspergillosis due to nonspecific symptoms and emphasizes the importance of timely comprehensive diagnosis and targeted antifungal therapy. Multidisciplinary approach is preferred in the diagnostics and treatment of Chronic pulmonary aspergilloma.

DE NOVO KCNA1 MISSENSE VARIANT ASSOCIATED WITH EPISODIC ATAXIA AND EPILEPSY IN A 17-YEAR-OLD GIRL: CASE REPORT

Ms. Kamilė Kulytė¹, Mrs. Meda Maliorė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

KCNA1 gene, episodic ataxia, epilepsy, missense variant, *de novo* mutation.

Introduction

Pathogenic *KCNA1* variants cause autosomal dominant episodic ataxia with myokymia, a rare channelopathy characterized by episodic balance disturbances and associated neurological symptoms. Epilepsy, learning difficulties, and delayed motor development may also occur. This case illustrates the clinical variability of the disease and highlights the importance of genetic diagnosis.

Case Description

A 17-year-old girl was referred to a clinical geneticist due to a 5-year history of coordination difficulties, hand tremor, and a history of epileptic seizures. Seizures began at the age of 3.5 months, and epilepsy was diagnosed. Treatment with valproic acid (VPA) was initiated but later discontinued by the patient. Learning difficulties have been observed since childhood. At the age of 8, she experienced recurrent episodes of impaired consciousness and sudden tonic falls, after which levetiracetam was newly prescribed. In recent years, she has not been taking any medication or attending follow-up visits. mEEG revealed mild focal epileptiform activity in the right parieto-occipital and left centro-parietal regions. Whole exome sequencing with epilepsy gene panel identified a *de novo* likely pathogenic heterozygous missense variant in the *KCNA1* gene (NM_000217.3): c.884G>A (p.Arg295His). Based on these findings, episodic ataxia (ORPHA: 37612) was diagnosed. It was recommended to avoid triggering factors and, if necessary, initiate medical therapy (acetazolamide, phenytoin, sulthiame, carbamazepine, lamotrigine).

Summary

This case describes a 17-year-old female patient presenting with coordination difficulties, epilepsy, and learning disabilities. A *de novo* likely pathogenic *KCNA1* gene variant, c.884G>A (p.Arg295His), was identified. Based on these findings, the initial diagnosis of epilepsy was revised to episodic ataxia.

Conclusions

KCNA1 gene variants exhibit a broad clinical spectrum ranging from episodic ataxia to epilepsy and cognitive impairment. Early diagnosis helps avoid unnecessary investigations, reduces diagnostic delay, and allows for a more individualized treatment strategy.

ECMO AS A LIFE-SAVING THERAPY IN A NEONATE WITH CONGENITAL CHYLOTHORAX AND NOONAN SYNDROME. A CASE REPORT.

*Ms. Anastasija Dementjeva*¹

1. Riga Stradins University, Latvia

Keywords

Neonate; Congenital chylothorax, Persistent Pulmonary Hypertension; Extracorporeal membrane oxygenation; Noonan Syndrome.

Introduction

Congenital chylothorax is a rare but severe cause of pleural effusion in the neonate and may result in respiratory failure and persistent pulmonary hypertension. The condition is often associated with lymphatic abnormalities and may occur in the context of underlying genetic syndromes, including Noonan syndrome. Management of refractory cases remains challenging, and extracorporeal membrane oxygenation (ECMO) may be required as a life-saving supportive therapy.

Case Description

We present the case of a critically ill neonate with congenital chylothorax complicated by persistent pulmonary hypertension and severe respiratory failure. The patient developed progressive hypoxemia and hemodynamic instability shortly after birth, requiring invasive mechanical ventilation and inotropic support. Despite maximal conventional intensive care, the clinical condition deteriorated. Due to refractory respiratory and circulatory failure, a mobile extracorporeal membrane oxygenation team from Karolinska University Hospital was deployed, and veno-arterial ECMO was initiated on site as a life-saving intervention, followed by transport of the patient on ECMO support to Sweden. Stabilization of oxygenation and cardiovascular function was achieved, allowing further diagnostic evaluation. Subsequent genetic testing established the diagnosis of Noonan syndrome, providing a unifying explanation for the clinical presentation.

Summary

This case illustrates the complex interplay between congenital chylothorax, persistent pulmonary hypertension, and Noonan syndrome in a critically ill neonate and highlights the role of ECMO as an effective rescue therapy when conventional treatment fails.

Conclusions

Early recognition of severe neonatal conditions, timely referral to specialized centers, and close multidisciplinary collaboration, including cross-border cooperation, can be decisive for survival. In such critically ill neonates, extracorporeal membrane oxygenation serves as a vital bridge to stabilization and subsequent targeted management.

ECMO SUPPORT AND DYNAMIC LUNG REMODELING IN SEVERE LEFT-SIDED CONGENITAL DIAPHRAGMATIC HERNIA: A CASE REPORT

*Mrs. Annija Grantina*¹

1. Riga Stradins University, Latvia

Keywords

Congenital diaphragmatic hernia; ECMO; neonatal respiratory failure; lung remodeling; PPHN

Introduction

Congenital diaphragmatic hernia is a developmental anomaly in which abdominal organs protrude into the thoracic cavity, leading to pulmonary hypoplasia and abnormal pulmonary vascular formation. Incidence ranges from approximately 1-4/10,000 live births. Due to its association with severe respiratory complications and high neonatal mortality, early diagnosis and multidisciplinary management are essential for improving outcomes.

Case Description

Patient 41+4 weeks with prenatally diagnosed severe left-sided CDH developed early respiratory failure and progressive PPHN. Despite high-frequency ventilation and inhaled nitric oxide, rapid deterioration occurred within 12 hours of life. ECMO was initiated after consultation and the patient was transferred to Karolinska University Hospital. Surgical CDH repair with a Gore-Tex patch was performed during ECMO support. The course was complicated by left-sided thoracic bleeding requiring intrathoracic hematoma evacuations. After successful ECMO decannulation, PPHN resolved and the patient could be transported back to Children's Clinical University Hospital. Patient required prolonged mechanical ventilation with multiple extubation attempts. Imaging demonstrated progressive reduction of left lung volume, heterogeneous lung aeration, pleural thickening, and increasing herniation of the right lung into the left hemithorax with mediastinal shift. Despite radiological worsening, infant showed gradual clinical improvement, achieving respiratory independence and stable oxygenation. Feeding intolerance and reflux required prolonged nasogastric support. At four months patient remained clinically stable without supplemental oxygen.

Summary

Patient with prenatally diagnosed severe left-sided CDH admitted to NICU with rapid deterioration meeting ECMO criteria and transferred to Karolinska University Hospital. While on ECMO support, underwent CDH repair with complications and dynamic postnatal lung remodeling with clinical radiological dissociation.

Conclusions

This case highlights the importance of early diagnostics and multidisciplinary management of CDH and complexity of post-ECMO recovery in severe cases. Despite significant lung remodeling and risk factors linked to mortality in CDH patient achieved respiratory independence with coordinated care.

Epstein–Barr Virus–Associated Hemophagocytic Lymphohistiocytosis in a 2-Year-Old Latvian Child: A Case Report

Ms. Līva Annija Vītola¹

1. Rīga Stradiņš University, Latvia

Keywords

Hemophagocytic lymphohistiocytosis; Epstein–Barr virus; Pediatric intensive care; Cytokine storm; Extracorporeal membrane oxygenation.

Introduction

Hemophagocytic lymphohistiocytosis (HLH) is a rare, life-threatening hyperinflammatory syndrome caused by severe immune dysregulation. We report a case of Epstein–Barr virus (EBV)–associated HLH in a previously healthy child, characterized by rapid clinical deterioration despite maximal supportive care and treatment according to the HLH-2004 protocol.

Case Description

We report the case of a 2-year-and-7-month-old girl who presented with a 5-day history of fever, diarrhea, and decreased urine output. On admission, she was critically ill, with hypotension, tachycardia, and a petechial rash on the thighs, perioral area, and gluteal region.

Initial laboratory evaluation revealed pancytopenia, metabolic acidosis with elevated lactate, and discoagulation. Despite aggressive fluid resuscitation, her condition worsened, requiring admission to the intensive care unit. In the ICU she required vasopressor support, intubation and mechanical ventilation.

Laboratory findings—including pancytopenia, hyperferritinemia, hypertriglyceridemia, and hypofibrinogenemia—met the diagnostic criteria for HLH. EBV DNA was detected at 3,180,000 copies, confirming EBV-associated HLH. A bone marrow biopsy was also performed, confirming bone marrow aplasia with hemophagocytosis.

The patient developed anuric acute renal failure requiring hemodialysis and refractory shock due to severe vasoplegia secondary to a cytokine storm, prompting initiation of plasma exchange therapy. This was complicated by wide-complex bradycardia and cardiac arrest, with successful resuscitation. She was transferred to Karolinska University Hospital for veno-arterial extracorporeal membrane oxygenation (VA-ECMO) but died the following day due to extensive severe brain injury.

Summary

We describe a fulminant case of Epstein–Barr virus-associated hemophagocytic lymphohistiocytosis in a Latvian child, characterized by rapid clinical deterioration, multiorgan failure, and refractory shock despite aggressive intensive care management, including plasma exchange and VA-ECMO support.

Conclusions

This case illustrates the diagnostic complexity and therapeutic challenges of EBV-induced HLH in pediatric patients, with particular emphasis on the difficulty of identifying effective treatment in rapidly progressive and treatment-refractory disease.

GASTRIC INFLAMMATORY MYOFIBROBLASTIC TUMOR IN A 3-YEAR-OLD CHILD: A CASE REPORT

Ms. Krista Eliza Cekule¹

1. University of Latvia, Latvia

Keywords

Inflammatory myofibroblastic tumor; Gastric tumor; Pediatric oncology; Upper gastrointestinal bleeding; ALK-positive tumor

Introduction

Inflammatory myofibroblastic tumor (GIMT) is a rare mesenchymal tumor of intermediate malignant potential, most commonly occurring in children between 2 and 16 years old. Gastric localization is uncommon, and may present with nonspecific or acute symptoms. Due to its rarity and variable clinical presentation, diagnosis and management remain challenging.

Case Description

A 3-year-old girl presented with acute hematemesis accompanied by blood clots. Initial esophagogastroduodenoscopy revealed an approximately 2 cm ulcerative lesion on the lesser curvature of the stomach; biopsies were deferred due to active bleeding. Repeat endoscopy demonstrated progression to a 25 mm ulcerative lesion with surrounding mucosal infiltration and contact bleeding, and secondary iron-deficiency anemia was diagnosed. The patient underwent laparoscopic gastric resection. Histopathological and immunohistochemical analysis confirmed a gastric inflammatory myofibroblastic tumor with strong ALK positivity, negative CD117 expression, and a Ki-67 index of approximately 5%. Given that the initial surgical treatment was non-radical and tumor elements were present at the resection margin, a multidisciplinary tumor board recommended repeat surgery to achieve radical tumor resection, which was successfully performed. The postoperative course was uneventful, and the patient was discharged in satisfactory condition.

Summary

This case presents a 3-year-old girl with a gastric inflammatory myofibroblastic tumor presenting as acute upper gastrointestinal bleeding. The diagnosis was confirmed by histopathological and immunohistochemical analysis. Due to residual tumor tissue after initial resection, repeat surgical treatment was required. The patient was discharged in satisfactory condition with follow-up recommendations after successful definitive surgical management.

Conclusions

Gastric inflammatory myofibroblastic tumors in children are rare and may present with severe gastrointestinal bleeding. Accurate diagnosis relies on histopathological and immunohistochemical evaluation, including assessment of ALK expression. Complete surgical resection is the preferred treatment approach to reduce the risk of recurrence.

GIANT CONGENITAL EPULIS DETECTED PRENATALLY: A CASE REPORT

Ms. Greta Miškinaitė¹, Ms. Gabija Asipauskaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Neonatal; Oral lesions; Congenital epulis; Prenatal diagnostics

Introduction

Congenital epulis is a rare benign tumour arising from the alveolar ridge, typically identified at birth. Prenatal diagnosis, although rare, is important for preventing airway and feeding complications.

Case Description

A 28-year-old primigravida was referred at 32 weeks of gestation for a suspected fetal facial mass. Ultrasound revealed a 27 × 19 mm lesion arising from the upper lip or alveolar ridge, while fetal swallowing and tongue mobility remained intact. A multidisciplinary team recommended delivery in a perinatology centre due to potential airway obstruction. At 37 weeks of gestation, ultrasound demonstrated two masses measuring 27 × 18 mm and 41 × 19 mm. A Cesarean section with an EXIT procedure was performed, delivering a female neonate (birth weight 2786 g, Apgar scores 8/9). Continuous positive airway pressure (nCPAP) was initiated for respiratory support and a gastric tube was inserted because the lesion impaired oral feeding. On day 3, CT revealed a well-defined, solid, hourglass-shaped soft-tissue mass measuring 41 × 30 mm with both intraoral and extraoral components as well as a smaller right gingival lesion, while the airways were open. On day 4 radical excision of three masses was performed. Histology revealed granular, PAS-positive tumour cells, consistent with CE. Surgical excision was performed without complications, a small residual tongue lesion was left under observation. The neonate remained clinically stable, established successful breastfeeding, demonstrated appropriate weight gain and was discharged home on the 10th day of life.

Summary

A female neonate with a prenatally diagnosed rare giant CE was delivered by Cesarean section with EXIT procedure. After birth neonate underwent early surgical excision, resulting in a healthy breastfed infant.

Conclusions

This case demonstrates the value of prenatal diagnosis, multidisciplinary planning, and the use of EXIT procedure in managing congenital orofacial tumours with potential airway compromise.

LATE DIAGNOSIS OF MOSAIC TURNER SYNDROME

***Ms. Laura Dragu**¹*

1. Iuliu Hațieganu University of Medicine and Pharmacy, Romania

Keywords

Mosaic Turner Syndrome, delayed puberty, hypergonadotropic hypogonadism

Introduction

This case highlights the importance of clinical suspicion in adolescents presenting with short stature and pubertal delay, even in the absence of severe congenital malformations.

Case Description

A 14-year-and-4-month-old female patient, with a known history of ADHD, presented for an endocrine evaluation regarding significant short stature and delayed onset of puberty.

Distinct phenotypic markers were noted, including hypertelorism, epicanthal folds, multiple pigmented nevi on the abdomen and lumbar region, and a low posterior hairline. Sexual maturity was assessed at Tanner stage P2/3 B1.

Height was 141.6 cm (-3.14SD below the general population mean), which corresponded to the 90th percentile on a Turner-specific growth chart. Her target height based on parents was 166 cm.

The hormonal profile confirmed hypergonadotropic hypogonadism (FSH=198.8 mU/mL, LH=31.3 U/L, Estradiol=9.29 pg/mL).

The somatotrophic axis was normal (IGF-1=236 ng/mL). The Clonidine stimulation test showed an optimal GH peak (9.93 ng/mL), while the Insulin Tolerance Test was sub-optimal (4.6 ng/mL).

Pituitary MRI was normal, ruling out central lesions.

Bone radiography showed an age was 13 years. Hand X-ray revealed slight brachymetacarpia of the 4th right metacarpal.

The karyotype revealed mosaicism: 45, X [15]/46, X, i(Xq) [12]. This indicates two cell lines: one with a single X chromosome (55%) and one with an isochromosome of the long arm of the X chromosome (45%).

Growth Therapy was initiated with Somatropin (0.05mg/kg/day).

At age 16, estrogen therapy was introduced using transdermal Oestradiol 0.6 mg/g 0.6g gel daily.

Summary

This patient presented with delayed onset of puberty, short stature, brachymetacarpia, and hypergonadotropic hypogonadism, all classic phenotypic and biochemical markers of Turner syndrome. The diagnosis was confirmed via karyotype, identifying a mosaicism involving a monosomy X line and an isochromosome Xq line.

Conclusions

Earlier detection could have given the patient a better prognostic regarding growth and pubertal development.

MASTOIDITIS AND CEREBRAL VENOUS SINUS THROMBOSIS AS A COMPLICATION OF CHRONIC OTITIS MEDIA IN A PEDIATRIC PATIENT: A CASE REPORT

Ms. Goda Ivaškevičiūtė¹

1. Vilnius University, Lithuania

Keywords

Cholesteatoma; Chronic otitis media; Venous sinus thrombosis; Mastoiditis.

Introduction

Cholesteatoma is a type of chronic otitis media associated with an increased risk of extracranial and intracranial complications, including venous sinus thrombosis, intracranial abscesses, meningitis. Although rare, these complications are potentially life-threatening and may pose diagnostic and therapeutic challenges.

Case Description

A 5-year-old boy was admitted to a tertiary university hospital with left-sided postauricular pain and swelling, thick ear discharge and episodic frontal headaches. The patient had been treated for external otitis over the three months prior to hospitalization. ENT evaluation revealed thick, erythematous eardrum covered with purulent discharge. Urgent contrast-enhanced MRI demonstrated mastoiditis complicated by left retroauricular abscess, cerebellar abscess and extensive thrombosis of the left sagittal, sigmoid and transverse sinuses. Emergency tympanostomy, retroauricular abscess incision and drainage were performed. No bone destruction was identified intraoperatively. Broad-spectrum antibiotics and anticoagulation with Fraxiparine were initiated. Following treatment, the patient's clinical condition showed moderate improvement – purulent discharge was present daily from the postauricular incision and the ear canal.

Two weeks after the initial surgery, a left-sided atticotomy was performed, during which two ossicular bones were removed. Antibiotic and anticoagulation therapies were continued. A contrast-enhanced MRI performed three weeks after the second surgery demonstrated marked radiological improvement: a clear retroauricular region and left middle ear, partial regression of venous sinus thrombosis. 1.5 months after the onset, following completion of the antibiotic course and clinical improvement, the patient was discharged. The patient is periodically observed by an otorhinolaryngologist, a neurosurgeon and a hematologist.

Summary

This report describes a rare case of untreated chronic otitis media complicated by mastoiditis and venous sinus thrombosis in a pediatric patient.

Conclusions

Venous sinus thrombosis is a rare complication of otitis media, especially in pediatric population. Early recognition, timely surgical intervention, appropriate antibiotic and anticoagulant therapy are essential for achieving favorable clinical outcomes.

MISLEADING ELEVATION OF TROPONIN I IN PAEDIATRIC CARDIOLOGY

Mr. Žygimantas Migauskas ¹, Mr. Arminas Sveboda ¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Paediatric, Troponin I, Myocarditis.

Introduction

Cardiac troponin I (TnI) is a sensitive biomarker of myocardial injury and is frequently used in the evaluation of suspected myocarditis. However, moderate TnI elevation in children may occur in non-pathological conditions, especially following physical exertion, and may lead to unnecessary hospitalisation and extensive diagnostic workup.

Case Description

15-year-old male with a known congenital bicuspid aortic valve, mild aortic valve regurgitation and stenosis complained of weakness and nausea at school. Initial electrocardiogram showed sinus bradycardia. Laboratory tests were unremarkable except for a moderately elevated TnI level (61.5 ng/L; normal <31 ng/L). In suspicion of myocarditis family physician referred the patient to a tertiary centre. Repeat troponin levels rapidly normalised, and transthoracic echocardiography along with clinical assessment revealed no evidence of myocarditis. The patient was discharged.

16-year-old male presented with chest pain in the morning, same day after intensive football practice the pain began radiating to the right side of the chest and back. Electrocardiogram demonstrated sinus bradycardia and first-degree atrioventricular block. TnI was moderately elevated (102.4 ng/L). Due to concerns for myocarditis, he was hospitalized and underwent extensive evaluation, including cardiac magnetic resonance imaging. No signs of myocardial inflammation were identified. The clinical picture and neurological assessment were most consistent with intercostal neuralgia and musculoskeletal pain related to physical strain. TnI levels dropped (33.1 ng/L) over the course of 2 days.

Summary

In both cases patients had physical activity before their blood was drawn. In addition, both patients had only a moderate elevation of TnI. There were no other specific signs of myocarditis. As a result, the sole elevation of TnI levels may lead to excessive medical workup and referral to specialists.

Conclusions

Isolated moderate elevation of TnI levels in children is non-specific to myocarditis and can occur due to physical activity, therefore, should be interpreted in conjunction with other findings.

Myelodysplastic Syndrome with Monosomy 7 in a 14-Year-Old Patient

Ms. Ilze Rudoviča¹

1. Riga Stradins University, Latvia

Keywords

myelodysplastic syndrome, monosomy 7, adolescent, cytopenias, bone marrow failure

Introduction

Myelodysplastic syndrome (MDS) is rare in the pediatric and adolescent population and is frequently associated with cytogenetic abnormalities. Monosomy 7 is one of the most common and prognostically unfavorable chromosomal aberrations in pediatric MDS and is often associated with bone marrow failure and an increased risk of progression to acute myeloid leukemia.

Case Description

We report the case of a 14-year-old adolescent referred for outpatient hematological evaluation because of persistent mild neutropenia and thrombocytopenia detected during routine laboratory testing. The patient presented with fatigue and reduced physical endurance, without signs of acute infection or bleeding. Initial complete blood count revealed mild thrombocytopenia and neutropenia. These hematological abnormalities had been present for several years without the need for blood product transfusions. Bone marrow biopsy did not initially demonstrate morphological changes typical of MDS, despite marked hypoplasia of the myeloid and lymphoid cell lineages. However, cytogenetic and molecular genetic analyses identified monosomy 7. Given the high-risk cytogenetic and molecular genetic profile, the patient was referred for further risk-adapted management and evaluation for hematopoietic stem cell transplantation. Without the availability of cytogenetic and molecular genetic analyses, a definitive diagnosis based exclusively on bone marrow morphological findings would have been difficult to establish.

Summary

This case highlights the diagnostic challenges of myelodysplastic syndrome in adolescents and underscores the importance of cytogenetic and molecular genetic analysis in patients with persistent, unexplained mild cytopenias.

Conclusions

Although rare in adolescents, myelodysplastic syndrome should be considered in cases of persistent mild cytopenias. The presence of monosomy 7 indicates a high-risk disease course and necessitates timely diagnosis, close monitoring, and early referral for definitive treatment options.

NEONATAL MYELOMENINGOCELE WITH HYDROCEPHALUS AND COEXISTING CONGENITAL ANOMALIES: A CASE REPORT

Ms. Greta Miškinaitė¹, Ms. Gabija Asipauskaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Myelomeningocele; Spina bifida; Congenital anomalies

Introduction

Myelomeningocele (MMC), the most severe form of spina bifida, results from failed caudal neural tube closure and often coexists with other congenital anomalies. MMC is often associated with hydrocephalus, requiring ventriculoperitoneal (VP) shunting in up to 80% of cases. A daily intake of 400-800 µg of folic acid during pregnancy is recommended to help prevent such anomalies.

Case Description

A male infant was delivered at 36 weeks of gestation via Caesarean section due to premature rupture of membranes one week prior to term. The newborn was presented with spina bifida aperta, right ear microtia and a bulging fontanelle. Echocardiography revealed patent ductus arteriosus (PDA) and persistent foramen ovale (PFO). Head CT performed on the same day of birth revealed intracerebral hemorrhage (ICH) in the right and left frontal lobes, cerebral edema, suspected non-communicating hydrocephalus and scaphocephaly. The surgical team initially addressed the MMC by performing defect closure using a local advancement flap. Following the procedure, forehead swelling progressed and head circumference increased from 32 cm to 36 cm. On the 6th day of life head CT demonstrated enlargement of intracerebral hemorrhage (ICH) in the frontal lobes from 0.13 ml to 0.29 ml, leading to VP shunt placement. Postoperatively, the patient remained stable and was discharged in good condition two days later.

Summary

A male neonate born at 36 weeks via Cesarean section presented with spina bifida aperta, microtia, and ICH with hydrocephalus. Initial MMC repair followed by progressive hydrocephalus, managed with a VP shunt on day 7, after which the infant remained clinically stable and was discharged in good condition.

Conclusions

MMC may be associated with coexisting congenital anomalies and complicated by ICH and progressive hydrocephalus, requiring close surveillance and timely VP shunting. This case underscores the importance of adequate maternal folic acid supplementation to prevent neural tube defects.

PEDIATRIC HYPERSENSITIVITY PNEUMONITIS: A DIAGNOSTIC CHALLENGE

***Ms. Justina Rečiūnaitė**¹*

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Hypersensitivity pneumonitis, Pediatrics, Environmental exposure.

Introduction

Hypersensitivity pneumonitis (HP) is a rare immune-mediated pediatric interstitial lung disease, often misdiagnosed because of nonspecific clinical and radiologic features. We report a case initially mistaken for miliary tuberculosis.

Case Description

A 12-year-old girl presented with a 3-month history of progressive dyspnea, cough, low-grade fever, reduced exercise tolerance, and weight loss. She was hypoxemic (SpO₂ 88%) with bilateral crepitations; laboratory tests showed elevated serum IgG and LDH, chest radiography demonstrated diffuse nodular infiltrates suggestive of miliary tuberculosis. Despite a negative tuberculin test, antituberculosis treatment was empirically initiated after bronchoscopy and respiratory tract sampling. After three weeks, the treatment was discontinued due to drug-induced liver injury and negative microbiology. Subsequent chest CT showed extensive bilateral ground-glass opacities and centrilobular nodules. Lung biopsy revealed interstitial infiltration with macrophages, lymphocytes, plasma cells, eosinophils, multinucleated giant cells, and small granulomas, confirming HP. Environmental history revealed exposure to household mold, parrots, and intensive incense burning, particularly in the patient's bedroom. The patient received one month of systemic prednisolone and was advised to avoid all triggers. Her symptoms were resolved within months. The earlier signs of pulmonary restriction were no longer present, and radiological findings were normalized.

Summary

This case underscores the diagnostic challenges of pediatric hypersensitivity pneumonitis and highlights the need to consider environmental lung disease when infection, asthma, and other pulmonary disorders have been excluded. A systematic exposure history is crucial, as removal of household antigens led to sustained clinical and radiological improvement. Diagnosis can be reliably established based on characteristic symptoms, comprehensive clinical history, and timely CT imaging, rendering lung biopsy unnecessary, while in the acute phase removal of triggering factors is often sufficient.

Conclusions

Early recognition of HP and strict antigen avoidance are essential for favorable outcomes and prevention of irreversible lung damage, highlighting the need for greater clinical awareness.

PROGRESSIVE FAMILIAL INTRAHEPATIC CHOLESTASIS TYPE 3 COMPLICATED BY HEPATOPULMONARY SYNDROME IN AN ADOLESCENT: SUCCESSFUL MANAGEMENT WITH LIVER TRANSPLANTATION

Ms. Anna Braževiča¹, Ms. Polina Braževiča¹

1. Riga Stradins University, Latvia

Keywords

PFIC-3; Hepatopulmonary syndrome; Portal hypertension; Pediatric liver transplantation

Introduction

Progressive familial intrahepatic cholestasis type 3 (PFIC-3) is a rare autosomal recessive cholestatic disorder caused by mutations in the ABCB4 gene. PFIC-3 typically presents during infancy or early childhood, often progressing to cirrhosis. While portal hypertension is an expected consequence of advanced PFIC-3, hepatopulmonary syndrome (HPS) remains an exceptional complication in pediatric patients. HPS, characterized by the triad of liver disease, arterial hypoxemia and intrapulmonary vasodilatation, is a life-threatening complication manageable only by liver transplantation. Although HPS is well-documented in adult cirrhosis, its occurrence in pediatric cholestatic disorders, particularly PFIC-3, is exceptionally rare. Early recognition of this association is crucial for timely transplant referral and improved outcomes.

Case Description

We report a 13-year-old girl who initially presented with pruritus and hepatosplenomegaly. Laboratory tests revealed leukopenia, thrombocytopenia, and elevated liver enzymes. Genetic testing identified mutations in the ABCB4 gene, confirming a diagnosis of PFIC type 3. Despite treatment with ursodeoxycholic acid, she developed progressive liver dysfunction and portal hypertension. Subsequently, she experienced respiratory symptoms with oxygen desaturation (SpO₂ 89% on room air). Clinical and investigative findings confirmed hepatopulmonary syndrome (HPS), a rare complication in pediatric PFIC-3. The combination of advanced liver disease and HPS necessitated urgent listing for liver transplantation. She successfully underwent orthotopic liver transplantation, achieving excellent postoperative recovery.

Summary

This case highlights hepatopulmonary syndrome (HPS) as an uncommon yet serious complication of pediatric PFIC-3 and demonstrates successful management with liver transplantation, resulting in complete clinical recovery.

Conclusions

This case emphasizes the importance of maintaining high index of suspicion for hepatopulmonary syndrome in pediatric patients with advanced cholestatic liver disease presenting with respiratory symptoms. Timely liver transplantation provides curative treatment for both the underlying disease and associated HPS, highlighting the critical role of early diagnosis in optimizing patient outcomes.

Sinonasal alveolar rhabdomyosarcoma in a 4-year-old patient: a case report

*Mrs. Madara Ketlīna Štarka-Rantiņa*¹

1. Riga Stradins University, Latvia

Keywords

Alveolar rhabdomyosarcoma; sinonasal tumor; pediatric oncology, PAX3–FOXO1

Introduction

Alveolar rhabdomyosarcoma (ARMS) is a rare and aggressive pediatric soft tissue sarcoma. Sinonasal involvement is uncommon and often presents with nonspecific symptoms that mimic benign inflammatory conditions, delaying diagnosis. The PAX3–FOXO1 fusion gene defines a high-risk subtype with important implications for treatment and prognosis. This case highlights the clinical presentation and management of sinonasal ARMS in early childhood and emphasizes the importance of timely diagnosis and multidisciplinary care.

Case Description

A previously healthy 4-year-old boy presented with right-sided epiphora with purulent discharge and progressive unilateral nasal obstruction in August 2024. Despite repeated treatment for presumed infection, symptoms persisted. Patient was admitted to the Children's Clinical University Hospital in December 2024. Otorhinolaryngological examination revealed a bluish-grey mass obstructing the right nasal cavity. Contrast-enhanced computed tomography and magnetic resonance imaging showed a 3.3×1.5×1.6 cm hypercellular mass in the right nasal cavity with extension into the maxillary sinus and nasolacrimal duct, without intracranial involvement. Endoscopic biopsy confirmed ARMS with t(2;13)(q36.1;q14.1) PAX3–FOXO1 fusion (T1aN0M0; IRS group III; high-risk). Intensive multiagent chemotherapy according to European CWS protocols was initiated and resulted in rapid tumour regression, followed by stereotactic radiotherapy for a small residual lesion in the distal nasolacrimal duct. Treatment was complicated by episodes of febrile neutropenia, which were managed with supportive care. Follow-up imaging demonstrated complete radiological remission, and the patient remains under ongoing oncological surveillance through October 2025 and continuing thereafter.

Summary

This case illustrates that persistent unilateral epiphora may be an early sign of sinonasal ARMS. Early imaging and molecular diagnostics enabled timely risk-adapted multimodal therapy.

Conclusions

Head and neck malignancies are rare in children. Persistent unilateral sinonasal symptoms, should prompt consideration of malignancy, with sinonasal ARMS in the differential diagnosis. Early otorhinolaryngological evaluation, including endoscopy, is crucial for timely diagnosis and appropriate management.

SYSTOLIC MURMUR AS FIRST MANIFESTATION OF PRIMARY CARDIAC FIBROMA IN 5 MONTHS OLD BOY: A CASE STUDY

Ms. Taisija Domraceva¹

1. Riga Stradins University, Latvia

Keywords

Cardiac fibroma; Systolic murmur; Cardiac tumor; Children

Introduction

Cardiac fibroma (CF) is one of the most prevalent cardiac tumors in children. Although often asymptomatic, depending on CF size and location it may cause serious complications, including ventricular outflow tract obstruction, life-threatening arrhythmias, congestive heart failure and sudden death. Early diagnostic is essential in managing disease and preventing further complications.

Case Description

A 5-months-old boy with no previous medical history was admitted in regional hospital with flu symptoms. Physical examination revealed a grade III/VI systolic murmur. Otherwise patient showed normal growth and development with no signs of heart failure.

Echocardiography revealed a large mass attached to the interventricular septum, causing obstruction of both the left and right ventricular outflow tracts. Cardiac MRI confirmed intramural mass measuring 34 x 36 x 42 mm, consistent with a diagnosis of cardiac fibroma. Pharmacological therapy with oral Propranolol was initiated. Regular follow-up cardiac CT demonstrated mild tumor growth and close proximity of the mass to the coronary arteries, which significantly limits surgical treatment options. At present, patient remains asymptomatic and has regular follow-up with pediatric cardiologist.

Summary

Case study presents incidental diagnosis of a large cardiac fibroma in an asymptomatic infant, with a systolic murmur as the only clinical manifestation.

Conclusions

A loud systolic murmur in pediatric patients should be carefully evaluated, even in the absence of other symptoms. Early echocardiography and multidisciplinary management are important for diagnostic rare but potentially serious cardiac conditions such as cardiac fibroma.

THE IMPORTANCE OF COCHLEAR IMPLANTATION TIMING FOR SPOKEN LANGUAGE DEVELOPMENT IN USHER SYNDROME: A COMPARATIVE CASE REPORT

Ms. Anita Stepena¹

1. Riga Stradins University, Latvia

Keywords

Usher syndrome; congenital sensorineural hearing loss.

Introduction

Usher syndrome is a rare inherited disorder characterized by congenital sensorineural hearing loss, vestibular dysfunction, and progressive retinitis pigmentosa, with an estimated prevalence of 3.5–6.2 per 100,000. Early auditory deprivation, compounded by vestibular and visual impairment, critically compromises speech, language, and functional development, making timely diagnosis and intervention essential.

Case Description

Two pediatric female patients were diagnosed with Usher syndrome type I, characterized by profound congenital sensorineural hearing loss, subsequent vestibular involvement, and retinitis pigmentosa. The timing of audiological diagnosis and intervention differed markedly between the patients. One child underwent audiological evaluation at 7 months, whereas the second was referred at 2 years and 3 months following a prolonged period of auditory deprivation. Auditory brainstem response testing demonstrated profound hearing loss, with thresholds ranging from 90 to 100 dB HL in both cases. Conventional amplification with bilateral hearing aids provided minimal auditory benefit, prompting bilateral cochlear implantation (Cochlear™ Nucleus® 7).

Cochlear implantation was performed at 1 year and 5 months in the early-identified patient, while implantation in the late-identified patient was delayed until 4 years of age. Following regular sound processor programming, both children achieved near-normal aided hearing thresholds of 20–25 dB HL. Despite comparable post-implant auditory sensitivity, auditory–verbal outcomes diverged substantially. Earlier implantation was associated with high speech perception performance and age-appropriate spoken language development. In contrast, later implantation resulted in severely delayed expressive language, necessitating the use of alternative communication modalities, including sign language.

Summary

This report presents two pediatric patients with Usher syndrome who achieved comparable post-cochlear implantation hearing thresholds but demonstrated markedly different auditory–verbal outcomes.

Conclusions

Early identification of hearing loss and cochlear implantation within the sensitive period for auditory–language development is critical for functional spoken language acquisition in Usher syndrome.

WHEN A BENIGN LESION BECOMES CRITICAL: MIDGUT VOLVULUS FROM MESENTERIC LYMPHANGIOMA IN AN INFANT

*Ms. Kotryna Simkunaite*¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Mesenteric lymphangioma; intestinal obstruction; bowel volvulus; pediatric surgery

Introduction

Mesenteric cystic lymphangiomas are rare benign lymphatic malformations of the abdominal cavity, accounting for approximately 5% of all lymphangiomas. In infants, they may present with nonspecific abdominal symptoms or, in severe cases, acute intestinal obstruction requiring surgical intervention.

Case Description

A 2-month-old boy presented to the local emergency department with abdominal distension, poor feeding, irritability, lethargy, and absence of stool. Initial treatment with rectal enema was ineffective. He was transferred to a tertiary centre. On admission he was hypotensive, tachycardic, and acidotic. X-ray suggested small-bowel obstruction and volvulus, prompting urgent laparotomy after stabilization. Intraoperatively, large volumes of chylous intraperitoneal fluid and a cystic mesenteric lesion encasing 15 cm of small bowel complicated by a mid-small bowel volvulus with ischemia. The affected segment was resected with primary anastomosis. An additional 40 cm of necrotic distal small bowel was removed, and a proximal ileostomy created. Histology confirmed mesenteric lymphangioma. Cefuroxime and metronidazole were initiated for peritonitis.

Post-operatively, electrolyte imbalance and anemia were corrected. The patient developed sepsis requiring meropenem and later *Clostridioides difficile* infection, managed with antibiotics. Clinical status improved, enteral feeding was tolerated, and the stoma functioned well. Elective stoma reversal was performed three months later, and he is currently well.

Summary

Volvulus secondary to a mesenteric lymphangioma in children is a rare but severe condition that can cause vascular compromise, intestinal necrosis, and perforation if not promptly recognised. Complete surgical resection is the treatment of choice, with staged reconstruction required in extensive bowel involvement. Post-operative complications may include sepsis or secondary infections, but timely intervention generally results in favorable outcomes.

Conclusions

Mesenteric lymphangioma should be considered in infants presenting with obstructive symptoms or abdominal pain due to nonspecific clinical features. Elective surgical resection may be considered in asymptomatic patients to reduce the risk of future complications.

WHEN BLOOD GLUCOSE DROPS: A CASE REPORT OF GENETICALLY CONFIRMED CONGENITAL HYPERINSULINISM IN A NEWBORN

Mr. Mateusz Okonek¹, Ms. Anna Paczkowska¹, Ms. Kinga Drzewińska¹

1. Medical University of Gdańsk, Poland

Keywords

congenital hyperinsulinism, hypoglycaemia, *ABCC8* gene

Introduction

Congenital hyperinsulinism (CHI) represents the most frequent cause of severe and persistent hypoglycaemia in infancy. Its clinical presentation and pathophysiology vary widely. Some cases are associated with various genetic abnormalities, including mutations in the *ABCC8* gene. We report the case of a male newborn diagnosed with genetically determined CHI.

Case Description

An infant was born at 39 weeks' gestation with a birth weight of 3,300 g and an APGAR score of 10. Family history was unremarkable. Hypoglycaemia detected within the first hours of life prompted further evaluation. Laboratory investigations revealed critically low blood glucose levels (6 mg/dl) accompanied by elevated insulin and C-peptide concentrations. Next-generation sequencing identified a heterozygous c.2764C>T variant in the *ABCC8* gene of paternal origin, suggesting pancreas-limited involvement. Initially, management included intravenous 10% glucose infusion. Then, treatment with diazoxide was initiated, later replaced by subcutaneous octreotide following an insufficient response. Pharmacological treatment was discontinued at two years of age due to poor glycaemic control and limited tolerance of injections. During early infancy, necrotizing enterocolitis complicated by intestinal perforation required bowel resection with temporary colostomy and subsequent ileostomy. Currently, the child remains under diabetological follow-up and uses continuous glucose monitoring. Regular nutrition supplemented with maltodextrin or milk protein concentrate maintains blood glucose levels between 46 and 174 mg/dl.

Summary

The presented clinical case highlights the diagnostic pathway of hypoglycaemia in infants and the challenges associated with appropriate treatment adjustment. It also demonstrates a rare gene mutation as the cause of CHI.

Conclusions

Severe hypoglycaemia, even when asymptomatic, may be life-threatening and requires thorough diagnostic evaluation, including genetic testing when indicated. Identification of the underlying cause may facilitate appropriate treatment selection and optimization.

Oncology & Hematology

A Lung Tumor with Endocrine Power: Typical Pulmonary Carcinoid as a Cause of Ectopic Acromegaly

Mr. Olivier Połec¹, Ms. Aleksandra Guzowska¹

1. Medical University of Silesia in Katowice, Poland

Keywords

typical pulmonary carcinoid, neuroendocrine tumor, carcinoid syndrome, ectopic acromegaly

Introduction

Typical pulmonary carcinoid is a well-differentiated neuroendocrine tumor that usually follows an indolent clinical course. In rare cases, it may exhibit hormonal activity, leading to the development of carcinoid syndrome and very rarely acromegaly, which constitutes a significant diagnostic and therapeutic challenge.

Case Description

A 51-year-old woman presented with chronic cough. Chest radiography and CT revealed a large polycyclic right lung mass infiltrating hilar and mediastinal structures. Bronchoscopy with biopsy confirmed typical pulmonary carcinoid with positive chromogranin A, synaptophysin and CD56 expression and a low proliferative index (Ki-67: ~2%). ⁶⁸Ga PET/CT demonstrated pathological somatostatin receptor expression in the primary tumor and regional lymph nodes.

Physical examination revealed phenotypic features of acromegaly. Laboratory evaluation showed elevated serotonin, 5-HIAA levels, as well as increased IGF-1 and GH concentrations. Pituitary MRI excluded a pituitary source, confirming ectopic acromegaly.

Due to locally advanced disease, the patient wasn't eligible for primary surgical treatment. Therapy with long-acting somatostatin analogues (SSA) and peptide receptor radionuclide therapy (PRRT) using ¹⁷⁷Lu and ⁹⁰Y was initiated. PRRT was discontinued because of progressive heart failure and severe mitral valve disease related to carcinoid heart disease, requiring mechanical valve implantation.

Radiotherapy resulted in tumor reduction, enabling surgical intervention. Follow-up tests showed decreased carcinoid syndrome markers as well as IGF-1 and GH levels. Unfortunately, the patient died due to massive postoperative airway hemorrhage.

Summary

This case illustrates a rare clinical course of typical pulmonary carcinoid characterized by significant local advancement and the coexistence of carcinoid syndrome and acromegaly. The course highlights the complexity of diagnosis and the need for a multidisciplinary approach.

Conclusions

Despite pronounced hormonal activity, typical pulmonary carcinoids may be diagnosed at an advanced stage. SSA and PRRT are key therapeutic options in inoperable patients; however, cardiovascular complications may significantly limit treatment possibilities and worsen prognosis.

A PATIENT WITH HIGH-RISK EARLY TRIPLE-NEGATIVE BREAST CANCER AND A CONFIRMED BRCA1 MUTATION WHO IS BEING TREATED WITH OLAPARIB.

Ms. Rasa Rasuma¹

1. Riga Stradins University, Latvia

Keywords

triple-negative breast cancer (TNBC), BRCA1 mutation, targeted therapy, Olaparib

Introduction

Breast cancer is the most common type of cancer among women and the second leading cause of cancer-related mortality for women. TNBC occurs in 10-15% of breast cancer cases and has fewer treatment options, thus having poorer prognosis.

This case report presents a patient diagnosed with high-risk early TNBC and confirmed germline BRCA1 mutation treated with targeted therapy – PARP inhibitor Olaparib.

Case Description

A 45 year old women presented with palpable dense mass between the upper quadrants of the left breast. Ultra-sound examination (USG) showed 3cm large mass (BI RADS 4c) and CORE needle biopsy was performed. Histological analysis showed infiltrative, poorly differentiated (Grade3) triple-negative invasive ductal carcinoma of the breast. Breast MRI confirmed the findings and mass on the left pre axillary side, a suspicious pathologically altered pre axillary lymph node.

The patient was diagnosed with early-stage TNBC (IIA stage T2N0M0) and started on neoadjuvant chemotherapy with Paclitaxel, Carboplatin AUC 5 then Doxorubicin and Cyclophosphamide with Pembrolizumab. After neoadjuvant therapy she had subcutaneous mastectomy with biopsy from sentinel lymph node. Histological analysis showed no residual tumour in resection lines (R0) and a significant change in tumour cell pathomorphosis after therapy (grade IV after Miller-Payne scale). One lymph node was resected and no metastasis were found.

After surgical resection she was indicated adjuvant immunotherapy and chemotherapy with Capecitabine. Genetic testing identified a germline BRCA1 mutation and patient was prescribed Olaparib, treatment with Olaparib continued for a duration of one year.

Summary

Study describes diagnostics and treatment for triple negative breast cancer. It also shows the importance of targeted therapy for BRCA1 mutation.

Conclusions

TNBC is the most aggressive breast cancer subtype with limited therapeutic options. Therefore, careful consideration of all available treatments is crucial to improve clinical outcomes.

A rare case of intramedullary diffuse leptomeningeal glioneural tumor in a 12-year-old.

*Ms. Marija Kairāne*¹

1. Riga Stradins University, Latvia

Keywords

Diffuse leptomeningeal glioneural tumor; pediatric spinal tumor; intramedullary tumor, targeted therapy

Introduction

Diffuse leptomeningeal glioneural tumor (DLGNT) is a rare pediatric CNS tumor that typically presents with diffuse leptomeningeal dissemination and, less frequently, intraparenchymal or intramedullary masses. It was added to the WHO Classification in 2016. Approximately 100 cases have been reported, and the prognosis remains poorly defined, varying by molecular subtype.

Case Description

A 12-year-old girl was admitted in 2023 due to worsening of the progressive thoracic and lumbar back pain, occurring both during the day and at night, without initial focal neurological deficits. Magnetic resonance imaging revealed an extensive intramedullary tumor involving Th5-Th12, accompanied by syringomyelia, with no intracranial pathology. The patient underwent Th5-L1 laminotomy with partial resection of the intramedullary tumor under intraoperative neuromonitoring. Early postoperative neurological deterioration was observed, including sensory deficits below the Th5 level and right-predominant lower-extremity paraparesis. Histopathological and molecular analyses confirmed the diagnosis of diffuse leptomeningeal neuroglial tumor, subclass 2, characterized by 1p deletion, 1q gain, somatic BCOR and CTNNB1 variants, and a KIAA1549:BRAF fusion. Owing to initial postoperative stability, systemic therapy was postponed. One year later, systematic treatment was initiated according to the SIOP-LGG 2004 protocol but was complicated by carboplatin-induced anaphylaxis and chemotherapy-associated sensorimotor polyneuropathy, necessitating a switch to weekly vinblastine. Due to the progression of neurotoxicity, treatment was temporarily paused and later resumed. Despite chemotherapy, disease progression was documented in 2025, with tumor progression at the Th5-Th11 level and development of tumor-related hydrocephalus, leading to treatment intensification and subsequent escalation to combined BRAF and MEK inhibition with dabrafenib and trametinib.

Summary

Patient was diagnosed with diffuse leptomeningeal glioneural tumor after partial resection. Despite treatment, the disease progressed, leading to targeted therapy.

Conclusions

This case underscores the need for molecular diagnostics and individualized, adaptive treatment for DLGNTs, which are infiltrative and prone to progression.

A RARE CASE OF VAGINAL MELANOMA WITH SUCCESSFULL TREATMENT AND LONG-TERM SURVIVAL: A CASE REPORT

***Ms. Laura Jonāne**¹*

1. Riga Stradins University, Latvia

Keywords

Vagina, Melanoma, Colpectomy, Postoperative follow-up

Introduction

Vaginal melanoma is a rare and highly malignant tumour associated with a poor prognosis. Surgery remains the primary treatment, with its extent tailored from local excision to radical procedures.

Case Description

A 73-year-old woman presented to a gynecologist with complaints of slight bloody vaginal discharge. On gynecological examination, a bleeding bluish lesion was observed on the posterior wall of the vagina. A uterine aspiration and vaginal biopsy were performed. Uterine aspiration showed chronic inflammation but no atypical cells. Morphological and immunohistochemical evaluation of the vaginal biopsy confirmed melanoma with a depth of invasion of 1 mm. Pelvic magnetic resonance imaging and computed tomography scans of the chest, abdomen, and pelvis showed no evidence of local or metastatic disease. Two main treatment options were considered: local excision of the affected tissue or radical surgery. Although the tumor was relatively small, its clinically multifocal growth pattern and aggressive nature led to the decision to proceed with radical surgery. An open surgical procedure was performed, including total hysterectomy, total colpectomy, resection of the labia minora, and reconstruction of the defect with a gracilis muscle flap. No additional therapy was indicated postoperatively. The patient underwent regular follow-up examinations by a gynecologic oncologist, and no malignant recurrence was observed during a 5-year follow-up period.

Summary

A 73-year-old woman diagnosed with vaginal melanoma was treated with radical surgery and achieved long-term survival, remaining disease-free for more than 5 years.

Conclusions

This case highlights the importance of awareness of vaginal melanoma as a rare and aggressive malignancy, emphasizing early diagnosis and appropriate treatment. Despite the small size of the lesion and initial consideration of local excision, radical surgical management resulted in 5-year disease-free survival, demonstrating its potential benefit in selected patients.

A RARE COMPLICATION ASSOCIATED WITH EPIDURAL ANALGESIA IN CHILDBIRTH

*Ms. Agnese Pridāne*¹

1. Riga Stradins University, Latvia

Keywords

Epidural anesthesia; Rare epidural complication; Headache.

Introduction

Epidural hematoma is a very rare but potentially life-threatening complication following epidural anesthesia. According to available data, the incidence of epidural hematoma is approximately 1 in 150,000-220,000 epidural anesthetics overall. Several predisposing factors for epidural hematoma have been described in the literature, including anticoagulant therapy, liver failure, congenital thrombocytopenia, and spinal canal stenosis.

Case Description

A pregnant female patient with a medical history of migraines presented to the labor and delivery unit with a spontaneous onset of labor at 38+0 weeks of gestation. For labor analgesia, an epidural analgesia was initiated using bupivacaine and fentanyl. Approximately one hour after epidural placement, the patient developed a sudden onset of severe, cramping neck pain radiating to the occipital region. The pain was continuous and did not improve. Given the severity and persistence of symptoms, multiple analgesic interventions were attempted, including systemic analgesics and an epidural blood patch. Despite these efforts, the headache remained unchanged in intensity for four days and resolved spontaneously only on the fifth day following epidural administration. MRI of the brain was performed and revealed no acute intracranial pathology. Spinal MRI demonstrated abnormal content in the posterior epidural space. Additionally, at the L3-L4 level, a mild dorsal circumferential disc bulge with initial osseous narrowing of the spinal canal and neural foramina was observed.

Summary

This case reports a rare epidural complication – epidural hematoma, presenting as severe, cramping neck pain radiating to the occipital region one hour after epidural placement, that resolved within five days. Evaluating such a rare complication is crucial for improving early recognition of its characteristic features.

Conclusions

Epidural hematoma is a rare and painful complication. However, due to its rarity, it is important to report such cases and discuss potential causes – in this case, possibly the patient's history of migraines.

ATYPICAL PRESENTATION OF MULTIPLE MYELOMA PATIENT WITH A LARGE PARIETAL BONE SOFT TISSUE MASS AND UPPER ARM INVOLVEMENT- CASE REPORT

*Ms. Jeļizaveta Ponomarjova*¹

1. University of Latvia, Latvia

Keywords

Multiple myeloma; Extramedullary disease; Skull involvement; Seizures

Introduction

Multiple myeloma is a malignant plasma cell disorder that usually involves the bone marrow but may rarely present with extramedullary disease. Predominant neurological symptoms can obscure the underlying hematological malignancy and mimic primary intracranial or bone tumors.

Case Description

A 64-year-old woman with a one-year history of epilepsy and organic personality disorder was admitted after developing left-sided facial droop following a generalized seizure and fall. She reported progressive gait instability and lower-limb weakness. Neurological examination revealed vertigo, balance impairment and bilateral tremor. Cranial CT and MRI demonstrated a rapidly enlarging, non-homogeneous, partially calcified right parietal-occipital mass with extensive osteolytic skull destruction, intracranial and extracranial extension, dural compression, and mass effect. Additional osteolytic lesions were identified in the frontal bone, left orbit, and right humerus, and a primary malignant bone tumor was initially suspected.

The patient underwent right occipital-parietal craniectomy with extra-axial tumor resection and cranioplasty. The postoperative course was complicated by extensive bleeding requiring intensive care and later by isolation due to colonization with OXA-producing *Klebsiella pneumoniae*. Histological examination revealed diffuse plasma cell infiltration with an aberrant immunophenotype. Further hematological workup showed anemia, monoclonal IgG lambda paraproteinemia, abnormal free light chain ratio, and bone marrow infiltration by more than 60% lambda-restricted plasma cells, confirming multiple myeloma with extensive extramedullary involvement.

The patient was transferred to oncology care and initiated on VRd chemotherapy. Treatment was temporarily postponed due to febrile episodes, SARS-CoV-2 positivity, and inflammatory marker elevation, which resolved with supportive care and antibiotics.

Summary

This case demonstrates an aggressive form of MM presenting primarily with neurological symptoms due to massive cranial involvement.

Conclusions

MM should be included in the differential diagnosis of destructive skull lesions with neurological manifestations. Early multidisciplinary evaluation is essential, as neurological presentation may precede systemic diagnosis and significantly influence management and prognosis.

CARDIAC MANIFESTATIONS AS THE PREDOMINANT PRESENTATION OF UNDIAGNOSED CARCINOID SYNDROME IN METASTATIC SMALL INTESTINAL NEUROENDOCRINE TUMOR

Ms. Anastasija Makarova ¹

1. Riga Stradins University, Latvia

Keywords

Neuroendocrine tumor; carcinoid cardiomyopathy; right-sided heart failure.

Introduction

Neuroendocrine tumors of the small intestine often remain clinically silent until liver metastases allow vasoactive substances to bypass hepatic metabolism and enter the systemic circulation. Prolonged exposure to these mediators may lead to carcinoid heart disease, a rare but serious condition predominantly affecting right-sided cardiac valves.

Case Description

We report a female patient with arterial hypertension who presented in January 2024 with palpitations and paroxysmal atrial fibrillation, successfully treated with pharmacological cardioversion, with no accompanying extracardiac symptoms.

In September 2025, the patient was re-admitted with progressive dyspnea and recurrent palpitations as the dominant clinical complaints. Retrospectively, significant unintentional weight loss (18–20 kg) over six months was identified. She also reported intermittent diarrhea over the preceding 3–4 months and episodic bronchospasm previously diagnosed as bronchial asthma; cutaneous flushing was not reported.

Laboratory evaluation revealed microcytic hypochromic anemia, elevated NT-proBNP levels (up to 3402 pg/mL), and a positive fecal occult blood test. Transthoracic echocardiography demonstrated preserved left ventricular systolic function with biatrial dilatation and severe tricuspid regurgitation (grade IV) with right ventricular volume overload. Computed tomography identified a 4 cm hypervascular ileocecal tumor with multiple liver and lung metastases. Colonoscopy and histopathology confirmed a grade 2 neuroendocrine tumor (Ki-67 3–5%). Measurement of 24-hour urinary 5-hydroxyindoleacetic acid and serum chromogranin A was not performed due to socioeconomic reasons. In the context of metastatic neuroendocrine tumor and severe right-sided valvular disease, carcinoid cardiomyopathy was strongly suspected. Long-acting somatostatin analogue therapy (lanreotide, subcutaneous injections) was prescribed; however, treatment had not yet been initiated.

Summary

This case illustrates undiagnosed carcinoid syndrome presenting predominantly with cardiac manifestations in metastatic small intestinal neuroendocrine tumor.

Objectives

Methods

Results

Conclusions

Predominant cardiac manifestations may obscure the underlying diagnosis of carcinoid syndrome, particularly in patients without prominent gastrointestinal symptoms.

CHALLENGES OF A MULTIDISCIPLINARY APPROACH IN DIFFUSE LARGE B-CELL NON-HODGKIN LYMPHOMA WITH MECHANICAL ILEUS: A CLINICAL CASE REPORT

Ms. Polina Braževiča¹, Ms. Anna Braževiča¹

1. Riga Stradins University, Latvia

Keywords

Non-Hodgkin lymphoma; Diffuse large B-cell lymphoma; Mechanical ileus

Introduction

Diffuse large B-cell lymphoma (DLBCL) is the most common type of non-Hodgkin lymphoma. While extranodal involvement of the gastrointestinal tract is relatively common, presentation as bowel obstruction due to ileal involvement is rare and potentially life-threatening. This case report illustrates the diagnostic and therapeutic challenges encountered in the multidisciplinary management of DLBCL complicated by mechanical intestinal obstruction.

Case Description

A 55-year-old male with a history of DLBCL, previously treated with chemotherapy, was admitted with abdominal pain and persistent vomiting. CT imaging demonstrated progression of the lymphoproliferative disease with pathological infiltration of the small bowel, resulting in mechanical obstruction and ileus. Laboratory tests revealed anemia, hypoalbuminemia, and elevated inflammatory markers. Given clinical deterioration and radiologic evidence of complete small bowel obstruction, urgent surgical intervention was performed. The patient underwent laparotomy with small bowel resection, D1 lymphadenectomy, ileo-ascending colon anastomosis, excision of pathological lesions from the sigmoid mesentery, and pelvic drainage. Postoperatively, gastrointestinal transit was restored, laboratory parameters normalized, and the patient was discharged in stable condition. This case highlights a rare presentation of small bowel obstruction due to lymphomatous infiltration, requiring prompt surgical management.

Summary

This case presents the successful surgical treatment of small bowel obstruction caused by DLBCL. Urgent surgery, including bowel resection and lymphadenectomy, was performed, and the patient recovered uneventfully with restoration of gastrointestinal function. It highlights rare but serious complication of DLBCL and the importance of timely multidisciplinary management.

Conclusions

Effective management of DLBCL related bowel obstruction relies on early recognition and a collaborative, multidisciplinary approach to optimize patient outcomes.

CHEMOTHERAPY-INDUCED INTERSTITIAL PNEUMONITIS IN A CHILD WITH ACUTE LYMPHOBLASTIC LEUKEMIA

***Ms. Ance Zeidaka**¹*

1. Riga Stradins University, Latvia

Keywords

High-risk acute lymphoblastic leukemia, high-dose methotrexate, pneumonitis, cyclophosphamide

Introduction

High-dose methotrexate (HDMTX), defined as doses exceeding 500 mg/m², is a key component of modern paediatric acute lymphoblastic leukaemia (ALL) therapy, while cyclophosphamide (CP) at doses >1000 mg/m² is commonly used in high-risk protocols. Both agents are associated with toxicities such as myelosuppression and mucositis; however, pulmonary toxicity, particularly early-onset interstitial pneumonitis, is rare in children and may be life-threatening.

Case Description

A 2-year-old boy was diagnosed with high-risk ALL in June 2023 and began intensive chemotherapy two months later. He received a cumulative MTX dose of 25,000 mg/m², with the final HDMTX administration in August 2024, and a cumulative cyclophosphamide dose of 7,400 mg/m², completing delayed intensification in September 2024. Several infectious complications occurred during treatment but resolved with standard therapy. On October 15, 2024, after a 10-day history of mild cough, chest computed tomography (CT) demonstrated isolated pulmonary abnormalities; however, maintenance chemotherapy was commenced. On November 8, the patient was admitted with fever, cough, dyspnoea, fatigue, hypoxemia, tachypnoea and bilateral crackles. Broad-spectrum antibacterial and antifungal therapy showed no improvement. Respiratory multiplex PCR was negative, and the patient required mechanical ventilation. Following intravenous methylprednisolone therapy led to rapid clinical improvement, allowing extubation after five days. Follow-up CT confirmed interstitial pneumonitis. Maintenance chemotherapy was restarted on November 25 with a six-month course of prednisolone, with resolution of pulmonary findings.

Summary

We present a rare case of high-dose chemotherapy induced early-onset interstitial pneumonitis in a high-risk ALL patient. Prompt recognition and corticosteroid therapy led to full recovery and the patient continued the maintenance chemotherapy.

Conclusions

Awareness of rare but severe chemotherapy-related pulmonary toxicities is crucial for paediatric oncologists and intensivists. Early consideration of drug-induced pneumonitis, exclusion of infectious causes, and timely corticosteroid treatment can be lifesaving and may prevent unnecessary delays or discontinuation of essential antileukemic therapy.

CLEAR CELL RENAL CELL CARCINOMA WITH INFERIOR VENA CAVA AND RIGHT ATRIAL TUMOR THROMBUS IN A POLYTRAUMA PATIENT

Mr. Maksimilians Rate¹, Ms. Jeļizaveta Ponomarjova¹, Mr. Gustavs Viļums¹

1. University of Latvia, Latvia

Keywords

Renal cell carcinoma; tumor thrombus; inferior vena cava; right atrium; polytrauma;

Introduction

Renal cell carcinoma may extend into the venous system, with tumor thrombus occasionally propagating into the inferior vena cava and right atrium. Such cases present significant surgical and perioperative challenges, particularly when diagnosed in critically ill patients with major comorbidities.

Case Description

A 61-year-old male was admitted after a motor vehicle accident with polytrauma and hemorrhagic shock. He required intensive care management, including endovascular embolizations for arterial bleeding, mechanical ventilation, and renal replacement therapy. Acute kidney injury progressed to dialysis-dependent chronic kidney disease.

Trauma CT angiography incidentally revealed a 7.5 cm right renal mass with malignant tumor thrombus extending from the right renal vein through the IVC into the right atrium. Echocardiography confirmed a large, mobile intracardiac mass with preserved biventricular function.

Coronary angiography demonstrated three-vessel coronary artery disease. After multidisciplinary discussion, a staged approach was chosen. Percutaneous coronary intervention with drug-eluting stents to the OM1 and OM2 branches was performed first. Subsequently, the patient underwent median sternotomy, complete liver mobilization, right radical nephrectomy, and removal of tumor thrombus from the IVC and right atrium under cardiopulmonary bypass.

Histopathology confirmed ccRCC, WHO/ISUP Grade 3, with venous invasion and negative resection margins (pT3cN0M0). Postoperatively, the patient remained dialysis dependent. Follow-up imaging initially showed no metastatic disease; however, one year later, osteolytic spinal metastases were detected, and systemic therapy with pembrolizumab and axitinib was initiated.

Summary

This case demonstrates successful staged management of advanced RCC with extensive venous and atrial tumor thrombus in a critically ill polytrauma patient with severe cardiovascular and renal comorbidities.

Conclusions

Meticulous review of trauma imaging is essential, as significant malignancies may be detected incidentally. Advanced RCC with atrial tumor thrombus can be treated successfully using a coordinated multidisciplinary and staged approach, even in patients with life-threatening comorbid conditions.

CLINICAL DUALITY OF HAIRY CELL LEUKEMIA VARIANT: A TWO-PATIENT CASE SERIES

Ms. Viktorija Bankoviča¹

1. Riga Stradins University, Latvia

Keywords

Hairy cell leukemia variant; HCL-v; BRAF-negative; Cladribine; Rituximab

Introduction

Hairy cell leukemia variant (HCL-v) is a rare mature B-cell neoplasm that differs from classical hairy cell leukemia in its immunophenotype, molecular profile, and clinical behavior. With an estimated incidence of approximately 0.3–0.8 cases per million population annually in Europe, its heterogeneous clinical presentation may complicate diagnosis and therapeutic decision-making.

Case Description

Two patients were diagnosed with HCL-v based on peripheral blood and bone marrow flow cytometry, histopathological evaluation, and molecular testing. In both cases, immunophenotyping demonstrated CD19+, CD20+, CD11c+, and CD103+ B-cells with absent CD25 and CD123 expression, and a negative BRAF V600E mutation.

The first patient, a 68-year-old man, presented with lymphocytosis and marked splenomegaly up to 19 cm; signs of portal hypertension were also noted, while bone marrow function was relatively preserved. He received cladribine chemotherapy (24 mg intravenously over 5 consecutive days) followed by rituximab 800 mg intravenously, with a total of eight infusions.

The second patient, a 54-year-old woman, presented with a marrow-predominant disease pattern, severe pancytopenia, profound neutropenia and thrombocytopenia requiring transfusion support, and moderate splenomegaly (14.7 cm). She was treated with cladribine (9 mg intravenously daily for 5 consecutive days) and rituximab 700 mg intravenously, with a total of eight infusions.

Summary

Despite identical diagnoses, the patients demonstrated distinct clinical phenotypes and treatment courses. In both cases, combined cladribine and rituximab therapy resulted in hematological improvement consistent with partial remission, although response dynamics differed between the leukemic and marrow-predominant disease patterns.

Conclusions

HCL-v may present with markedly different clinical manifestations, posing diagnostic and therapeutic challenges. This case series highlights the effectiveness of combined cladribine and rituximab therapy, emphasizing the importance of individualized assessment and careful follow-up in the management of HCL-v.

DESMOID-TYPE FIBROMATOSIS IN A YOUNG ADULT: A DECADE OF REFRACTORY DISEASE AND EMERGING RESPONSE TO PAZOPANIB

***Ms. Marta Ločmele**¹*

1. Riga Stradins University, Latvia

Keywords

Desmoid-type fibromatosis, Abdominopelvic desmoid tumour, Pazopanib, Tyrosine kinase inhibitors

Introduction

Desmoid-type fibromatosis (DTF) is a rare, locally aggressive fibroblastic tumour that, although non-metastasising, causes substantial morbidity, especially in children and young adults. Pediatric DTF may resist conventional therapy including surgery, chemotherapy, and radiation. Tyrosine kinase inhibitors (TKIs), such as pazopanib, are emerging options for refractory disease. This case illustrates a 10-year course of highly refractory, paediatric-onset DTF ultimately stabilised by pazopanib after multiple failures of conventional therapy.

Case Description

A 13-year-old boy presented in 2015 with abdominal pain and a firm mass. Imaging revealed a large abdominopelvic tumour; biopsy confirmed DTF. Subtotal resection caused thrombosis and neurological deficits. VAC then methotrexate/vincristine chemotherapy produced only transient regression.

Progression in 2016 required radical resection with vascular reconstruction; complications included wound issues and permanent foot drop. Recurrent disease in 2017 was treated with palliative radiation, achieving several years of stability.

Between 2021–2023, a paravertebral/psoas mass developed, involving nerves and vertebrae. Debulking required L2–L4 nerve root resection. Postoperative deficits partially improved.

In 2024, nodal/abdominal recurrences were treated with imatinib. In 2025, new psoas and lymph node progression led to pazopanib, causing hair depigmentation. Imaging demonstrated tumour reduction, stable lymphadenopathy, and no new lesions.

Summary

Pediatric-onset DTF can be prolonged and recurrent despite multimodal therapy. Surgery, chemotherapy, and radiation may provide temporary control but carry morbidity, particularly when neurovascular structures are involved. TKIs, particularly pazopanib, can stabilize disease while preserving function and quality of life. This case emphasizes individualized, multidisciplinary care for complex, treatment-refractory DTF.

Conclusions

Pediatric-onset refractory DTF can follow a prolonged, recurrent course despite conventional therapy. Tyrosine kinase inhibitors, especially pazopanib, can stabilize tumours and preserve function. Multidisciplinary management is critical for optimizing outcomes and quality of life in treatment-resistant cases. This case reinforces the shifting paradigm toward early use of targeted medical therapy in progressive, high-risk DTF.

Diffuse large B-cell lymphoma of the temporalis muscle with infiltration of the temporal lobe

Mrs. Maria Marcak¹, Ms. Anna Kożuch²

1. Medical University of Silesia, Poland, 2. Medical University of Silesia/ Poland

Keywords

Diffuse large B-cell lymphoma, Non-Hodgkin lymphoma, extranodal lymphoma, skeletal muscle involvement, head and neck lymphoma

Introduction

Diffuse large B-cell lymphoma (DLBCL) is the most common aggressive lymphoma within the group of non-Hodgkin lymphomas (NHL). It accounts for approximately 30–40% of this group. The disease is heterogeneous in terms of clinical presentation and may originate from various sites. Approximately 35–40% represent extranodal disease. Primary involvement of skeletal muscles is very rare.

Case Description

We present a case of an elderly patient diagnosed with DLBCL with very high proliferative activity (Ki-67 approximately 100%), originating from the left temporalis muscle with subsequent infiltration of the lateral pterygoid muscle and penetration into the base of the left temporal lobe and the dura mater.

The patient was hospitalized several times; initially due to numbness and pain on the left side of the face. MRI revealed a tissue infiltrate; however, the patient was not eligible for neurosurgical intervention.

One week later, during the next hospitalization in the otolaryngology department, the patient underwent a biopsy, the result of which allowed for the diagnosis of DLBCL. Because of advanced disease, the patient received palliative care only.

Summary

The patient presented with symptoms indicating an advanced stage of the disease. The performed biopsy allowed for the diagnosis of DLBCL; however, the prognosis for the patient was so poor that cytostatic treatment was not initiated.

This case is presented due to the extreme rarity of primary DLBCL originating from skeletal muscle.

Conclusions

DLBCL in an extranodal location may pose numerous diagnostic difficulties. Although CT and MRI are helpful, a wide spectrum of intramuscular diseases must be considered. Therefore, early biopsy appears essential for the correct diagnosis, the selection of therapeutic strategy and prognosis for the patient.

DISSEMINATED MUCORMYCOSIS MIMICKING BACTERIAL ABSCESES: A RADIOLOGICAL DIAGNOSTIC CHALLENGE: A CASE REPORT

Mr. Matas Šimkus¹, Mr. Vaidas Pijadin¹, Ms. Edita Družaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Mucormycosis; Invasive fungal infection; Immunocompromised patient

Introduction

Mucormycosis is a rare and aggressive angioinvasive fungal infection that mainly occurs in immunocompromised patients. It is most prevalent in patients suffering from hematological malignancies. However, diagnosis of this infection is frequently delayed due to non-specific signs and symptoms that are similar to those of a bacterial infection.

Case Description

A 37-year-old woman with newly diagnosed acute myeloid leukemia persistent with fever during profound neutropenia. Chest CT demonstrated right lung consolidation with ground-glass opacities and central liquefaction, initially interpreted as bacterial pneumonia with abscess formation. Despite broad-spectrum antimicrobial therapy, follow-up CT showed rapid progression with increasing consolidation, pleural effusion, and newly developed multiple hypodense lesions in the liver and spleen, initially considered septic abscesses or metastatic disease.

Ultrasound findings were discordant, with mostly solid liver lesions. Also, abdominal CT showed multiple hypovascular and cystic, abscess-like lesions in both liver and spleen, complicating radiological interpretation. Early histopathological samples revealed extensive necrosis without identifiable fungal elements, delaying etiological confirmation.

Brain CT and MRI performed after acute focal neurological deficits demonstrated multiple ring-enhancing intracerebral lesions with surrounding edema. Diffusion-weighted imaging showed atypical features, with diffusion restriction predominantly in the lesion walls rather than the central cavities, suggesting fungal rather than pyogenic abscesses. Given the rapid multiorgan dissemination, angioinvasive pattern, atypical imaging characteristics, and lack of response to antibacterial therapy, disseminated mucormycosis was suspected. The diagnosis was later confirmed by repeat histopathological examination.

Summary

This case demonstrates how disseminated mucormycosis may present with nonspecific and misleading imaging findings, delaying diagnosis in an immunocompromised patient.

Conclusions

Awareness of unusual radiological findings and rapid multiorgan progression is essential for early suspicion of an invasive fungal infection in immunocompromised patients.

EXPLORING THROMBOTIC THROMBOCYTOPENIC PURPURA: CLINICAL COMPLEXITY, DIAGNOSTIC HURDLES, AND TREATMENT SUCCESSES

Mr. Antoniu Flavius Pop¹, Mr. Matei Labo¹, Mrs. Olga Maria Iova¹, Ms. Maria Curean¹

1. University of Medicine and Pharmacy "Iuliu Hatieganu" Cluj-Napoca, Romania

Keywords

ADAMTS-13, misdiagnose, thrombotic thrombocytopenic purpura

Introduction

Thrombotic Thrombocytopenic Purpura (TTP) is a hematological disease characterized by hemolytic anemia, schistocytes, thrombocytopenia, relatively preserved renal function, and no other cause for these findings, such as malignant hypertension, sepsis, or cancer. Because of its rarity as a disease compared to other diagnoses and its resounding clinical presentation, TTP is usually easily misdiagnosed, resulting in an unfortunate ending for the patient. On the other hand, accurately diagnosing and treating this pathology culminates in an outstanding outcome for the patient, which highly depends on the expertise of the medical team.

Case Description

A 31-year-old male presents in a County Hospital, Department of Hematology, transferred from a smaller hospital in the neighboring county with the diagnosis of TTP possibly caused by a COVID vaccine. Upon admission, the patient exhibited signs of psycho-motor agitation and temporal-spatial disorientation, with no motor deficits observed. Pupils were equal and reactive. Physical examination revealed pallid, cold skin with multiple ecchymosis. The patient presented with fever, spontaneous breathing, and oxygen saturation of 98% on nasal cannula supplementation. Lab exams revealed neutrophilia, lymphopenia, anemic syndrome, thrombocytopenia, hepatocytolysis, elevated inflammatory markers, and ADAMTS-13 antibodies, the pathognomonic markers for TPP. Although the Glasgow Coma scale was 8, the MRI scan showed demyelination lesions within the supratentorial substance, potentially indicative of cerebral microangiopathy but without ischemic or hemorrhagic signs at this level. Undergoing plasmapheresis, the patient's general condition improved dramatically in less than a month.

Conclusions

Although easily misdiagnosed, TPP can be recognized and treated accordingly if this rare diagnosis is considered. The importance of increasing awareness regarding TPP is obvious, especially when through the efforts and expertise of the medical team from the small county hospital the diagnosis of this rare condition was suspected, and the patient was immediately sent to the right facility, preventing a tragic outcome

FROM POLYDIPSIA TO PRECISION THERAPY: A CASE OF ERDHEIM–CHESTER DISEASE

***Mr. Arturs Titovs**¹*

1. Riga Stradins University, Latvia

Keywords

Erdheim–Chester disease; Genetic testing; BRAF V600 mutation; Vemurafenib

Introduction

Erdheim–Chester disease (ECD) is an exceedingly rare non-Langerhans cell histiocytosis with a heterogeneous and often non-specific clinical presentation, frequently leading to delayed diagnosis. Central diabetes insipidus and retroperitoneal fibrosis are characteristic but commonly overlooked early manifestations. Timely identification of BRAF V600 mutations has enabled targeted therapy, significantly altering disease management and outcomes.

Case Description

A 46-year-old male was admitted in June 2020 with a one-month history of severe polydipsia, polyuria, and pale urine. Water deprivation test confirmed central diabetes insipidus. Desmopressin therapy resulted in rapid symptom resolution. Pituitary MRI showed loss of the posterior pituitary bright spot with preserved anterior pituitary function. The patient had arterial hypertension and intermittent subfebrile temperatures with mildly elevated inflammatory markers. Abdominal CT revealed bilateral perinephric soft-tissue masses with urinary stasis. Renal and perirenal biopsies revealed fibrotic tissue with histiocytic infiltration, diffuse CD68 positivity, absence of CD1a and S100 expression, and a BRAF exon 15 mutation, confirming Erdheim–Chester disease. Despite peginterferon α -2a (Pegasys) therapy initiated in July 2021, progressive renal failure developed, resulting in end-stage renal disease, requiring lifelong hemodialysis from August 2021. Interferon therapy was discontinued in December 2024 due to logistical issues, and prednisolone therapy led to significant adverse effects. In August 2025, targeted therapy with vemurafenib was initiated. Before vemurafenib, laboratory tests showed anemia, leukocytosis, and thrombocytosis. Follow-up in January 2026 demonstrated normalization of leukocyte and platelet counts and partial improvement of anemia.

Summary

This case illustrates central diabetes insipidus as the initial manifestation of Erdheim–Chester disease and highlights the importance of immunohistochemical and molecular confirmation.

Conclusions

The rarity of this disease makes diagnosing notably challenging. Early recognition of endocrine and retroperitoneal involvement and timely biopsy is crucial in the diagnosis ECD. Molecular testing enables targeted therapy, which improves systemic disease control and long-term outcomes.

GASTROINTESTINAL STROMAL TUMOR OF THE STOMACH

Ms. Gabija Dadurkaite¹, Ms. Agne Talackaite¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

GIST; Imatinib; Mesenchymal tumor.

Introduction

Gastrointestinal stromal tumors (GIST) are rare overall but the most common malignant mesenchymal tumors in the gastrointestinal tract. The decisive factor for the diagnosis in addition to objective symptoms is the expression of the proto-oncogene KIT (CD117) receptor. The most common treatment is surgical resection, preceded by neoadjuvant therapy.

Case Description

54-year-old man was hospitalized in the Lithuanian University of Health Sciences Kaunas Clinics, Department of Gastroenterology for the verification of suspected stomach tumor. Abdominal ultrasound showed growth of irregular contour 24x16.4 cm in size with active blood circulation. Abdomen CT scan revealed tumor occupying almost the entire left side of the abdomen with multi-organ compression. A percutaneous biopsy was performed and GIST was diagnosed. Genetic tests showed KIT gene mutation and patient was prescribed imatinib for 3 years. Surgery was performed and 1200 g of tumor was removed, including part of pancreas, omentum, spleen, stomach and colon. After almost 4 years gastrointestinal bleeding occurred. Angiography was performed and a small arterial branch of the jejunum and a. gastrica was embolised. CT scan detected tumor recurrence, leading to a 7 month imatinib prescription, which was later discontinued. A follow-up CT scan revealed tumor recurrence and imatinib therapy was resumed.

Summary

GIST of the stomach is typically diagnosed by objective symptoms and CD117 expression. Often it requires surgical resection and targeted therapy.

Objectives

-

Methods

-

Results

-

Conclusions

GIST of the stomach is typically diagnosed by objective symptoms and CD117 expression. Often it requires surgical resection and targeted therapy.

Juvenile xanthogranuloma in a 13-year-old girl - a rare base-of-tongue tumor

Ms. Agnieszka Sawina ¹

1. Medical University of Silesia in Katowice

Keywords

juvenile xanthogranuloma, oral cavity tumor, surgical treatment

Introduction

Juvenile xanthogranuloma is an uncommon, benign histiocytic disorder that predominantly affects the pediatric population. The condition typically manifests in early childhood, with approximately 20% of cases present at birth. It is estimated that nearly 75% of lesions develop within the first year of life. The exact etiology of juvenile xanthogranuloma remains unknown, and management is usually conservative.

Case Description

We present the case of a 13-year-old female patient in whom an exophytic lesion of the right side of the base of the tongue was identified over the course of several days. Clinical examination revealed a firm, mulberry-like mass with limited mobility, warranting further diagnostic evaluation. Due to the rapid progression of symptoms causing functional impairment, an extended diagnostic workup was undertaken. Contrast-enhanced magnetic resonance imaging of the neck demonstrated a focal lesion measuring 12 × 13 × 10 mm, molding the superior longitudinal muscle of the tongue without evidence of infiltration. Following intravenous contrast administration, the lesion exhibited signal intensity similar to that of the lymphoid tissue of Waldeyer's ring. A surgical biopsy was performed, and histopathological examination confirmed the diagnosis of juvenile xanthogranuloma. The patient was subsequently qualified for complete surgical excision of the lesion under general anesthesia. Standard perioperative management was applied. One-year follow-up revealed no evidence of recurrence.

Summary

This case illustrates juvenile xanthogranuloma occurring in the tongue, an exceptionally rare location. The lesion should be differentiated from Langerhans cell histiocytosis, vascular granuloma, and lymphoma.

Conclusions

Given the rarity of this presentation, the diagnostic challenges, and the absence of targeted therapy, genetic testing was not performed in this patient. This report highlights the importance of considering juvenile xanthogranuloma in the differential diagnosis of tongue masses in pediatric patients and confirms that surgical management can achieve favorable outcomes.

KRUKENBERG TUMOR MIMICKING PRIMARY OVARIAN MASS WITH NORMAL TUMOR MARKERS LEADING TO FATAL OUTCOME: A CASE REPORT

Mr. Vilius Medvedevas¹, Mr. Naglis Kalvaitis¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Krukenberg tumor. Signet ring cell carcinoma. Ovarian mass. Normal tumor markers. Fatal outcome.

Introduction

Krukenberg tumors are rare metastatic ovarian malignancies, commonly originating from gastrointestinal signet ring cell carcinoma (SRCC). They can mimic primary ovarian tumors and present with endocrine or gynecological symptoms, complicating diagnosis and delaying appropriate treatment.

Case Description

An 18-year-old female presented with back pain, persistent acne, dysmenorrhoea, menorrhagia, and polymenorrhoea. Laboratory evaluation revealed anemia and low ferritin.

Transvaginal ultrasound demonstrated a cystic lesion in the left ovary, free fluid in the rectouterine pouch, and a large right anterolateral solid-cystic mass (11,4×7,6×9,7 cm) with prominent vascularity compressing the bladder. Tumor markers (CA-125, CA-19-9, CA-27.29, CEA, inhibin, hCG, AFP) were within normal limits.

CT performed 10 days later showed tumor enlargement (14,9×10,3 cm), heterogeneous enhancement, free pelvic fluid, and enlarged omental lymph nodes. Fibrocolonoscopy revealed terminal ileal lymphoid hyperplasia. Multidisciplinary review deemed primary ovarian malignancy unlikely, core needle biopsy was indicated. Follow-up ultrasound confirmed rapid growth. Histology revealed SRCC, negative for HER2, PD-L1, and microsatellite instability, consistent with Krukenberg tumor of gastrointestinal origin. Esophagogastroduodenoscopy showed erosive gastroduodenopathy, no primary tumor was identified.

The patient developed progressive abdominal and diffuse pain. Imaging revealed progressing ascites, hydrothorax, extensive spinal metastases, and rapid tumor progression (18,9×8,7×27,6 cm).

She received antibiotics, diuretics, transfusions, palliative spinal radiotherapy, cisplatin chemotherapy, anticoagulation, and supportive care. Despite treatment, she deteriorated with pancytopenia, sepsis, respiratory failure, and multiorgan dysfunction.

After one month of hospitalization, cardiopulmonary arrest occurred, resuscitation was unsuccessful.

Summary

The case details a Krukenberg tumor, presenting as a large ovarian mass with gynecological symptoms, normal tumor markers. It had an aggressive progression refractory to treatment, primary tumor was not identified.

Conclusions

Krukenberg tumors should be considered in young patients with atypical ovarian masses, rapid progression, and normal tumor markers. Early biopsy and multidisciplinary evaluation are essential for diagnosis and management.

LYMPHOCYTE-DEPLETED HODGKIN LYMPHOMA COMPLICATED BY SECONDARY HEMOPHAGOCYTIC LYMPHOHISTIOCYTOSIS: A CASE REPORT

Ms. Kristina Rakūnaitė¹, Ms. Viktorija Staseliūnaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Hemophagocytic lymphohistiocytosis; Hodgkin lymphoma; Epstein–Barr virus

Introduction

Hemophagocytic lymphohistiocytosis (HLH) is a rare hyperinflammatory syndrome associated with substantial morbidity and mortality if not promptly recognized. In adult patients, secondary HLH often develops in the setting of malignancy and may dominate the clinical course. A significant diagnostic challenge may arise when secondary hemophagocytic lymphohistiocytosis complicates a rare lymphocyte-depleted subtype of Hodgkin lymphoma.

Case Description

A 46-year-old man was admitted with recurrent fever, splenomegaly, generalized lymphadenopathy, and weight loss, raising suspicion of hematological disease. Comprehensive laboratory and imaging investigations were performed, including multiple peripheral lymph node and bone marrow biopsies. Significant Epstein–Barr virus viremia was detected and initially considered a plausible explanation for the systemic inflammatory state. Histopathological findings remained inconclusive due to necrotic changes in lymph node and bone marrow specimens, precluding reliable assessment of malignant infiltration and complicating diagnostic interpretation. As the clinical course progressed, the patient developed persistent fever, progressive pancytopenia, worsening splenomegaly, hypertriglyceridemia, and hyperferritinemia, prompting suspicion of HLH. Targeted testing revealed markedly elevated soluble interleukin-2 receptor levels, confirming secondary hemophagocytic lymphohistiocytosis. Treatment with etoposide and dexamethasone was initiated; due to insufficient response, interleukin-6 blockade with tocilizumab was added, leading to clinical stabilization. Following control of the hyperinflammatory process, repeat lymph node biopsies confirmed classical Hodgkin lymphoma, lymphocyte-depleted subtype. Chemotherapy with ABVD was administered and subsequently escalated; complete metabolic response was achieved after four cycles, without recurrence of HLH.

Summary

This case demonstrates the difficulty of recognizing adult-onset hemophagocytic lymphohistiocytosis that evolved during evaluation of lymphocyte-depleted Hodgkin lymphoma and complicated the clinical course.

Conclusions

Hemophagocytic lymphohistiocytosis in adults constitutes a diagnostic challenge, underscoring the importance of early recognition to allow treatment of both the hyperinflammatory syndrome and its underlying cause.

MULTIDISCIPLINARY MANAGEMENT OF HEPATOCELLULAR CARCINOMA WITH DISCORDANT BONE METASTASIS OF UNKNOWN PRIMARY : AN INTERVENTIONAL ONCOLOGY CASE REPORT

Ms. Pooja Nagarkoti ¹

1. Riga Stradins University, Latvia

Keywords

Hepatocellular carcinoma, Interventional oncology, Transarterial chemoembolization, Bone metastasis, Cone beam computed tomography (CBCT) bone biopsy

Introduction

Hepatocellular carcinoma (HCC) typically metastasizes to the lungs or lymph nodes, with bone metastases being infrequent. The presence of a bone lesion of unknown primary origin in a patient with confirmed HCC presents a diagnostic and therapeutic challenge. CBCT-guided core biopsy combined with immunohistochemistry allows accurate diagnosis. Identifying the origin of metastatic adenocarcinoma is crucial for appropriate management. Interventional oncology techniques, including transarterial chemoembolization for liver tumors and microwave ablation for bone lesions, provide excellent minimally invasive therapy alternatives. This case demonstrates the significance of a comprehensive, individualized strategy in cancer treatment.

Case Description

A male patient with a history of prostate carcinoma was diagnosed with a primary liver tumor in segments V and IVb. Elevated AFP and imaging suggested hepatocellular carcinoma (HCC) leading to surgical resection. Histopathology confirmed moderately differentiated HCC with vascular invasion and negative resection margins.

Postoperative imaging revealed a new hepatic lesion in segment VIII and multiple osteolytic bone lesions. Multidisciplinary consultation recommended further evaluation. PSME PET/CT demonstrated active metastatic disease. CBCT-guided core biopsy of iliac bone lesion revealed metastatic adenocarcinoma with an immunohistochemical profile inconsistent with HCC or prostate carcinoma, indicating an unknown primary. Staged transarterial chemoembolization targeted liver segment VIII lesion while microwave ablation controlled the bone lesion and relieved pain.

Summary

This case demonstrates the critical role of interventional oncology in diagnosing and treating complex malignancies. CBCT-guided biopsy indicated bone metastasis from an adenocarcinoma of an unknown primary site, while transarterial chemoembolization and microwave ablation successfully managed local control of hepatic and osseous disease.

Conclusions

Image-guided diagnostic and therapeutic interventions were essential for managing metastatic bone disease of unknown primary and treating primary tumor recurrence. This emphasizes the clinical significance of interventional oncology in providing individualized, multidisciplinary, and minimally invasive therapeutic care.

Multifocal Non-Melanoma Skin Cancer Associated with Chronic Sun Exposure in an Elderly Patient A Case Report

*Mrs. Jekaterina Varena*¹

1. Riga Stradins University, Latvia

Keywords

Basal cell carcinoma, non-melanoma skin cancer, field cancerization, chronic actinic damage, Bowen disease.

Introduction

Keratinocyte carcinomas are the most common malignancies in elderly patients with chronic ultraviolet (UV) exposure. Extensive field cancerization presents significant diagnostic and therapeutic challenges and often requires a multidisciplinary approach.

Case Description

An 80-year-old male patient presented on **14 January 2025** with multiple persistent lesions on the face and trunk. Clinical examination revealed markedly photoaged skin with extensive field cancerization, erythematous, crusted, and eroded lesions on sun-exposed areas, and a history of long-term cumulative UV exposure. Punch biopsies were obtained from the **right temporal region** and **left infraorbital area**, followed by an additional biopsy from the **upper back** on **28 January 2025**.

Histopathology confirmed **superficial and solid-type basal cell carcinoma (Grade 2)** on the back. The left infraorbital lesion showed **actinic keratosis**. **Bowen disease** was histologically verified on the **dorsal forearm** and **posterior upper thigh**. The patient also had a **histologically confirmed squamous cell carcinoma of the right temporal region**, previously treated with **complete surgical excision and advancement flap reconstruction**, with no signs of recurrence.

Multiple superficial BCCs and Bowen disease lesions on the trunk and extremities were treated with **cryotherapy using liquid nitrogen**. On **30 June 2025**, new lesions were noted, consistent with ongoing UV-induced carcinogenesis. Due to functional impairment from facial lesions, **multidisciplinary surgical management** was undertaken on **21 August 2025**, including **tumor excision, local rotational flaps, cartilage grafting, and microvascular anterolateral thigh (ALT) free flap reconstruction**. Further cryotherapy was performed on **29 September 2025**.

Summary

This case demonstrates advanced field cancerization with multifocal BCC, SCC, and Bowen disease in an elderly patient, requiring repeated interventions and multidisciplinary management.

Conclusions

A tailored treatment strategy combining **surgical excision, reconstructive techniques, and destructive dermatological therapies** effectively controlled tumor progression and significantly improved the patient's functional outcome and quality of life.

Mycosis Fungoides Mimicking Psoriasis: A Clinical Case with Delayed Diagnosis

*Ms. Sanija Agnese Amoliņa*¹

1. Riga Stradins University, Latvia

Keywords

Mycosis fungoides; cutaneous T-cell lymphoma; brentuximab

Introduction

Mycosis fungoides is a rare cutaneous T-cell lymphoma that often presents with nonspecific skin findings and may closely resemble chronic inflammatory dermatoses such as psoriasis. This case is clinically important as it illustrates how prolonged misdiagnosis and lack of response to standard antipsoriatic therapy can result in delayed recognition of an underlying malignancy and progression to advanced-stage disease.

Case Description

A 61-year-old woman presented with a five-year history of chronic skin lesions. During the first two years, the condition was treated as an allergic dermatosis, followed by a diagnosis of psoriasis after skin biopsy. Despite antipsoriatic treatment, the patient's condition progressively worsened, with the development of erythroderma and tumorous lesions on the back and forehead. Repeat skin and lymph node biopsies revealed a malignant CD4⁺ T-cell lymphoproliferative disorder with loss of CD7, partial CD30 expression, and a high proliferation index (Ki-67 40–60%), consistent with tumor-stage mycosis fungoides/ Sézary syndrome. Positron emission tomography demonstrated widespread hypermetabolic lymphadenopathy, multiple cutaneous and subcutaneous lesions, and bone involvement. The patient was diagnosed with stage IVA high-grade T-cell lymphoma and referred for hematological management. Treatment with brentuximab vedotin-based therapy combined with CHOEP chemotherapy was initiated, and the patient has completed three treatment cycles to date.

Summary

This case emphasizes the importance of reconsidering the diagnosis in patients with presumed psoriasis who exhibit atypical features or poor response to therapy. Repeated biopsies and close clinicopathological correlation are crucial for early detection of mycosis fungoides and may prevent progression to advanced, life-threatening disease.

Objectives

To highlight diagnostic delay in mycosis fungoides misdiagnosed as psoriasis.

Methods

Retrospective clinical case

Results

After 5 years of misdiagnosis, advanced-stage MF was confirmed and treated.

Conclusions

These findings emphasize that patients with presumed psoriasis who fail therapy require re-evaluation. Early biopsy and clinicopathological review can enable prompt mycosis fungoides diagnosis and prevent progression.

Neuroepithelial tumor with PATZ1 fusion: A two-patient case series and a literature review

Ms. Anna Kosinkina¹

1. Riga Stradins University, Latvia

Keywords

Neuroepithelial tumor with PATZ1 fusion; DNA methylation profiling; Integrated histomolecular diagnosis; Clinical heterogeneity

Introduction

Pediatric central nervous system tumors represent a biologically and clinically heterogeneous group of diseases, in which molecular diagnostics have changed tumor classification. DNA methylation profiling has become a highly accurate diagnostic tool, particularly in cases with nonspecific histological features. Neuroepithelial tumor with PATZ1 fusion is a recently described and rare molecular CNS tumor entity, primarily identified through DNA methylation-based classification. Due to its morphological variability and rarity, diagnosis based on conventional histopathology alone is challenging, and clinical behaviour remains insufficiently defined.

Case Description

Two paediatric patients aged 13 years were diagnosed with neuroepithelial tumor with PATZ1 fusion. The first patient presented with acute neurological symptoms caused by a cortically located tumor and showed an aggressive course with early recurrence, requiring three surgical resections, radiotherapy, and multi-agent chemotherapy. The second patient presented with slowly progressive symptoms related to a deeply located thalamic–hypothalamic tumor and underwent two partial resections followed by radiotherapy and chemotherapy, achieving clinical stabilization.

Summary

These cases demonstrate marked clinical and biological heterogeneity within the same molecular tumour entity and highlight the limitations of morphology-based diagnosis alone.

Conclusions

Neuroepithelial tumour with PATZ1 fusion is a rare paediatric CNS tumor requiring methylation-based diagnosis.

PEMBROLIZUMAB-INDUCED COMPLETE RESPONSE IN SOLITARY ADRENAL METASTASIS OF LUNG ADENOCARCINOMA

Ms. Karolina Ciakaite¹, Ms. Kotryna Simkunaite¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Adrenal metastasis; Non-small cell lung cancer; Immune checkpoint inhibitor; Complete pathological response

Introduction

Isolated adrenal metastasis is a recognized pattern of relapse in non-small cell lung cancer (NSCLC). In selected patients, surgical resection yields 5-year survival of ~25–34%, particularly in metachronous cases. Immune checkpoint inhibitors have transformed metastatic NSCLC treatment, yet complete pathological responses to pembrolizumab in solitary adrenal metastasis remain rarely reported, as most oligometastatic cases undergo upfront surgery or stereotactic radiotherapy without post-treatment histologic confirmation.

Case Description

A patient with previously resected T1N0M0 lung adenocarcinoma was found on surveillance to have a single adrenal lesion. Biopsy confirmed metastatic adenocarcinoma consistent with the lung primary, and adrenalectomy was planned. Shortly before surgery, the patient developed fever, elevated inflammatory markers, and anemia requiring transfusion of 3 units of packed red blood cells. No infectious source was identified, and there was no response to broad-spectrum antibiotics. Because surgery was postponed due to unexplained systemic inflammation, pembrolizumab was initiated as first-line therapy for metachronous oligometastatic NSCLC. Following pembrolizumab initiation, fever resolved and inflammatory markers normalized, allowing adrenalectomy. Histopathology demonstrated no viable tumor cells, confirming complete pathological response, with ischemic necrosis and inflammatory changes only. Postoperative recovery was uneventful.

Summary

Adrenalectomy is standard for isolated adrenal metastasis when feasible, with ~30% reported 5-year survival. Complete pathological eradication after pembrolizumab is rarely described. This case highlights the potential curative role of immunotherapy in oligometastatic NSCLC, particularly when surgery is delayed or contraindicated. The preceding non-infectious inflammatory episode may represent paraneoplastic immune activation resolving after immune checkpoint blockade.

Conclusions

Pembrolizumab induced a complete pathological response in an isolated adrenal metastasis from NSCLC, enabling delayed resection without residual malignancy. This case supports immunotherapy as an effective bridging strategy when immediate surgery is not feasible and illustrates a rare but meaningful outcome in oligometastatic disease.

Perirenal Marginal Zone Lymphoma in a Patient with Long-Standing Myasthenia Gravis: A Rare Association of Autoimmunity and Lymphoproliferative Disease

*Ms. Eva Kočāne*¹

1. Riga Stradins University, Latvia

Keywords

Myasthenia Gravis, Marginal zone lymphoma; Rituximab;

Introduction

Myasthenia gravis (MG) is a chronic autoimmune neuromuscular disorder that often requires long-term immunosuppressive therapy. Marginal zone lymphoma, an indolent B-cell lymphoma, rarely occurs in the perirenal region. Chronic immune dysregulation and prolonged immunomodulatory treatment may increase the risk of lymphoproliferative disorders. The rare coexistence of long-standing Myasthenia Gravis and perirenal Marginal Zone Lymphoma highlights the need to explore links among autoimmunity, immunotherapy, and lymphomagenesis.

Case Description

The patient is a 61-year-old woman with long-standing myasthenia gravis who previously underwent thymectomy and received prolonged immunosuppressive therapy. In 2021, following a hysterectomy, an infiltrative lesion was detected in the left perirenal region. Three biopsies were performed (2022, 2024, and January 2025); marginal zone lymphoma was suspected in the final biopsy and later confirmed histopathologically. Due to the high risk of terminal renal failure, radiotherapy was contraindicated. Given the indolent disease course and evidence supporting B-cell-depleting therapy in both conditions, systemic treatment with rituximab was selected.

Summary

This case highlights a rare association between long-standing myasthenia gravis and perirenal marginal zone lymphoma in a patient with prior thymectomy and prolonged immunotherapy, emphasizing the need for malignancy surveillance in chronic autoimmune disease.

Objectives

-

Methods

-

Results

-

Conclusions

This case underscores the importance of long-term monitoring for lymphoproliferative disorders in patients with chronic autoimmune diseases receiving extended immunotherapy. Early recognition of rare presentations of marginal zone lymphoma may enable timely diagnosis and appropriate management.

Recurrent Borderline Phyllodes Tumour of the Right Breast: A Case Report

*Mrs. Valērija Isakoviča*¹

1. Riga Stradins University, Latvia

Keywords

Phyllodes tumour; borderline variant; breast tumour recurrence; breast magnetic resonance imaging; multifocal disease

Introduction

Phyllodes tumours of the breast are rare fibroepithelial neoplasms with unpredictable clinical behaviour and a tendency for local recurrence. Borderline phyllodes tumours pose diagnostic and therapeutic challenges due to their intermediate position between benign and malignant forms. This case illustrates early recurrence with multifocal and multicentric growth following surgical treatment, emphasising the role of breast magnetic resonance imaging in assessing disease extent and guiding treatment decisions.

Case Description

In 2023, a 44-year-old woman with a family history of oncological disease presented with a palpable mass in the right breast and breast enlargement. Ultrasonography and mammography revealed an approximately 10 cm oval, smoothly contoured mass, while breast magnetic resonance imaging demonstrated a well-circumscribed lesion with microlobulated margins and no additional foci. Core needle biopsy confirmed a borderline phyllodes tumour, and breast-conserving surgery with clear resection margins was performed. Follow-up in 2024 showed no recurrence; however, in 2025, repeat imaging confirmed tumour recurrence, and breast magnetic resonance imaging revealed a multifocal, multicentric process. The case was discussed at a multidisciplinary tumour board, and mastectomy was recommended.

Summary

This case highlights the tendency of borderline phyllodes tumours to recur and progress in a multifocal and multicentric pattern despite surgical management. Breast magnetic resonance imaging played a decisive role in determining disease extent and selecting the optimal treatment strategy.

Conclusions

Borderline phyllodes tumours may exhibit aggressive local behaviour with a high risk of recurrence. Breast magnetic resonance imaging is essential for detecting recurrence, multifocality, and multicentricity. Optimal treatment planning and long-term surveillance require a multidisciplinary approach.

RETINOBLASTOMA IN IVF PREGNANCY: RB1 PATHOGENIC VARIANT, TREATMENT AND ENUCLEATION IN A PEDIATRIC CASE

Ms. Elina Radzina¹

1. Riga Stradins University, Latvia

Keywords

retinoblastoma; IVF pregnancy; pediatric oncology

Introduction

Retinoblastoma is the most common primary intraocular malignancy in children. Management strategies range from focal therapy to systemic chemotherapy and enucleation, often influenced by genetic background, disease laterality and stage.

Case Description

A female infant, born via IVF to a healthy mother from an anonymous donor, was diagnosed with bilateral retinoblastoma. At two months of age, leukocoria of the left eye (OS) was noticed by the mother, leading to diagnosis of unilateral retinoblastoma, classified as Stage D. Magnetic resonance imaging revealed an intraocular tumor in OS without central nervous system involvement. Genetic testing identified a heterozygous pathogenic nonsense variant in the *RB1* gene: c.1333C>T (p.Arg445*). The left eye was initially treated with two cycles of intra-arterial chemotherapy using Melphalan (2 mg), achieving partial tumor regression. Although systemic chemotherapy according to the RBA-2003 protocol was recommended, the patient's mother initially declined further chemotherapy. Consequently, enucleation of the left eye was performed at 4.5 months of age because of subsequent recurrence with periscleral infiltration and retrobulbar optic nerve enhancement shown on MR. At five months of age, retinoblastoma of the right eye (OD) was detected and classified as Stage A–B. Consent for systemic chemotherapy was obtained. At 11 months of age, recurrence was diagnosed in the right eye. Treatment included focal therapies—cryotherapy, transpupillary thermotherapy, and brachytherapy— which were carried out in Jules-Gonin Ophthalmic Hospital, Lausanne, Switzerland. Therapy resulted in tumor control with preservation of the eye and visual function.

Summary

This case illustrates the complexity of treating bilateral retinoblastoma with high-risk genetic mutations. It underscores the critical role of early parental detection, personalized therapeutic strategies, and multidisciplinary collaboration.

Conclusions

Patients with *RB1* pathogenic variant should be closely monitored even if they present with unilateral involvement at the beginning, because bilateral involvement is highly likely.

STEREOTACTIC RADIOTHERAPY FOR LOCAL CONTROL OF A RARE UNRESECTABLE PANCREATIC TUMOR

Mr. Norbertas Snapkauskas¹, Mr. Robertas Kazakevičius¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Tumor; stereotactic radiotherapy; chemotherapy; radiological assessment

Introduction

Pancreatic malignancies are frequently diagnosed at an advanced stage, often precluding surgical treatment due to vascular involvement. Management of locally advanced pancreatic tumors remains challenging, and multimodal treatment strategies are increasingly explored. Stereotactic radiotherapy is not routinely applied in pancreatic cancer but may offer improved local control in selected cases.

Case Description

A 64-year-old male was investigated for abdominal pain. Initial ultrasonography revealed hepatic and pancreatic steatosis. Subsequent abdominal MRI demonstrated pancreatic changes suspicious for malignancy. Contrast-enhanced CT of the chest, abdomen, and pelvis revealed a cystic pancreatic mass circumferentially encasing major vessels, suggesting a malignant cystic tumor - cystadenocarcinoma. Tumor markers were elevated (CEA 12.7 µg/L, CA 19-9 342.6 KU/L).

Multidisciplinary team discussion favored malignant pancreatic neoplasm with invasion of the celiac trunk branches and splenic vein. Percutaneous biopsy was deemed technically high-risk due to bleeding probability and limited diagnostic yield. First-line systemic chemotherapy with FOLFIRINOX was initiated, completing 12 cycles. Tumor markers showed a marked decrease (CA 19-9 reduced to 94.4 KU/L).

Follow-up radiological assessment demonstrated stable disease without progression. Due to persistent unresectability, stereotactic radiotherapy was recommended according to NCCN guidelines. The patient underwent stereotactic body radiotherapy using an MR-guided system, delivering a total dose of **40 Gy in 5 fractions** to the pancreatic tumor.

Summary

Radiological follow-up after combined systemic chemotherapy and stereotactic radiotherapy demonstrated sustained disease stability without evidence of progression or metastasis. Tumor markers remained within or near normal limits. The patient maintained good performance status (ECOG 1), with only mild chemotherapy-related polyneuropathy.

Conclusions

This case illustrates successful disease control of a rare, locally advanced unresectable pancreatic tumor using an uncommon treatment approach combining systemic chemotherapy and high-dose stereotactic radiotherapy (**40 Gy/5 fractions**). Stereotactic radiotherapy may represent a valuable option for local control in selected patients when surgical treatment is not feasible.

SYNCHRONOUS BREAST AND OVARIAN MALIGNANCIES WITHOUT BRCA MUTATIONS: A CASE REPORT OF HER2-POSITIVE DISEASE AND NEAR- COMPLETE METABOLIC REMISSION

*Ms. Ance Sproģe*¹

1. Riga Stradins University, Latvia

Keywords

Synchronous malignancies; Breast cancer; Ovarian cancer; HER2-positive; BRCA-negative

Introduction

Synchronous breast and ovarian cancer is uncommon and most often associated with hereditary cancer syndromes, particularly BRCA1/2 mutations, typically showing tumor biology such as triple-negative breast cancer. We report a rare case of synchronous breast and ovarian cancer in a BRCA-negative patient with discordant tumor biology, extensive peritoneal dissemination, and favorable response to multimodal therapy.

Case Description

A 65-year-old woman presented with a right breast mass and abdominal distension. Breast biopsy confirmed grade 2 invasive ductal carcinoma, ER-positive, PR-positive, HER2-positive (3+). PET/CT showed extensive peritoneal dissemination involving liver, spleen, bowel, pelvis, and ovaries. Ovarian malignancy was stage IIIC low-grade serous carcinoma. Genetic testing was negative. She received platinum-based chemotherapy with targeted therapy, followed by abdominal surgery and breast-conserving surgery with axillary node excision.

Summary

This case demonstrates synchronous HER2-positive breast and advanced ovarian cancer in a BRCA-negative patient with extensive disease and excellent response to multimodal therapy.

Conclusions

This case highlights the heterogeneity of synchronous breast and ovarian cancers and shows that absence of BRCA mutations does not preclude aggressive disease or favorable response, emphasizing individualized, multidisciplinary management.

The Role of Targeted Therapy with Alectinib in Metastatic ALK-positive Lung Adenocarcinoma: Case Report

Ms. Laura Bērziņa¹

1. Riga Stradins University, Latvia

Keywords

Alectinib; ALK-positive; Targeted therapy; Lung adenocarcinoma

Introduction

Anaplastic lymphoma kinase (ALK) gene rearrangements represent a significant oncogenic driver in non-small cell lung cancer (NSCLC) and are detected in approximately 5% of cases, the most common being lung adenocarcinoma. According to ESMO guidelines, first-line treatment for ALK-positive NSCLC includes second and third generation ALK tyrosine kinase inhibitors such as alectinib, lorlatinib and brigatinib. Use of these agents is associated with significant improvement of survival rates and quality of life for affected patients.

Case Description

A 67-year-old male presented with progressive dyspnea, cough and weight loss and was diagnosed with advanced ALK-positive lung adenocarcinoma in 2021. At time of diagnosis the patients' performance status was ECOG 1. Imaging revealed a right sided pleural effusion. Cytological examination confirmed malignant pleuritis. Histopathological examination with immunohistochemistry showed poorly differentiated adenocarcinoma with ALK rearrangement and PD-L1 expression of 1-49% which is consistent with cancer stage IV. Talc pleurodesis was performed to treat the malignant effusion. First-line therapy with alectinib was initiated as it was compensated by the state and recommended by ESMO guidelines at the time. Clinical improvements were observed during the 3-month follow-up visit. Improvement to ECOG 0 was observed within several months. Follow-up imaging demonstrated long-term disease control and the patient's clinical condition remains stable.

Summary

This case report presents a patient with stage IV ALK-positive lung adenocarcinoma who has achieved and sustained considerable clinical improvements after alectinib pharmacotherapy. Alectinib usage was associated with symptom relief, performance status improvement and sustained radiological disease control.

Conclusions

Targeted therapy with alectinib can reduce the severity of cancer symptoms and provide long-term disease control in cases of ALK-positive lung adenocarcinoma. Early molecular diagnostics and access to targeted therapy significantly contribute to improving treatment outcomes for patients with advanced NSCLC.

UNUSUAL METASTATIC PATTERN OF MELANOMA: A CASE REPORT

Ms. Margarita Anna Rudzīte¹

1. Riga Stradins University, Latvia

Keywords

Melanoma; melanoma of unknown primary; metastatic melanoma

Introduction

Melanoma is among the most aggressive types of skin cancer. Although the majority of melanomas exhibit a recognizable primary site, a small fraction, roughly 3.2%, manifests as metastatic disease without a detectable primary source, referred to as melanoma of unknown primary (MUP). Uncommon instances of primary melanoma have also been documented in the respiratory, gastrointestinal, and urogenital systems. MUP is commonly located in lymph nodes, subcutaneous tissues, and visceral organs, with theories about its genesis encompassing spontaneous primary tumor regression and ectopic melanocytes.

Case Description

In this case report a 70-year-old patient is described who underwent a CORE biopsy of the anterior wall of the stomach because of an unknown malignant process, which was discovered within abdominal sonography. The pathological report revealed metastatic melanoma within abdominal wall biopsy material, and molecular analysis identified a clinically significant somatic variant in codon 600 of the BRAF gene. In the patient's medical history, only the removal of a dysplastic nevus 10 years ago was discovered, but no rereviewing of the previous slides and tissue blocks was possible.

Summary

MUP in elderly patients is rare, and providing an accurate medical history is crucial to making a diagnosis.

Conclusions

This case report also illustrates the need to overlook regulations for tissue block retention in case of oncological and pre-oncological diagnoses.

WHEN A KIDNEY MASS IS NOT CLEAR CELL CARCINOMA: MOLECULARLY CONFIRMED RENAL EWING SARCOMA IN AN ADULT

*Mr. Valters Vēgelis*¹

1. Riga Stradins University, Latvia

Keywords

Ewing sarcoma, kidney, adult, FISH

Introduction

Primary renal Ewing sarcoma (rES) is an exceedingly rare, aggressive malignant tumour. While Ewing sarcoma typically affects children and adolescents and arises in bone, primary renal involvement in adults proposes a significant diagnostic challenge. Early metastasis and death are common. We present a molecularly confirmed case of primary renal Ewing sarcoma in an adult patient with a history of breast cancer.

Case Description

A 43-year-old female underwent a routine CT scan 6 years after combined treatment of breast cancer (pT3N3M0G3). The scan revealed three new right lung nodules (greatest diameter 10 mm), suspicious for metastases, and a large right renal mass (greatest diameter 90 mm). MRI showed heterogeneous contrast enhancement and invasion of the right renal vein with a tumour thrombus extending into the inferior vena cava. Cytoreductive nephrectomy with cavotomy/thrombectomy and paracaval lymphadenectomy were performed. Histology showed a high-grade small round cell tumour with high mitotic activity. Tumour cells were diffusely CD99 positive, while CD56, GATA3, WT1, SOX10 and LCA were negative. FISH using an EWSR1 break-apart probe demonstrated EWSR1 locus rearrangement. Negative FISH for SS18 ruled out sinovial sarcoma, supporting the diagnosis of primary renal Ewing sarcoma classified as pT2N1 with R1 at the vena cava resection line due to tumour thrombus. Currently, lung nodule verification is in progress to find the most appropriate further treatment.

Summary

This case demonstrates primary renal Ewing sarcoma as a rare but highly aggressive malignancy in adult patients, emphasizing the need to consider it in the differential diagnosis of renal masses and to apply up-to-dated molecular methods for reliable diagnostics.

Conclusions

Primary renal Ewing sarcoma in adults is an extremely rare condition and proposes a major diagnostic challenge. Surgical treatment is cytoreductive by nature, and the high mitotic activity and aggressive angioinvasion emphasize the importance of accurate histological and molecular diagnosis.

Neurology, Psychiatry, Psychotherapy, Psychosomatics

A challenging management course of a cranial gunshot injury in a 6-year-old.

*Ms. Marija Kairāne*¹

1. Riga Stradins University, Latvia

Keywords

Penetrating gunshot injury; gunshot wound; pediatric neurosurgery, traumatic brain injury

Introduction

Penetrating cranial gunshot injuries in children are exceptionally rare, associated with high mortality and morbidity, and require complex, staged neurosurgical management. We present the case of a 6-year-old following such an injury.

Case Description

A 6-year-old patient was admitted emergently to the hospital after sustaining a severe penetrating cranial injury caused by a gunshot wound to the right temporal bone. The projectile traversed the right temporal, parietal, and occipital lobes, resulting in extensive cerebral contusions, intracranial hemorrhage, and cerebral edema. The first urgent neurosurgical intervention was performed immediately after completion of CT and included wound revision with partial removal of projectile fragments, decompressive trepanation, and implantation of an ICP sensor. Postoperatively, the patient was managed in the ICU for 4 days and, following neurological improvement, was transferred to the neurosurgery department, continuing rehabilitation. Due to a skull defect, a protective cranial helmet was fitted. After clinical stabilization, the patient was discharged. Five months later, the patient underwent removal of the residual projectile fragments and two-piece cranioplasty of the skull defect; complete fragment removal was not feasible due to the proximity of eloquent structures. Two months later, the implant fractured following a trauma, requiring revision surgery. The damaged cranioplasty was removed and replaced with a single-piece implant. Following revision surgery, the patient demonstrated a stable neurological status and continues rehabilitation.

Summary

A 6-year-old patient sustained a penetrating cranial gunshot injury requiring emergency decompression, partial fragment removal, and delayed cranioplasty, later revised due to implant fracture.

Conclusions

This case highlights the challenging management of penetrating cranial gunshot injury. Complete removal of projectile fragments is not always feasible or necessary, as retained fragments may migrate over time without causing any complications. Additionally, single-piece cranioplasty offers greater durability and may be preferred over two-piece implants.

A Rare Diagnostic Dilemma: Overlapping Features of Mixed Personality Disorder and Dissociative Identity Disorder

Mr. Krišjānis Leja¹

1. Riga Stradins University, Latvia

Keywords

Dissociative identity disorder; Mixed personality disorder

Introduction

Dissociative identity disorder (DID) is characterized by the presence of two or more distinct personality states. The etiopathology is most commonly associated with childhood trauma. The prevalence of DID among adults is between 0.1 – 1%. Mixed personality disorder is much more common but in this case it is quite difficult to differentiate the two.

Case Description

22-year-old female with a highly atypical psychiatric presentation marked by early-onset behavioral disturbances, identity fragmentation, dissociative phenomena, and maladaptive personality traits. Family history is notable for schizophrenia in an aunt. The patient reports inappropriate sexualized verbal behavior from her father, emotional neglect, and bullying. Pregnancy was reportedly unremarkable.

From early childhood, she exhibited markedly deviant behaviors, including persistent identification with a cat, social withdrawal, aggression toward peers, and animal cruelty. During adolescence, she developed non-suicidal self-injury and persistent violent ideation toward others without enactment.

Over the past decade, the patient reports four distinct identity states (Simuran, Finir, Metalieris, and The Cat) with differing interests, affective states, and behavioral patterns, frequent daily switching, and partial co-consciousness. One identity state experienced a depressive episode with suicidal ideation and self-harm, prompting hospitalization. She describes internal conflict among identity states, occasional blending, and partial concealment of identity shifts in social contexts. Additional features include partial delusional beliefs of extraterrestrial origin and a strong inclination toward performance and creative self-expression.

The patient has been hospitalized four times. Recent diagnoses include mixed personality disorder; DID has been repeatedly considered as a differential diagnosis but never definitively excluded.

Summary

This case illustrates a patient with very unusual complaints because of which doctors with more than 30 years of experience in psychiatry are disagreeing on the differential diagnosis.

Conclusions

This case underscores the limitations of current diagnostic systems in capturing complex presentations that span personality, dissociative, and trauma-related disorders.

ACUTE ISCHEMIC STROKE FOLLOWING HORMONAL STIMULATION FOR IN VITRO FERTILIZATION

Ms. Ilona Kostadinova¹, Ms. Katrīna Terehova¹

1. University of Latvia, Latvia

Keywords

ischemic stroke, assisted reproductive technology, hormonal therapy

Introduction

While stroke is associated with elderly patients, it can, in rare cases, affect young women. While assisted reproductive technology (ART) treatments are generally considered a safe option for infertility issues, the hormonal therapy used to prepare the patients for in vitro fertilization (IVF) is associated with an increased risk of stroke.

Case Description

A 31 year old female presented to the hospital with acute dysarthria, paresthesia, and muscle weakness, initially affecting the left face, arm, and leg, with subsequent bilateral involvement. The neurological examination revealed bilateral Babinski signs, a NIHSS score of 12, and mRS score of 4. Emergency brain CT was performed and revealed ischemic changes in the right medial cerebral artery territory, specifically in M1 and M2 segments. The patient was treated with intravenous thrombolysis followed by mechanical thrombectomy. A follow-up CT scan performed post-thrombectomy demonstrated ischemia in the right basal ganglia region. Neurological status showed slight improvement with the NIHSS score improving to 11, and GCS 15.

The patient's medical history was notable for ongoing hormonal treatment in preparation for IVF and autoimmune thyroiditis. Based on these findings, discontinuation of hormonal therapy was recommended.

Based on follow-up visits, the patient has made a full recovery and currently is pregnant.

Summary

This case underscores the importance of thorough risk assessment and clinical care in females undergoing IVF and precautions towards stroke risk.

Conclusions

This case highlights the rare case of ischemic stroke in young female without traditional vascular risk factors, undergoing hormonal treatment for IVF preparation. It underscores the importance of careful thrombotic risk assessment, close monitoring of the patient during the assisted reproductive therapy, and prompt management of the patient in the event of thromboembolic occurrences.

ACUTE POLYRADICULONEURITIS WITH SEVERE RAPIDLY PROGRESSIVE TETRAPARESIS AND RESPIRATORY FAILURE. A CLINICAL CASE STUDY.

Mr. Marks Roberts Ragže¹

1. Riga Stradins University, Latvia

Keywords

Acute polyradiculoneuritis; Guillain-Barré syndrome; respiratory failure; tetraparesis; intensive care

Introduction

Acute polyradiculoneuritis, most commonly represented by Guillain-Barré syndrome (GBS), is an acute autoimmune disorder affecting the peripheral nervous system. It is characterized by rapidly progressing weakness, often leading to paralysis and, in severe cases, respiratory muscle involvement. Early recognition and timely initiation of immunotherapy are essential for preventing long-term complications and mortality.

Case Description

A 28-year-old male awoke at 1 AM with proximal weakness in the shoulders and legs, reporting increasing difficulty walking. He subsequently presented to the Emergency Department of Pauls Stradiņš Clinical University Hospital, where his symptoms continued to progress. On admission, only minimal movements distally were preserved in both upper and lower limbs. The patient also reported numbness in both hands and mild dysarthria — his speech sounded altered, though he could not specify how. The day before symptom onset, he had been healthy and reported no complaints. Two days earlier, he had experienced an episode of diarrhea. Laboratory testing and stool culture confirmed *Campylobacter jejuni* infection. Electroneuromyography revealed an acute demyelinating polyradiculoneuropathy. Due to the rapidly progressive neurological deficit and developing respiratory insufficiency, the multidisciplinary team initiated five sessions of therapeutic plasma exchange, resulting in gradual clinical improvement.

Summary

A 28-year-old previously healthy male developed rapidly progressive tetraparesis and respiratory failure secondary to *Campylobacter jejuni*-associated acute demyelinating polyradiculoneuritis (Guillain-Barré syndrome). Early diagnosis and prompt initiation of plasma exchange were essential to prevent further deterioration and facilitate recovery. This case underscores the importance of recognizing post-infectious causes of acute neuropathy and initiating timely immunomodulatory treatment.

Conclusions

Campylobacter jejuni-induced acute polyradiculoneuritis represents a neurological emergency. Rapid progression of weakness and respiratory compromise requires early clinical suspicion, prompt initiation of immunotherapy such as plasma exchange, and close respiratory monitoring. Comprehensive multidisciplinary management and rehabilitation are key to improving prognosis and minimizing long-term deficits.

AMYOTROPHIC LATERAL SCLEROSIS WITH PROMINENT PSYCHIATRIC AND COGNITIVE BEHAVIOURAL IMPAIRMENT

Ms. Lelde Sternberga¹, Ms. Ance Zeidaka¹

1. Riga Stradins University, Latvia

Keywords

Amyotrophic lateral sclerosis, frontotemporal dementia, delusional syndrome, apathy

Introduction

Amyotrophic lateral sclerosis (ALS) is primarily a motor-neuron disease; however, a clinically important subgroup develops frontotemporal cognitive/behavioural impairment (ALS–FTD spectrum) before physical symptoms. In these cases, psychiatric manifestations may predominate and delay recognition of motor neuron pathology.

Case Description

A 58-year-old man developed behavioural change over two years (recurrent job loss, gambling, apathy) with marked memory decline over the preceding six months. In May 2024 patient attended neurological day-station assessment without complaints; collateral history confirmed apathy, cognitive decline and 5–6 kg weight loss. The Montreal Cognitive Assessment (MOCA) was 20/30 and MRI showed early cortical atrophy (GCA 1/2; MTA grade 2 bilaterally). Repeat MRI 2 months later demonstrated bilateral vascular lesions with stable central/cortical atrophy. Examination revealed dysarthria and raised suspicion of ALS. He underwent neurography/EMG, which demonstrated reduced right median and left ulnar motor amplitudes with prolonged motor latency, and generalized fibrillation potentials/positive sharp waves at cervical, lumbar and cranial levels, consistent with diffuse motor neuron involvement. In September the patient was admitted for spouse-directed verbal/physical aggression and delusional jealousy; mental status showed disorientation to place, slowed paralogic thinking, inappropriate euphoria, emotional blunting and absent insight. Riluzole and memantine were continued, with quetiapine and valproate initiated; behavioural stabilization after 16 days of hospitalization allowed discharge, however, the patient's overall clinical status continued to regress because of the progressive nature of ALS.

Summary

This case demonstrates an ALS–FTD spectrum presentation in which severe behavioural disturbance and psychosis dominated the clinical picture before ALS was confirmed neurophysiologically.

Conclusions

Patients with behavioural change, apathy or delusional syndromes warrant evaluation for subtle bulbar/limb signs and EMG to reduce diagnostic delay and facilitate multidisciplinary care.

Cannabis Withdrawal Syndrome with Delirium in a 17-Year-Old Patient: A Case Report.

Mrs. Ieva Balaisiene¹, Ms. Kamilė Kačinskaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Cannabis withdrawal syndrome, delirium, adolescent, haloperidol

Introduction

Cannabis withdrawal syndrome (CWS) occurs in frequent cannabis users after quitting. Symptoms of CWS may include agitation, irritability, and aggression. In some cases, frequent cannabis use may increase the risk of developing delirium, however, this is rarely observed in adolescents.

Case Description

A 17-year-old male was brought to the emergency department due to several days lasting aggression, agitation and disorientation. According to the patient's mother, symptoms could be developed after three months of chronic cannabinoid use. After displaying self-injurious behaviour and psychomotor agitation in the emergency room, the patient was transferred to paediatric psychiatry unit, where physical restraint was needed and treatment with haloperidol and diazepam was initiated.

On day two of hospitalization, the patient exhibited worsening symptoms including eyelid and hand tremor, marked heart rate variability (54–111 bpm) and ketone smell from the mouth. The patient immediately was transferred to the pediatric intensive care unit. Haloperidol was desisted due to concern for neuroleptic malignant syndrome. Treatment was continued with trihexyphenidyl, because diazepam had only a transient effect. On day four, patient developed fever, raising suspicion of autoimmune encephalitis. Cerebrospinal fluid analysis and CT was normal, but HSV IgG antibodies were positive, consistent with past Herpes simplex infection. On day 6 the patient's condition gradually improved, he was transferred back to the pediatric psychiatry unit and was discharged on day 16 after psychiatric rehabilitation.

Summary

Antipsychotic drugs, like Haloperidol, could be unsafe in high-risk psychiatric patients and can cause a rare neuroleptic malignant syndrome.

Conclusions

Abrupt withdrawal of cannabinoids can lead not only to psychosis but also to life-threatening delirium episodes.

CASE REPORT ON PATHOLOGICAL GAMBLING IN PARANOID SCHIZOPHRENIA: INTEGRATED PHARMACOLOGICAL TREATMENT AND THE MINNESOTA MODEL

Ms. Anastasija Nikitina¹, Ms. Kotryna Vaicekauskaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Pathological gambling, Paranoid schizophrenia, Clozapine, Long-acting injectable antipsychotics (LAI), Minnesota Model

Introduction

This case report describes pathological gambling in a patient with paranoid schizophrenia and highlights the challenges and importance of applying the Minnesota Model program alongside integrated pharmacological treatment in individuals with severe mental illness.

Case Description

We report a middle-aged man with pathological gambling (F63.0) and comorbid paranoid schizophrenia (F20.0), with a five-year history of compulsive gambling and significant psychosocial consequences. At admission, he was clinically stable and abstinent from gambling for one month, with no acute psychotic symptoms. Treatment included clozapine combined with long-acting injectable antipsychotics and trihexyphenidyl. The patient denied substance use, lived in supported housing, and successfully completed a Minnesota Model psychosocial rehabilitation program.

Summary

Gambling disorder is characterized by a persistent and uncontrollable urge to gamble despite significant negative consequences [1]. Elevated rates of pathological gambling are observed among individuals with psychiatric conditions, particularly those with mental health or substance use disorders [2]. Pathological gambling is associated with cognitive distortions that alter an individual's perception of the likelihood of winning. [3].

Conclusions

Pathological gambling comorbid with paranoid schizophrenia presents significant clinical challenges and requires integrated long-term pharmacotherapy and psychosocial rehabilitation to reduce relapse risk and improve functioning.

CASE REPORT: AUTOIMMUNE ENCEPHALITIS OF UNKNOWN ETIOLOGY DIAGNOSTICS AND THERAPY METHODS IN CHILDREN'S CLINICAL UNIVERSITY HOSPITAL IN LATVIA

Ms. Lote Urtāne¹

1. Riga Stradins University, Latvia

Keywords

autoimmune encephalitis, seronegative, immunotherapy, intravenous immunoglobulin, pediatric neurology

Introduction

Autoimmune encephalitis is a rare, potentially life-threatening disease with variable clinical presentations. While antibody-mediated forms are well recognized, some cases remain seronegative, posing diagnostic challenges. Early diagnosis and immunotherapy are essential to maximize the likelihood of full functional recovery.

Case Description

In August 2025, a 17-year-old male presented with back pain, progressive lower limb weakness, dysphagia, blurred vision, and vomiting. There was no history of recent infection, vaccination, or tick bites. Due to the presence of bulbar symptoms and respiratory compromise, tracheal intubation was required, and the patient was admitted to the Pediatric Intensive Care Unit (PICU).

After neuroimaging (MRI and CT) together with cerebrospinal fluid findings, suspicion of antibody-mediated demyelinating encephalitis was raised. In the PICU, the patient was treated with high-dose intravenous corticosteroid pulse therapy, plasmapheresis, and intravenous immunoglobulin (IVIG).

Following the initial treatment, the patient demonstrated clinical improvement and was transferred to the neurology department. Extensive immunological testing did not identify specific antibodies associated with the autoimmune process. Although the exact etiology of the autoimmune encephalitis remained unclear, continued IVIG therapy and oral prednisolone treatment resulted in significant clinical improvement.

Summary

This case describes autoimmune encephalitis that despite negative immunological testing, continued immunotherapy resulted in significant clinical recovery.

Conclusions

This case highlights the challenges of diagnosing autoimmune encephalitis and demonstrates that early aggressive immunotherapy can result in favorable outcomes, even in the absence of identifiable antibodies.

CHRONIC PAIN PARTIALLY RESPONSIVE TO KETAMINE AND INTERVENTIONAL THERAPY: THE IMPACT OF PSYCHOLOGICAL AND SYSTEMIC COMORBIDITIES

Ms. Elena Lukoševičiūtė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Chronic pain; Ketamine therapy; Epidural steroid injection; Dorsal root ganglion pulsed radiofrequency modulation; Psychological comorbidity

Introduction

Chronic pain affects one in five adults across Europe and remains a major cause of disability, reduced quality of life, and healthcare burden. It is recognized as pain persisting for more than three months and causing functional and emotional impairment. Primary and secondary chronic pain may coexist, and psychological factors are closely linked with symptom severity and treatment response.

Case Description

A 75-year-old woman with multiple comorbidities presented with generalized hyperesthesia, heavy anxiety, and a pain score of 7/10. She underwent titrated IV ketamine infusions every 2–3 weeks for six months. After partial improvement, pain localized to the left thigh, anxiety lessened, but psychological consultation was declined. Later, pain worsened along the left leg and hip. Orthopedic evaluation was advised but not pursued. Ketamine therapy continued for another four months with around 50% pain relief before discontinuation due to planned cardiac surgery. One year later, after surgery cancellation, she re-presented with renewed lumbar pain radiating bilaterally and worsened anxiety. MRI and CT imaging revealed multilevel lumbar stenosis with nerve root compression. Surgery was contraindicated. She received two transforaminal steroid injections (tri-aminolone 10 mg), one epidural translaminar steroid injection, dorsal root ganglion pulsed radiofrequency modulation and a caudal epidural injection reaching L4/L5, each producing temporary 40–50% relief.

Summary

A 75-year-old woman presented with generalized hyperesthesia and heavy anxiety. Different interventional treatments were performed with limited relief due to treatment breaks and unaddressed systemic and psychological comorbidities.

Conclusions

Recent recommendations state that a multidisciplinary approach with added importance on psychological treatment needs to be implemented for effective chronic pain treatment. This case highlights how even extensive, personalized interventions may offer only limited, temporary relief when psychological and systemic factors remain unaddressed.

EARLY-ONSET HEREDITARY SPASTIC PARAPLEGIA: A CASE REPORT

Ms. Ieva Češūnaitė¹

1. Vilnius University, Lithuania

Keywords

Spastic paraplegia type 50; *AP4M1*; Early-onset hypertonia; Cerebral palsy misdiagnosis; Neurodevelopmental delay.

Introduction

Spastic paraplegia type 50 (SPG50; OMIM #612936) is an ultra-rare neurodegenerative disorder caused by pathogenic variants in the *AP4M1* gene. It is characterized by progressive spastic paraplegia and neurodevelopmental delay and is frequently misdiagnosed as cerebral palsy. To date, only around 100 cases have been diagnosed worldwide.

Case Description

We present a case of a 13-month-old Lithuanian girl with genetically confirmed (SPG50). At 3 months of age, clinical manifestations began with seizures and early-onset hypertonia. Brain MRI showed hypoplasia of the lower cerebellum and a relatively hypoplastic corpus callosum. Exome sequencing analysis identified compound heterozygous pathogenic variants in the *AP4M1* gene.

Summary

The presented case is consistent with the typical SPG50 phenotype, including neurodevelopmental delay, microcephaly, seizures, and corpus callosum abnormalities. However, several features were atypical, such as very early development of spasticity, structural involvement of the cerebellum, and a previously unreported compound heterozygous *AP4M1* genotype.

Conclusions

In infants with early-onset and progressive spasticity and no clear perinatal cause, rare genetic disorders such as SPG50 should be considered early in the diagnostic process. Given the rapidly expanding field of gene therapies and other precision medicines, early diagnosis represents a critical window of opportunity for timely therapeutic interventions.

FACIAL COLLICULUS SYNDROME FROM VERTEBRAL ARTERY DISSECTION: A CASE REPORT

*Ms. Eliza Jeruma*¹

1. Riga Stradins University, Latvia

Keywords

Facial colliculus syndrome; Artery dissection; Facial nerve

Introduction

The facial colliculus is a dorsal pontine structure formed by facial nerve fibers looping around the abducens nucleus. A lesion in this area may cause the rare facial colliculus syndrome characterised by ipsilateral peripheral facial palsy, horizontal diplopia and internuclear ophthalmoplegia. In younger patients common etiologies include neuroinfection, demyelinating disease and tumours, while stroke predominates in older patients.

Case Description

A 37-year-old male presented with sudden severe pain in the occipital region, dizziness, nausea and doubling of vision. One week prior to symptom onset patient had sustained minor head trauma. On admission neurological examination revealed slightly limited adduction of right eye and horizontal diplopia on left gaze, binocular horizontal nystagmus, dysarthria, mild dysphagia, right-sided peripheral facial palsy, right-sided ataxia and hypoesthesia. Head CT was without ischemic or hemorrhagic changes. CTA revealed decreased flow in right vertebral artery from the V3 segment with occlusion of the V4 segment extending to the basilar artery origin, likely due to arterial dissection. Intravenous thrombolysis was administered. On admission NIHSS=5, shortly after thrombolysis NIHSS=9, and improved to NIHSS=4 within 3 hours. Control head CT the next day was without established infarction or acute hemorrhage. Most symptoms resolved over the next couple of days, however right-sided facial palsy and diplopia on left gaze persisted. Initial MRI showed no acute infarction. To rule out neuroinfection a lumbar puncture was performed, CSF came back without pathology. Careful reevaluation of MRI revealed a small infarct in the right facial colliculus, explaining the patient's symptoms. Patient had hypercholesterolemia, no other diseases.

Summary

A small pontine infarct from vertebral artery dissection affecting the facial colliculus was responsible for the patient's symptoms.

Conclusions

Facial nerve palsy can be diagnostically challenging. This case highlights the value of understanding neuroanatomy in clinical practice.

First-Episode Psychosis in a Young Adult with Recent Psychoactive Substance Use

Mr. Marius Janušauskas¹, Ms. Agnė Radavičiūtė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

First-episode psychosis; Substance-induced psychosis; Cannabis; Young adult; Schizophrenia spectrum disorders

Introduction

Substance-induced psychosis is a significant concern in young adults. Cannabis, hallucinogens, and stimulants are strongly linked to acute psychotic episodes via dopaminergic and glutamatergic dysregulation and neuroinflammatory mechanisms. Many affected individuals later develop schizophrenia spectrum disorders, underscoring the need for early diagnosis. Distinguishing transient substance-induced psychosis from primary psychotic disorders is critical for effective management and prognosis.

Case Description

In December 2025, a 20-year-old male with a history of mixed anxiety–depressive disorder (ICD-10: F41.2) was admitted to the Psychiatry Clinic of Kaunas Hospital with progressive behavioral changes, severe anxiety, insomnia, and acute psychotic symptoms. Over several months, he developed paranoia, perceptual disturbances, and disorganized behavior, with intermittent cannabis use and prior hallucinogen exposure (LSD in summer 2024, psilocybin mushrooms in autumn 2025) preceding symptom escalation.

On admission, he exhibited marked psychomotor agitation, impaired attention, persecutory delusions, and reduced insight. Neurological examination, laboratory studies, and urine toxicology were unremarkable. A diagnosis of other acute and transient psychotic disorders (ICD-10: F23.8) was made, and inpatient treatment was initiated with haloperidol (5–10 mg/day), trihexyphenidyl (2–4 mg/day), diazepam (10 mg/day), and olanzapine (5 mg/day).

Summary

This case describes first-episode psychosis in a 20-year-old male with anxiety–depressive disorder and recent psychoactive substance use, presenting with severe symptoms requiring inpatient treatment.

Conclusions

This case highlights the diagnostic challenges of first-episode psychosis in young adults with recent substance use, which may reflect a transient substance-induced state or the onset of a primary psychotic disorder. Despite negative urine toxicology, the temporal association with cannabis and hallucinogens suggested substance-associated psychosis with potential progression to a schizophrenia spectrum disorder, underscoring the need for early intervention and structured follow-up.

MANAGEMENT OF TREATMENT-RESISTANT SCHIZOPHRENIA IN THE CONTEXT OF ANTIPSYCHOTIC MEDICATION INTOLERANCE: CASE REPORT

Ms. Viltė Bijanskytė¹, Ms. Kamilė Kulytė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

Treatment-resistant schizophrenia, antipsychotic intolerance, individualized treatment.

Introduction

Treatment-resistant schizophrenia is diagnosed when schizophrenia symptoms persist despite treatment with at least two different antipsychotics at adequate doses and for an appropriate duration. This clinical case illustrates the challenges of managing acute psychopathology in a patient intolerant to multiple antipsychotic medications and their combinations.

Case Description

A 40-year-old woman was admitted to an acute psychiatric unit due to anxiety and insomnia. Schizoaffective disorder was diagnosed in 2007, later revised to schizophrenia in 2015 and classified as treatment-resistant in 2018. She had been treated with multiple antipsychotics (clozapine, aripiprazole, amisulpride, ziprasidone, risperidone) but often discontinued therapy due to adverse effects, including hyperprolactinemia, rashes, nausea, and somatic complaints. During an acute exacerbation, she exhibited severe psychomotor agitation, delusions, and disorganized behavior, requiring repeated benzodiazepine and antipsychotic interventions as well as physical restraint. Following clinical pharmacologist consultation, a combination of cariprazine 4.5 mg, paliperidone palmitate 100 mg, and levomepromazine 150 mg was recommended to minimize metabolic side effects. After acute symptoms stabilization, the regimen was adjusted to diazepam 30 mg, quetiapine 400 mg and Lithium carbonate 900 mg, continuing paliperidone palmitate 100 mg, with the goal of maintaining stability, controlling anxiety, and improving psychosocial functioning.

Summary

This case describes a 40-year-old woman with treatment-resistant schizophrenia who was intolerant to multiple antipsychotic medications due to adverse effects. Acute psychopathology was reduced with a combination of cariprazine, paliperidone palmitate, and levomepromazine.

Conclusions

This case highlights the complexity of managing treatment-resistant schizophrenia, where pharmacological options are limited due to medication intolerance, and successful symptom reduction requires an individualized and multimodal treatment approach.

MIRROR THERAPY FOR RESOLUTION OF PHANTOM ITCH FOLLOWING ONCOLOGIC BELOW-ELBOW AMPUTATION IN AN ADOLESCENT

***Mr. Rod Kheiri**¹*

1. Riga Stradins University, Latvia

Keywords

Mirror therapy; phantom itch; amputation; adolescent oncology; rhabdomyosarcoma

Introduction

Phantom itch is an underrecognized sensory disturbance that may occur following amputation. In pediatric and adolescent oncology patients, this phenomenon arises in the context of profound physical loss during a critical developmental period and intensive multimodal treatment. Mirror therapy is a visual feedback-based intervention targeting altered body representation and multisensory integration and has been widely studied in the context of phantom limb pain. However, clinical reports addressing the use of mirror therapy specifically for phantom itch remain limited.

Case Description

A 16-year-old girl was diagnosed with alveolar rhabdomyosarcoma of the left wrist, characterized by FOXO1 fusion gene formation and amplification, with metastatic involvement of bone marrow, vertebrae, regional lymph nodes, and pelvic bone sites (stage IV disease). Chemotherapy and radiotherapy were administered in accordance with the CWS EpSSG protocol for high-risk rhabdomyosarcoma, followed by surgical management. Due to local disease progression, a left below-elbow amputation was subsequently performed.

Postoperatively, the patient developed a continuous phantom itch localized to the amputated limb, without associated phantom pain. Pharmacological treatment was applied, but symptoms remained clinically distressing; therefore, mirror therapy was initiated. A mirror was placed in the midsagittal plane between the amputated and intact limbs, creating the visual illusion of the missing limb. During episodes of phantom itch, the intact wrist was scratched while the patient focused on the mirror reflection. Immediate symptom relief was reported during the first application. The technique was subsequently used as needed and led to complete resolution of symptoms within one to two weeks.

Summary

Rapid and sustained relief of phantom itch was achieved through mirror-based visual feedback following oncologic amputation.

Conclusions

Mirror therapy is a non-invasive, low-cost intervention that may serve as a valuable adjunctive approach in the management of phantom itch following amputation, particularly in pediatric and adolescent oncology patients.

MISTAKEN IDENTITY: A PRESUMED AMPHETAMINE USE UNMASKING A LIFE-THREATENING OPIOID OVERDOSE

*Mr. Dins Mironovs*¹

1. Riga Stradins University, Latvia

Keywords

Opioid overdose; Amphetamine misuse; Substance misidentification; Clinical Addiction Psychiatry; Negative testing; Toxicology

Introduction

The market for new psychoactive substances (NPS) is increasingly creating substantial diagnostic and therapeutic challenges. Patient-reported substance use may not accurately reflect the pharmacological agent responsible for acute toxicity. This case highlights the importance of continuous observation, as patient status may not be detected by standard toxicological screening, particularly for reasons of the NPS.

Case Description

A 24-year-old female presented with acute deterioration of consciousness, psychomotor agitation, disorganized thoughts, emotional lability, and impaired insight following self-reported intranasal amphetamine use. On admission, blood alcohol concentration was 0.00 promilles, and a multidrug screening test was positive for amphetamine and benzodiazepine groups. The patient reported obtaining the substance from an informal source and expected stimulant effects. Initial clinical evaluation was consistent with amphetamine intoxication. However, after ten hours, her condition unexpectedly deteriorated, presenting with central cyanosis, central nervous system depression, miosis, and respiratory compromise. Clinical findings suggested synthetic opioid toxicity despite no reported opiate use and negative toxicology testing for any opiates. Based on clinical findings, supportive management was initiated with respiratory support and up to 3,2mg of naloxone intravenously and Emergency Medical Service request, resulting in later improvements. The discordance between toxicology results and clinical presentation suggested inadvertent exposure to NPS synthetic opioids, potentially due to contamination, misidentification, or co-ingestion with stimulants.

Summary

This case demonstrates a clinically significant discrepancy between self-report, objective toxicological testing and the clinical course, which ultimately manifested as an opiate overdose not initially suspected.

Conclusions

Standard toxicological screening may fail to detect new psychoactive substances. Clinical evaluation and patient observation are essential. Early recognition is critical for timely, potentially life-saving intervention, emphasizing the need for heightened awareness during acute intoxication episodes.

NEUROLOGICAL DEFICITS WITHOUT STRUCTURAL DAMAGE: TRANSIENT SPINAL CORD INJURY WITH FUNCTIONAL PARAPARESIS

Ms. Anna Bumbiere¹

1. Riga Stradins University, Latvia

Keywords

Transient spinal cord injury; Functional symptoms; Diagnostic challenge

Introduction

Transient spinal cord injury can present with neurological deficits without convincing structural abnormalities on imaging, in this case is complicated by functional neurological features. This combination presents a diagnostic challenge where symptoms are severe despite largely normal radiological findings, and require careful clinical assessment to avoid prolonged disability, persistent neurological symptoms and psychological trauma.

Case Description

A 43 year-old female with history of scoliosis presents with acute lower back pain, progressing bilateral weakness and sensory disturbance in legs after prolonged intense physical exertion (associated with sexual activity) and strong emotional affect the previous day. Neurological examination reveals paraparesis and paresthesia from the ankles, hyperreflexia, hypesthesia and saddle-type anesthesia. Positive Babinski reflex on the left side. Leg movement minimally possible due to pain in the lower back, upper limb function was preserved. Patient reports urinary retention. CT and MRI of the lumbar and thoracic spine demonstrated multilevel degenerative disc protrusions at the Th4-Th5, L2-L3, L3-L4, L4-L5, L5-S1 level without spinal cord compression or signal abnormalities. Neurography, CSF analysis, infectious and immunological investigations were unremarkable. Patient was treated conservatively with analgesic and neuropathic pain therapy, physiotherapy and psychoeducation, resulting in gradual clinical improvement. Bladder function normalised, pain decreased, mobility improved. At discharge, lower-limb strength was preserved but variable, consistent with functional weakness. Given the acute onset, transient neurological deficits, and absence of structural lesions, transient spinal cord injury with functional component is diagnosed. After discharge patient referred for rehabilitation, psychological support recommendations and out-patient follow-up.

Summary

This case illustrates acute paraparesis in the absence of radiological spinal cord abnormalities, highlighting the importance of integrating clinical assessment with functional neurological features to guide proper rehabilitation.

Conclusions

Diagnosis of transient spinal cord injury and functional neurological features is challenging. Proper therapy is essential for appropriate physical and mental rehabilitation.

RARE CASE OF GUILLAIN-BARRÉ SYNDROME WITH FACIAL DIPLEGIA AND DISTAL PARESTHESIAS

Ms. Karina Antonova¹, Mr. Arturs Kļeščevņikovs¹

1. Riga Stradins University, Latvia

Keywords

Guillain-Barré syndrome; Albuminocytologic dissociation; Intravenous immunoglobulin

Introduction

Guillain-Barré syndrome (GBS) is a rare immune-mediated polyradiculoneuropathy. This condition is typically preceded by gastrointestinal or respiratory infection or vaccination. Classic features include progressive motor weakness of the limbs, symmetric paresthesias in a stocking-glove distribution, and areflexia. Autonomic dysfunction or cranial nerve involvement may frequently occur. This syndrome may also present with atypical variants, such as GBS, which can include facial diplegia and paresthesias.

Case Description

A 26-year-old woman presented with progressive facial muscle weakness. Three days prior to admission, she developed perioral tingling that progressed to slurred speech and incomplete closure of the mouth and eyes. No recent history of infection or vaccination was reported. Neurological examination revealed bilateral peripheral facial paresis of grade IV severity on the House-Brackmann scale. During hospitalization, the patient developed episodic numbness of the hands and feet following physical exertion. Cerebrospinal fluid analysis demonstrated albuminocytologic dissociation (cell count 0/μL, protein 1.642 mg/L). Head computed tomography revealed no pathological findings. Brain MRI was subsequently performed, demonstrating bilateral facial nerve neuritis. Nerve conduction studies of both upper and lower limbs were suggestive of the acute motor axonal neuropathy (AMAN) subtype in the appropriate clinical context. Nerve ultrasound findings supported inflammatory polyradiculoneuropathy, demonstrating echotexture alterations of the right median nerve at the C6 level with preserved nerve circumference, as well as enlargement of the left sural nerve. Intravenous immunoglobulin was initiated at 0.4 g/kg/day for five days, resulting in clinical improvement of symptoms.

Summary

This case report presents a rare variant of Guillain-Barré syndrome characterized by facial diplegia and distal paresthesias. After successful treatment with intravenous immunoglobulin, the patient was discharged in stable condition with appropriate follow-up recommendations.

Conclusions

The heterogeneity in Guillain-Barré syndrome manifestations can complicate accurate diagnosis; however, early recognition of atypical cases and prompt initiation of therapy are crucial for optimizing patient outcomes.

Recognizing neuroborreliosis in clinical practise: a case report

***Mrs. Kristiāna Maskava-Pudāne**¹*

1. Riga Stradins University, Latvia

Keywords

Neuroborreliosis, meningitis, *Borrelia burgdorferi*

Introduction

Neuroborreliosis is a rare neurological manifestation of Lyme disease caused by infection with *Borrelia burgdorferi sensu lato*. It presents with heterogeneous neurological symptoms and may mimic other infectious, inflammatory, or autoimmune neurological conditions. Diagnosis is based on clinical findings supported by cerebrospinal fluid and serological testing. The primary treatment is antibiotic therapy, most commonly intravenous ceftriaxone or oral doxycycline. Early and appropriate treatment is essential to prevent persistent and neurological deficits.

Case Description

A 32-year-old man presented to the emergency department with acute onset of facial asymmetry, unilateral sensory paresis, headache, and taste impairment, preceded by 5 days of migrating musculoskeletal pain in his right side. Medical history revealed tick-born encephalitis 15 years earlier and recurrent pruritic skin lesions that had appeared 3-4 months prior to the admission. Neurological examination showed left-sided peripheral facial nerve palsy (House-Brackmann grade III), hemihypesthesia and sensory ataxia, with preserved muscle strength. Meningeal signs were negative. Brain CT, CT angiography and contrast-enhanced MRI revealed no acute intracranial pathology. Cerebrospinal fluid (CSF) analysis revealed elevated protein (1.14 g/L) and lymphocytic pleocytosis (428 cells/mL). Serological testing showed increased *Borrelia burgdorferi* IgM (130.4 AV/ml) and IgG antibodies (104.8 AV/ml). Neuroborreliosis with meningitis and facial nerve neuropathy was confirmed. The patient received a 14-day course of intravenous ceftriaxone which resulted in gradual neurological improvement. Chronic spontaneous urticaria was diagnosed during hospitalization possibly reflecting underlying immune dysregulation.

Summary

This case demonstrates atypical presentation of neuroborreliosis with central and peripheral nervous system involvement. A possible immune-mediated link may be suggested by the newly diagnosed chronic spontaneous urticaria.

Conclusions

Neuroborreliosis may present with both central and peripheral nervous system involvement. Early recognition and antibiotic therapy with attention to possible immune-mediated factors, can improve patient outcomes.

REHABILITATION OUTCOME AFTER ANTI-HMGCR ANTIBODY ASSOCIATED NECROTISING MYOPATHY: A CASE REPORT

*Ms. Alise Gaiķe*¹

1. Riga Stradins University, Latvia

Keywords

Anti-HMGCR antibodies, Necrotising myopathy, Rehabilitation

Introduction

Anti-HMGCR antibody associated necrotising myopathy is a rare, but severe complication of statin use. Despite advances in therapy, patients frequently experience persistent muscle weakness and incomplete neuromuscular recovery. Reporting rehabilitation strategies and outcomes is clinically relevant to improve multidisciplinary management and optimise long-term functional prognosis.

Case Description

A 70-year-old male patient started developing progressive muscle weakness in 2014. Genetic testing done in 2020 was negative, EMG showed demyelinating polyneuropathy in upper and lower extremities. In 2022 MRI of lower extremities showed changes associated with immunomediated myopathy, anti-HMGCR and anti-Mi-2 β antibodies were detected, diagnosis of anti-HMGCR antibody associated necrotising myopathy was made and therapy with prednisolone and methotrexate was initiated. Prior to developing any symptoms, patient had been prescribed and been taking atorvastatin for months back in 2014. Patient has been repeatedly hospitalised for rehabilitation since 2022. Initially had difficulty with standing up from sitting position, climbing stairs, dressing upper part of the body and personal hygiene, was walking with crutches, proximal muscle groups had MRC muscle strength scale of 2-3 points and distal groups had 4 points, Berg balance scale (BBS) was 34 points. In 2023 patients' condition was progressively deteriorating with persistent muscle weakness, balance and stability issues and limited range of motion in separate joints, MRC scale for proximal muscle groups 2-3 points, BBS was 21 point despite therapy. In 2024 patient received immunosuppressive therapy with rituximab. With continuing methotrexate therapy and rehabilitation patients' condition is slowly improving: BBS is 28 and MRC scale for proximal muscle groups is 3.

Summary

This case highlights the importance of early diagnostics and the role of proper rehabilitation for patients who suffer from immunomediated myopathies.

Conclusions

Anti-HMGCR-mediated myopathy is an aggressive and resistant type of myopathy, which is why early recognition, diagnosis and rehabilitation is important for patients' recovery.

Sinogenic Subdural Empyema Mimicking Acute Stroke in an Adolescent Patient

Ms. Emīlija Arsentjeva¹

1. Riga Stradins University, Latvia

Keywords

subdural empyema; acute rhinosinusitis; stroke mimic; neurosurgery

Introduction

Subdural empyema is a rapidly progressive intracranial infection, often of sinogenic origin, which may present as an acute stroke mimic in patients. This case from the Children's Clinical University Hospital (BKUS) describes sinogenic subdural empyema managed with staged neurosurgery and multidisciplinary follow-up.

Case Description

A previously healthy 17-year-old male presented after three days of fever, headache, and upper respiratory symptoms, followed by left-sided weakness (NIHSS 6). Brain MRI revealed a right-sided subdural empyema with corpus callosum edema; angiography excluded large-vessel occlusion, and ENT evaluation confirmed acute rhinosinusitis as the sinogenic source. The patient underwent urgent frontal sinus trephination and subdural drainage with empiric ceftriaxone and metronidazole, later escalated to ceftriaxone plus meropenem and adjusted according to cultures yielding *Haemophilus influenzae* and viridans/intermedius streptococci. The clinical course was complicated by seizures, septic embolic pneumonia, and pericardial effusion. On day 19, MRI showed recurrent interhemispheric empyema requiring repeat craniotomy with ceftriaxone irrigation. After four weeks of intravenous ceftriaxone, followed by oral doxycycline and rehabilitation, the patient was discharged with mild residual paresis and, by three months, had returned to sports with subtle balance deficits.

Summary

This case illustrates adolescent sinogenic subdural empyema closely mimicking acute ischemic stroke, requiring staged neurosurgery and antimicrobial therapy. Serial MRI, microbiology-guided treatment, and rehabilitation were crucial for near-complete neurological recovery.

Conclusions

Acute rhinosinusitis in adolescents can cause fulminant subdural empyema presenting as a stroke mimic, requiring urgent MRI to avoid delay. Multidisciplinary management combining early neuroimaging, staged neurosurgical source control, antibiotics, and rehabilitation can achieve excellent neurological recovery despite severe initial deficits.

The relationship between cognitive reserve and long-term and short-term memory indicators and evoked potential P300 wave amplitude in older adults

*Ms. Marija Spruģevica*¹

1. Riga Stradins University, Latvia

Keywords

Older Adults, Long-Term memory, Amplitude of P300 Wave Evoked Potential, Short-Term Memory, Cognitive Reserves.

Objectives

Statistical data provided by the World Health Organization indicate that the number of older adults will double between 2015 and 2025, highlighting an already existing demographic challenge, drawing increasing attention to the issue, how to promote cognitively active and empowered aging. Thus, the aim of the present study paper was to establish the connection between cognitive reserves and long-term and short-term memory performance, as well as the amplitude of the P300 wave evoked potential in older adults.

Methods

A total of 51 respondents, aged 56-84 ($M = 68.06$, $SD = 7.04$), participated in the study, with 64.70% of the total amount being female. The data collection was carried out face-to-face using four instruments adapted and validated in Latvian: 1. "Montreal Cognitive Assessment v8.2. test" (MoCA, Nasreddine, 1996); 2. "10-word recall test" (Luria, A.R., Restoration of Function after Brain Injury, 1963); 3. Electroencephalogram recording during the Oddball Task (adapted into Latvian by Agnese Ušacka, MSc); and 4. Cognitive Reserve Index questionnaire (CRIq; M. Nucci, D. Mapelli & S. Mondini, 2012).

Results

Finally, the results of the study indicated that there was no statistically significant relationship between variables such as short-term memory, cognitive reserve and P300 wave amplitude, while variables such as long-term memory and cognitive reserve showed a statistically significant relationship. Furthermore, cognitive reserve and the two characterising dimensions – education and work activity, were able to predict better long-term memory performance in older adults, irrespective of the participant's age and cognitive function scores.

Conclusions

Understanding these results allows for practical application in research by analysing ageing-related processes, with a focus on cognitive reserves. In addition, the results provide insights into how a person's life experiences can influence the ageing process at an individual level.

TUBERCULOUS MENINGOENCEPHALITIS WITH RECURRENT CEREBROSPINAL FLUID FLOW OBSTRUCTION AND PROLONGED INTENSIVE CARE TREATMENT

*Ms. Jana Iljina*¹

1. Riga Stradins University, Latvia

Keywords

Tuberculous meningoencephalitis; hydrocephalus; cerebrospinal fluid circulation; ventriculoperitoneal shunt.

Introduction

Tuberculous meningoencephalitis (TBM) is a severe manifestation of central nervous system tuberculosis with high neurological morbidity and mortality. Early diagnosis is often challenging because initial symptoms are nonspecific, systemic signs may be absent, and limited sensitivity of molecular cerebrospinal fluid (CSF) diagnostics. Disease progression is driven by inflammatory obstruction of CSF circulation, leading to hydrocephalus and the need for prolonged intensive care and neurosurgical interventions.

Case Description

A 27-year-old male was admitted with impaired consciousness following a two-week history of severe headache, recurrent vomiting, and anorexia, without initial fever or other systemic symptoms. Initial brain computed tomography revealed no acute intracranial pathology. CSF analysis showed lymphocytic pleocytosis with markedly elevated protein and reduced glucose; initial CSF molecular testing for *Mycobacterium tuberculosis* was negative. Despite empirical antimicrobial therapy, neurological deterioration progressed. Magnetic resonance imaging demonstrated leptomeningeal inflammation, diffuse cerebral edema, ischemic lesions involving deep brain structures and progressive hydrocephalus. The patient developed respiratory failure requiring mechanical ventilation and intensive care admission. External ventricular drainage was required for intracranial hypertension, followed by multiple revisions due to recurrent CSF flow obstruction. Persistent hydrocephalus necessitated ventriculoperitoneal shunt implantation with later revision. Thoracic imaging revealed pleural abnormalities, and video-assisted thoracoscopic pleural biopsy demonstrated necrotizing granulomatous inflammation. Tuberculosis was subsequently confirmed by detection of *Mycobacterium tuberculosis* DNA traces in CSF and positive MPT64 antigen testing from pleural tissue. Antituberculous therapy was continued throughout the prolonged intensive care course.

Summary

This case illustrates a complex course of TBM with progressive neurological deterioration and recurrent CSF circulation disturbances despite early empirical therapy and initially negative microbiological results.

Conclusions

TBM may present with subtle early features and delayed microbiological confirmation; therefore, negative initial CSF testing does not exclude the diagnosis, and a multidisciplinary approach is essential to guide neurosurgical and intensive care management.

UNEXPLAINED COMA POST-CARFILZOMIB: ITTP IN MULTIPLE MYELOMA

Ms. Ieva Naravaitė¹

1. Lithuanian University of Health Sciences, Lithuania

Keywords

carfilzomib; multiple myeloma; immune thrombotic thrombocytopenic purpura;

Introduction

Thrombotic thrombocytopenic purpura (TTP) is a rare, life-threatening disorder caused by severe ADAMTS13 deficiency, manifesting by thrombocytopenia, hemolysis and microvascular thrombosis with frequent CNS involvement. Pathogenesis involves widespread platelet-rich microthrombi development, therefore leading to organ ischemia and injury. It is usually immune-mediated and may be triggered by various conditions, while carfilzomib-associated TTP in multiple myeloma is rare, especially early in treatment.

Case Description

A 68-year-old woman with recurrent multiple myeloma developed acute dysphasia, confusion and memory impairment two days after receiving carfilzomib. On admission, she had severe pancytopenia and rapidly progressed to seizures, coma and respiratory failure, with repeated brain CT scans showing no acute structural pathology or EEG demonstrating any epileptic activity. Brain MRI revealed cerebral microhemorrhages, raising concern of TTP, while infectious, metabolic, hepatic and autoimmune coma causes were excluded through extensive investigations. Further blood testing demonstrated severe ADAMTS13 deficiency and high ferritin levels, confirming thrombotic thrombocytopenic purpura (TTP). After initiation of dexamethasone and supportive therapy, the patient showed marked neurological improvement and was successfully extubated.

Summary

This case highlights a 68-year-old woman with relapsed multiple myeloma who developed rapid neurological deterioration shortly after carfilzomib therapy, initially without abnormalities on brain CT. Severe pancytopenia, coma and MRI evidence of cerebral microhemorrhages prompted suspicion of thrombotic microangiopathy after other causes were excluded. The diagnosis of iTTP was confirmed by severe ADAMTS13 deficiency. Early recognition is critical, as prompt immunosuppressive therapy led to substantial neurological recovery.

Conclusions

In a patient with multiple myeloma, rapidly progressive coma after carfilzomib administration with severe thrombocytopenia, microangiopathic hemolysis, cerebral microhemorrhages and reduced ADAMTS13 activity confirmed immune-mediated thrombotic thrombocytopenic purpura. Prompt corticosteroid therapy led to neurological recovery, highlighting the importance of early recognition of carfilzomib-associated TTP in patients with acute neurological decline and pancytopenia.

**Gynaecology,
Gynaecological surgery,
Obstetrics, Perinatology**

A benign ovarian cyst mimicking borderline ovarian tumor during pregnancy: case report

Ms. Olga Junina¹, Ms. Anna Ābola¹

1. Riga Stradins University, Latvia

Keywords

Borderline ovary tumor, ovarian cyst, pregnancy, ultrasound.

Introduction

Adnexal masses occur in approximately 4-20% of pregnancies and are usually benign, while malignant and borderline ovarian tumors account for less than 8%. The ultrasound evaluation becomes challenging due to pregnancy-related changes that alter imaging characteristics.

Case Description

A 33-year-old female presented with a long-standing history of ovarian cystic disease. Left oophorectomy was performed at age 15 for a serous cyst. During her second pregnancy, a recurrent multilocular cystic lesion (50x24x35mm) was diagnosed in the right ovary. After multidisciplinary review, it was classified as an ovarian cystoma, possibly a teratoma, with a recommendation for close surveillance. The lesion remained stable throughout the third pregnancy. Retrospective analysis of the imaging revealed no signs of a teratoma, and the lesion resembled a serous cystadenoma morphologically.

At 20 weeks of the fourth pregnancy, imaging showed an increase in lesion size (73x110x84mm), new vascularized septations, and additional vascularized papillary projections along the cyst wall (color score 2). The morphology was suggestive of a borderline ovarian tumor. In this case, during pregnancy, the IOTA ADNEX model and the modified benign descriptors were not applicable. Although surgery was advised in the late second trimester, the patient declined and underwent monthly ultrasound follow-up until delivery. Postpartum laparoscopic cystectomy revealed a benign serous cystadenoma with no evidence of malignancy.

Summary

This case illustrates the limited applicability of the IOTA ADNEX model and benign descriptors during pregnancy, which may provide limited diagnostic support. Consequently, careful assessment of morphologic features and individualized clinical judgment become essential.

Conclusions

Pregnancy-related physiologic and hormonal changes can alter the sonographic appearance of adnexal masses (complexity, septations, wall irregularity, papillary projections, altered vascularity), which increases the risk of misclassification or misdiagnosis. Additionally, the diagnostic value of tumor markers is limited during pregnancy due to physiologic gestational changes.

APPENDIX EPIPLOICA INCARCERATION IN THE UTERINE WALL AFTER SURGICAL EVACUATION OF PLACENTAL TISSUE IN THE LATE POSTPARTUM PERIOD

*Ms. Luīze Emīlija Laveniece*¹

1. Rīga Stradiņš University, Latvia

Keywords

Postpartum period, uterine perforation, *appendix epiploica* incarceration

Introduction

Uterine perforation is a known complication of dilatation and curettage (D&C). The risk of perforation depends on multiple factors: parity, postmenopausal status, postpartum period, etc. The combination of uterine perforation and appendix epiploica incarceration is rare but a potential complication.

Case Description

A 27-year-old, generally healthy, lactating patient with no bad habits was referred to the gynecology clinic for planned laparoscopic surgery with no complaints. Three months prior to the planned surgery, the patient had a vaginal delivery. During the postpartum visit at 6 weeks, gynecological US revealed placental retention, and a D&C was performed two days later, obtained material was sent for histological analysis. The patient was discharged for outpatient follow-up with no complaints. The patient had a follow-up visit eleven days later, where a gynecological ultrasound was performed, which revealed a hyperechogenic mass in the fundus uteri region extending into the uterine wall, approximately covering ½ of the uterine wall; the inner lining was intact. The histological analysis revealed placental and decidual tissue with minor adipose tissue fragment. To determine the full, accurate diagnosis and to resolve the patient's condition, laparoscopic surgery was performed. A 2 cm wide defect in the uterine wall was visualized, with appendix epiploica incarcerated within it. The appendix epiploica was released from the uterine wall, and the defect was sutured. The patient was discharged in generally good condition for outpatient follow-up.

Summary

Uterine perforation is a potential complication of D&C. Although extremely rare, appendix epiploica can be incarcerated in the uterine wall. The risk factors for each patient must be evaluated separately. A possible method to resolve the patient's condition is laparoscopic surgery.

Conclusions

Uterine perforation may be asymptomatic. Postpartum period significantly affects the perforation risk. Extremely rare complication is appendix epiploica incarceration at the perforation site.

Fetal macrosomia with birth weight 5,2 kg : a case report

Mrs. Anna Drozdecka¹

1. Riga Stradins University, Latvia

Keywords

Macrosomia. Gestational obesity.

Introduction

Macrosomia describes excessive fetal growth beyond a defined birth-weight threshold, typically more than 4000 g or 4500 g, regardless of gestational age. There is no universally accepted definition, and weight thresholds vary between countries. In high-income settings, a birth weight greater than 4,500 g is most commonly used, although a threshold of 4,000 g is also widely applied. According to statistics, infants with a birth weight over 5000 g account for only about 0.1% of all births, highlighting the rarity of extreme macrosomia. Maternal and neonatal risks rise substantially as birth weight increases, but accurate prenatal prediction of macrosomia remains challenging. Main risk factors: maternal diabetes, maternal obesity, excessive weight gain during pregnancy, previous macrosomic baby, postterm pregnancy, baby male gender, paternal obesity.

Case Description

A 22-year-old woman delivered her first child in 2013. She had a term vaginal delivery of a male infant weighing 5222 g, following an episiotomy. Her pre-pregnancy body weight was normal, but she experienced excessive gestational weight gain of 19,2 kg. For undocumented reasons, OGTT was not performed. The father's body mass index was normal. Otherwise, the pregnancy proceeded normally.

In 2016, she delivered her second child, a macrosomic male infant at term with a birth weight of 4810 g. In 2020, she was diagnosed with mucinous adenocarcinoma of the caecum and underwent a right-sided hemicolectomy. In 2024, she experienced a spontaneous abortion. In 2025, following the onset of a new relationship, she delivered a third male infant at term weighing 4380 g.

Summary

Although no direct causal or genetic link between fetal macrosomia and mucinous adenocarcinoma of the caecum is established, this case highlights the potential role of metabolic factors as a common underlying background.

Conclusions

Physicians should be aware of the risk factors for fetal macrosomia, including how to identify and modify them.

Pyometra with Uterine Wall Perforation Complicated by Purulent Peritonitis and Sepsis

*Ms. Melanie Zaytseva*¹

1. Riga Stradins University, Latvia

Keywords

Pyometra; uterine perforation; purulent peritonitis; sepsis; postmenopausal woman

Introduction

Pyometra is a rare gynecological condition characterized by accumulation of purulent material in the uterine cavity, most commonly affecting elderly postmenopausal women. It is often associated with cervical stenosis due to age-related atrophy, previous pelvic procedures, radiation therapy, or malignancy. Although it may remain asymptomatic, pyometra can progress to uterine wall perforation, resulting in purulent peritonitis, sepsis, septic shock, and multiple organ dysfunction syndrome. Clinical presentation is frequently nonspecific and may mimic gastrointestinal pathology, leading to delayed diagnosis.

Case Description

A 67-year-old postmenopausal woman presented with acute diffuse abdominal pain, nausea, vomiting, and weakness. Physical examination revealed abdominal distension, diffuse tenderness, and decreased bowel sounds. Laboratory tests showed leukocytosis, elevated inflammatory markers, acute kidney injury, metabolic acidosis, and coagulopathy. Computed tomography demonstrated partial small bowel ileus and pathological uterine changes suspicious for malignancy or differential diagnosis with myoma uteri. Despite broad-spectrum antibacterial and supportive therapy, the patient's general condition deteriorated, with the development of septic shock and multiorgan dysfunction syndrome (MODS). Emergency total hysterectomy with abdominal sanitation and drainage was performed. Intraoperatively, uterine wall perforation with diffuse purulent contamination of the abdominal cavity was identified. Histopathology confirmed pyometra, purulent endomyometritis with uterine perforation, calcified leiomyomas, purulent salpingo-oophoritis, and generalized purulent peritonitis. Postoperatively, the patient required intensive care, vasopressor support, oxygen therapy, and targeted antimicrobial treatment, followed by gradual recovery.

Summary

This case demonstrates a severe presentation of pyometra complicated by uterine perforation, purulent peritonitis, sepsis, and MODS. Absence of gynecological symptoms and predominance of gastrointestinal manifestations contributed to diagnostic difficulty.

Conclusions

Conclusions.

Pyometra with uterine perforation is a rare but life-threatening cause of sepsis in postmenopausal women. Early recognition, timely surgical intervention, and intensive multidisciplinary management are crucial for patient survival.

RECURRENT PREGNANCY LOSS ASSOCIATED WITH SERPINE1 4G/4G POLYMORPHISM: SUCCESSFUL PREGNANCY FOLLOWING ANTITHROMBOTIC AND HORMONAL PROPHYLAXIS

Mrs. Marta Luiza Ziverte¹

1. Riga Stradins University, Latvia

Keywords

Recurrent pregnancy loss; SERPINE1; PAI-1 4G/4G polymorphism; thrombophilia; low-molecular-weight heparin; pregnancy

Introduction

Recurrent pregnancy loss and placental mediated complications have been associated with both inherited and acquired prothrombotic states. Pregnancy itself represents a hypercoagulable condition that may have underlying defects in coagulation or fibrinolysis. The SERPINE1 (plasminogen activator inhibitor-1, PAI-1) 4G/4G promoter polymorphism is linked to increased PAI-1 expression and reduced fibrinolysis. Although not classified as a classical inherited thrombophilia, this variant may contribute to adverse pregnancy outcomes in susceptible individuals.

Case Description

A 42-year-old woman with a history of two pregnancies complicated by preeclampsia and three consecutive early pregnancy losses underwent genetic evaluation after recurrent miscarriages. Testing excluded classical inherited thrombophilias, including factor V Leiden and prothrombin G20210A mutations, but revealed homozygosity for the SERPINE1 4G/4G polymorphism. In a subsequent pregnancy confirmed in March 2024, prophylactic treatment with enoxaparin 4000 IU daily, acetylsalicylic acid 150 mg daily, and vaginal micronized progesterone 200 mg daily was initiated at 12 weeks + 3 days of gestation. The pregnancy progressed without significant complications, resulting in the delivery of a healthy male neonate at 38 weeks' gestation.

Summary

This case demonstrates a favorable pregnancy outcome following combined antithrombotic and hormonal prophylaxis in a woman with recurrent pregnancy loss and homozygous SERPINE1 4G/4G polymorphism.

Conclusions

The SERPINE1 4G/4G polymorphism may represent a contributory risk factor for pregnancy loss in the presence of additional clinical risk factors. Individualized antithrombotic prophylaxis may be beneficial in selected cases, although further evidence is required to define clear management guidelines.

**Dentistry, Maxillofacial
Surgery &
Otorhinolaryngology,
Otorhinolaryngologic
surgery**

Cochlear implant magnet displacement during lumbar spine MRI: a case report

Ms. Ewelina Porzycka¹

1. Medical University of Silesia in Katowice, Poland

Keywords

cochlear implant; magnetic resonance imaging (MRI); magnet displacement; implant-related complications; sensorineural hearing loss

Introduction

Cochlear implants currently represent the gold standard in the treatment of severe to profound sensorineural hearing loss and deafness. However, their presence carries a risk of complications during magnetic resonance imaging (MRI), including magnet displacement.

Case Description

We describe a 48-year-old patient with an Advanced Bionics HiRes 90 cochlear implant who experienced magnet displacement after undergoing lumbar spine MRI at 1.5 T, despite the use of recommended safety precautions. The patient reported sudden pain and visible elevation of the skin over the implant site. Computed tomography confirmed extrusion of the magnet from its capsule. Surgical repositioning was planned; however, spontaneous relocation of the magnet to its correct position occurred later the same day during mastication, as confirmed by X-ray imaging.

Summary

The patient avoided surgical intervention, and follow-up over several months revealed no recurrence of magnet displacement or thinning of the overlying skin.

Conclusions

This case, together with a review of the literature, highlights the importance of awareness of potential MRI-related complications in cochlear implant users, the necessity of strict adherence to manufacturer guidelines, and close cooperation between radiologists and otolaryngologists. Modern implant systems equipped with rotatable magnets significantly reduce the risk of magnet displacement.

Invasive Cervical Resorption as a Late Complication of Dental Trauma: A Case Report

*Mrs. Elizabete Korule-Ceriņa*¹

1. Riga Stradins University, Latvia

Keywords

Dental trauma; Invasive cervical resorption; Delayed complications;

Introduction

Dental trauma may lead to immediate or delayed complications. Invasive cervical resorption is an uncommon external pathology of cervical origin that may remain asymptomatic and be incidentally detected radiographically, with delayed diagnosis limiting treatment options. This case report describes extensive invasive cervical resorption diagnosed more than 20 years after untreated dental trauma.

Case Description

In 1992, during a basketball game, the patient sustained facial trauma involving the lower lip and maxillary central incisors, resulting in palatal tooth displacement and occlusal changes. The patient manually repositioned the teeth and did not seek dental care; only suturing of the lower lip was performed. Transient gingival swelling resolved without further complaints. In 1997, the dental trauma history was documented. An attempt to locate the root canal of maxillary left central incisor was unsuccessful due to pulpal calcification, and the tooth was restored without endodontic treatment. The patient did not attend regular dental check-ups thereafter. Approximately six years prior to referral, structural changes and discoloration of maxillary left central incisor were noted. In 2023, generalized periodontitis with vertical and horizontal alveolar bone loss was diagnosed. Radiographic examination revealed pronounced bone loss in the maxillary anterior region and an obliterated root canal, and the patient reported mobility of the maxillary central incisors. In 2025, further examination confirmed extensive invasive cervical resorption of maxillary left central incisor, rendering the tooth non-restorable, and extraction was recommended.

Summary

This case reports extensive invasive cervical resorption diagnosed more than two decades after dental trauma following a prolonged asymptomatic period.

Conclusions

This case emphasizes the need for long-term follow-up after dental trauma, as invasive cervical resorption may develop decades later and limit treatment options if diagnosed late.

Myorelaxing splint therapy effect on patient with Class III malocclusion and temporomandibular disorder: A case report

Ms. Elizabete Aira Magone¹

1. Riga Stradins University, Latvia

Keywords

Temporomandibular dysfunction, occlusal splint therapy, functional rehabilitation, condylography

Introduction

Temporomandibular disorders (TMD) affect 5-12% of the general population, with women aged 20-40 years demonstrating 2-9 times higher prevalence than men (Qin et al., 2024; Ryan et al., 2019). Chronic TMD cases featuring joint clicking, crepitation and asymmetric condylar function carry substantial risk of progression to degenerative joint disease (Gürer et al., 2025).

Case Description

A 28-year-old female presented with main complaint of aesthetic smile improvement but exhibited objective findings of significant TMD including joint sounds on the left side - clicking and crepitation, muscle pain on palpation. Condylographic analysis revealed asymmetric condylar movements with evidence of possible condylar atrophy on the left side and interfering occlusal contacts. Clinical findings demonstrated skeletal Class III with mandibular prognathism, crossbite, edge-to-edge bite in the anterior region, and asymmetric occlusal planes, multiple carious lesions. Following comprehensive diagnostic protocols using Slavicek cephalometric analysis and condylography, a hard acrylic occlusal splint was fabricated in the lower jaw to achieve neuromuscular reorganization, muscle relaxation and jaw repositioning. Over 5 months of splint therapy (July-December 2025), sequential clinical and imaging evaluations documented progressive improvement.

Summary

Objective improvements achieved through splint therapy. Occlusal index decreased from 1.6 to 1.0. Muscle palpation findings improved significantly. Patient reported eliminated fear of jaw blocking and improved left-sided chewing function. Planned subsequent interventions include fixed orthodontic appliance therapy and prosthetic treatment.

Conclusions

This case demonstrates the clinical value of comprehensive functional analysis and conservative splint therapy as benefit prior to irreversible orthodontic and prosthetic interventions in complex TMD cases. Functional rehabilitation achieved measurable improvements in condylar dynamics and pain symptoms, establishing a stable neuromuscular foundation for subsequent definitive treatment.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

84	CAVERNOUS MALFORMATION OF THE MEDULLA OBLONGATA MIMICKING A GLIOMA	Dr Jūlija Dolgopolova / Pauls Stradiņš Clinical University Hospital, Latvia
121	CHALLENGES IN DISTINGUISHING TAKOTSUBO CARDIOMYOPATHY FROM ACUTE MYOCARDIAL INFARCTION	Agnė Liuizė, prof. Olivija Dobilienė / Hospital of Lithuanian University of Health Sciences Kaunas Clinics, Lithuania
595	CHALLENGES OF A MULTIDISCIPLINARY APPROACH IN DIFFUSE LARGE B-CELL NON-HODGKIN LYMPHOMA WITH MECHANICAL ILEUS: A CLINICAL CASE REPORT	Assoc. prof. Daiga Auziņa/ Riga East Clinical University Hospital, Latvia
319	CHEMOTHERAPY-INDUCED INTERSTITIAL PNEUMONITIS IN A CHILD WITH ACUTE LYMPOBLASTIC LEUKEMIA	Dr. Liene Smane/ Children's Clinical University Hospital, Latvia
606	CHORDOMA BEYOND THE USUAL COURSE: WIDESPREAD METASTASES AND AN UNEXPECTED RIB LOCALIZATION.	PHD, MD Joanna Lipińska/ Medical University of Lodz, Poland
497	CHRONIC ATRIAL FIBRILLATION COMPLICATED BY ATRIOVENTRICULAR BLOCK: A CASE REPORT	Dr. Grėtė Tarvydaitė/ Kaunas Clinics, Lithuanian University of Health Sciences, Lithuania
248	CHRONIC IMPLANT-ASSOCIATED INFECTION CAUSED BY A MULTIDRUG-RESISTANT GRAM-NEGATIVE ORGANISMS IN A PATIENT WITH BLAST-RELATED PELVIC TRAUMA: CASE REPORT	Dr. Mārtiņš Malzubris / Rīga Stradiņš University, Hospital of Traumatology and Orthopaedics, Latvia
30	CHRONIC PAIN PARTIALLY RESPONSIVE TO KETAMINE AND INTERVENTIONAL THERAPY: THE IMPACT OF PSYCHOLOGICAL AND SYSTEMIC COMORBIDITIES	Vytautas Mačiulis / Lithuanian University of Health Sciences, Lithuania
144	CHRONIC PULMONARY ASPERGILLOSIS (ASPERGILLUS FUMIGATUS) IN A 15-YEAR-OLD PATIENT: A CASE REPORT	Lect. Elīna Aleksejeva/Rīga Stradiņš University, Latvia
424	CLEAR CELL RENAL CELL CARCINOMA WITH INFERIOR VENA CAVA AND RIGHT ATRIAL TUMOR THROMBUS IN A POLYTRAUMA PATIENT	Vytautas Mačiulis / Lithuanian University of Health Sciences, Lithuania
412	CLINICAL CHALLENGES IN A PATIENT WITH THREE-VESSEL CORONARY ARTERY DISEASE, RUPTURED MITRAL CHORDAE AND A LARGE INFRARENAL ABDOMINAL AORTIC ANEURYSM	Prof. Pēteris Stradiņš / Rīga Stradiņš University, Latvia
706	CLINICAL DUALITY OF HAIRY CELL LEUKEMIA VARIANT: A TWO-PATIENT CASE SERIES	Dr. Arturs Uzars/ Riga East university hospital, Latvia
63	COCHLEAR IMPLANT MAGNET DISPLACEMENT DURING LUMBAR SPINE MRI: A CASE REPORT	Prof. Jarosław Markowski / Medical University of Silesia in Katowice, Poland ; MD Bartosz Witke / Medical University of Silesia in Katowice, Poland ; Małgorzata Toroń / Medical

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Authors Index

- , R.	361	Breidaks, J.	154
Aleksāne, N.	236	Bricis, R.	37, 368
Allemane, D.	141	Brikovska, B.	19
Ameriks, J.	61	Brikune, E.	55
Amoliņa, S.	443	Broks, R.	178
Andersone, L.	72	Brūvere, D.	178, 257
Andrejeva, K.	81	Brūveris, O.	106
Antonova, K.	99, 100, 471	Bucika, K.	38
Antonovs, M.	65	Budava, E.	303
Apele, H.	30, 31	Budrikaitē, I.	230, 234
Arbidāne-Rupaine, A.	99, 100	Bulduris, S.	61
Arsentjeva, E.	474	Bumbiere, A.	250, 470
Asīpauskaitē, G.	406, 411	Burceva, M.	251
Aukone, M.	172	Burdulytē, M.	5, 280
Ausmanis, R.	98	Butka, E.	114
Avotiņa, A.	214	Bārzdīņa, A.	178
Avotiņš, K.	101	Bērziņa, L.	61, 367, 451
Balaisiene, I.	460	Cekule, K.	405
Balode, L. (Faculty of Medicine and Life Sciences, University of Latvia, Riga)	140	Cela, K.	273
Balode, L. (Riga Stradins University, Latvia)	54	Ciakaite, K.	281, 445
Bankoviča, V.	431	Coelho, B.	388
Bella Ķeruže, S.	73	Curean, M.	302, 435
Belova, K.	6, 154	Cēsnieks, H.	283
Bernatoviča, V.	196	Dadurkaite, G.	309, 437
Bernots, M.	21, 255, 256	Darbote, S.	384
Berķe, K.	384	Daugēlaitē, E.	13, 321
Beļskis, Z.	211, 333	Dementjeva, A.	402
Bijanskytē, V.	467	Demey, R.	272
Binde, E.	172	Dijeva, R.	352
Birmans, I.	68	Dikalova, V.	373
Birzniece, P.	155	Dobele, A.	300
Blūms, P.	173	Domraceva, T.	415
Bode, M.	64, 283	Dragu, L.	407
Borisovaite, L.	121	Driķīte, L.	296
Borzucka, M.	344	Drozdecka, A.	115, 481
Bozunova, K.	25	Druvaskalna, M.	243
Brazauskaitē, U.	318	Družaitē, E.	285, 434
Braževiča, A.	96, 413, 428	Drzewińska, K.	418
Braževiča, P.	96, 413, 428	Dubicka, E.	205
		Dudarenoka, A.	169, 376

Dulskaitē, U.	150, 238	Iova, O.	202, 435
Dumpis, V.	89	Isakoviča, V.	287, 447
Dute, A.	219	Ivanauskas, D.	126, 137
Dzjadzina, N.	101	Ivanova, V.	70
Dūrēja, A.	61	Ivančukova, A.	160
Eglīte, E.	171	Ivaškevičiūtē, G.	318, 364, 408
Eimane, A.	147, 156	Izmailovs, M.	315
Eleena Mathews, A.	154	Iljina, J.	476
Ezeriņa, E.	129, 135, 374	Jablonska, V.	129, 135
Farasat, R.	151	Jankauskaitē, E.	17, 123, 289, 317
Filipova, A.	263	Jansone, M.	118
Fomins, A.	3	Janušauskas, M.	466
Freimane, E.	206	Jazbutytė, M.	189, 199–201, 334, 391
Gabrilavičius, F.	230, 234	Jemeljanenko, A.	265
Gadzāne, U.	324	Jemeljanova, V.	240
Gaiķe, A.	473	Jeruma, E.	208, 465
Garjutkina, O.	274	Jesse, L.	26, 301
Gastilavičiūtē, L.	279, 281, 291	Jeņenkova, J.	36, 147, 156
Gavare, E.	58	Jonušaitē, B.	80, 82, 87, 111, 116, 117, 170, 349
Gavriļenko, N.	390	Jonāne, L.	423
Gervelytė, I.	320	Judeika, N.	143, 299
Gheorghe, A.	360	Juma, R.	242
Ghesquiere, M.	69	Junina, O.	479
Gitendorfa, E.	337, 338	Juodžentytė, G.	348, 372
Gobiņa, M.	192	Jusis, I.	279, 291
Gorbunova, A.	110, 113, 119, 382	Kairāne, M.	325, 422, 455
Govorova, J.	148, 284	Kalmašņikovs, A.	132
Grantina, A.	403	Kalnīte, L.	77, 376
Grava, E.	343	Kalvaitis, N.	277, 439
Grucki, M.	387	Kania, K.	386
Grundane, S.	175	Kanneniekis, D.	204
Grybauskaite, L.	295	Karele, L.	73
Gudelis, R.	141	Karols, A.	18
Guiska, N.	297	Karčauskaitė, J.	348, 372
Gulbe, B.	152	Kasterova, J.	307
Gulbickis, E.	316, 320	Katinskis, S.	97, 160
Guzowska, A.	378, 420	Kaufmane, L.	179
Gužauskaitė, G.	282, 379, 394	Kaušyla, K.	91, 94, 167
Harpere, P.	182	Kazakevičius, R.	449
Heidemane, U.	225	Kačinskaitė, K.	460
Heinrihsone, D.	79, 209	Kaņepāja, P.	145
Ikstena, Š.	60	Kaša, M.	8
Ilekis, B.	226	Keburytė, E.	362, 366
Iljin, E.	78	Kevins, A.	51
		Kheiri, R.	468
		Kisielytė, G.	80, 82, 87, 111, 116, 117, 167, 170

Kivleniece, M.	148	Loce, L.	105
Kligina, N.	171	Loceniece, K.	11
Knipše, A.	347	Locika, K.	298
Knīse- Repša, A.	223	Lodins, M.	270
Korule-Ceriņa, E.	237, 486	Lomanovska, U.	190, 195
Korzh, S.	186	Lopireva, M.	62
Kosinkina, A.	444	Lovniece, V.	329
Kostadinova, I.	457	Ločmele, L.	133, 377
Kottmann, J.	109	Ločmele, M.	432
Kozlovskā, F.	49	Lukoševičiūtē, E.	313, 375, 463
Kočāne, E.	292, 446	Lukstiņš, G.	184
Koļencovs, M.	70	Luīze Rātfeldere, P.	73
Kožuch, A.	228, 350, 433	Lāce-Stalidzāne, E.	146
Krasovska, B.	32, 359	Lācis, M.	260
Krastiņa, P.	58		
Kreislere, P.	269	Magdisjuka, R.	194
Kriauzaite, P.	370	Magone, E.	487
Krimš-Dāvis, K.	186	Makarova, A.	23, 426
Krustiņa, S.	357	Maliore, M.	401
Kulineca, V.	67	Mancēviča, N.	86
Kulytē, K.	401, 467	Mandrikova, S.	222
Kupraitytē, G.	112	Marcak, M.	350, 433
Kupriša, E.	16, 286	Maskava-Pudāne, K.	472
Kuusmetso, M.	197	Mazule, M.	130
Kučinska, A.	101	Medvedevas, V.	277, 439
Kučinskaitē, A.	107	Meinardte, V.	186
Kuļibaba, G.	56	Melberga, K.	61
Kvedaraitē, V.	40, 383	Michailovska, K.	74
Kļaviņa, D.	254	Miežinytē, A.	278
Kļaviņa, K.	319	Migauskas, Ž.	78, 409
Kļeščevņikovs, A.	165, 471	Mironovs, D.	469
		Mirzozjans, I.	9, 14, 15
Labalaika, A.	328	Miķelsone, A.	381
Labo, M.	435	Miškinaitē, G.	406, 411
Laganovskis, A.	339	Muceniece, K.	28
Laikūnaitē, Ž.	17, 123, 289, 317	Myroniuk, R.	48
Lauce, E.	131, 341	Mūrniece, P.	369
Laveniece, L.	480		
Leja, K.	456	Nagarkoti, P.	191, 441
Lekšaitē, M.	13, 321	Nair, A.	327
Levciks, R.	355	Naravaitē, I.	477
Liepiņš, E.	266	Navakauskaitē, G.	119
Lin, J.	267	Nazere, V.	118
Linkeviciute, U.	239	Nemme, N.	18, 29
Liskova, S.	247	Neverauskaitē, G.	397
Litavnieks, Z.	52	Niedra, A.	149
Liubinaitē, R.	295	Nikitina, A.	24, 461
Liutkauskaitē, R.	310	Nowicka, W.	363

Okonek, M.	418	Rama, E.	134
Osipovs, P.	125	Rasuma, R.	421
Otaņķis, O.	332	Rate, M.	326, 430
Ozola, L.	53	Ražauskienė, G.	351, 382
Ozola, S.	163	Rečiūnaitė, J.	412
Ozoliņa-Tilgase, A.	223	Ribikauskas, J.	351
Ozveren, S.	244	Rimdjonoka, R.	18
		Rodina, B.	220
Paczkowska, A.	418	Romane, E.	171
Pagrabs, G.	275	Roķe, K.	190, 195
Paluga, R.	7	Rudoviča, I.	166, 410
Panicuka, L.	331	Rudzitis, K.	183
Pantelejeva, E.	59	Rudzīte, M.	452
Pavilionis, D.	245, 246, 248, 252	Rudzītis, R.	335
Paļuga, R.	18	Rudžinskaitė, D.	280, 349
Peica, P.	232	Rātfeldere, P.	255, 256
Peiča, A.	63		
Petersone, L.	95, 104	Sadiya, F.	46
Pijadin, V.	434	Salmišķis, K.	18
Pimanovs, G.	142	Saluvēra, E.	207, 212
Pintilie, S.	84	Samoviča, L.	396
Pisarenko, E.	128, 380	Sarkanābola, B.	43, 346
Plenica, S.	219	Sas, K.	153, 162
Podniece, L.	311, 330	Sawina, A. (Medical University of Lodz, Poland)	340
Podolako, P.	365	Sawina, A. (Medical University of Silesia in Katowice)	438
Pogrebnaks, E.	47	Silconoks, D.	288
Ponomarjova, J.	326, 425, 430	Simanauskaitė, F.	278
Pop, A.	202, 435	Simkunaite, K.	304, 417, 445
Pore, A.	88, 197, 210	Skalberga, P.	233
Porzycka, E.	485	Skrastiņa, I.	25
Pozzoco, P.	354	Skrupskis, O.	42, 161
Połeć, O. (Medical University of Silesia in Katowice, Poland)	420	Skuja, G.	141
Połeć, O. (Medical University of Silesia, Poland)	378	Snapkauskas, N.	304, 449
Pridāne, A.	176, 424	Spilva, R.	171
Priede, E.	306	Sproģe, A.	450
Primiceri, F.	264	Spruģevica, M.	475
Promberga, E.	221	Stachaczyk, J.	344
Prudņikova, D.	185	Stagiša, E.	127, 187
Purtokaitė, D.	245, 246, 248, 252	Stanaszek, A.	10
Pētersone, S.	392	Stankevičiūtė, L.	362, 366
Pūsepa, L.	314	Stankevičiūtė, M.	159
		Staseliūnaitė, V.	440
Radavičiūtė, A.	466	Stāge, E.	400
Radzina, E.	102, 448	Stepanova, J.	136
Rafeeqe, A.	2, 88	Stepena, A.	322, 416
Ragže, M.	458	Sternberga, L.	459
Rakūnaitė, K.	440	Stinka, G.	271

Stinka, K.	218	Vēgelis, V.	85, 453
Stočkūnaitē, P.	78	Vītola, L.	404
Strance, G.	64	Vītoļiņa, U.	181
Strauchman, M.	386		
Stāks, K.	358	Wiese, B.	197
Stępień, M.	386	Włodarczyk, P.	363
Sulasz, M.	228		
Sunil, A.	389	Zabrodina, J.	9, 15, 229
Svalba, D.	45	Zaharovs, V.	284
Sveboda, A.	409	Zandersons, E.	336
Sīlis, A.	395	Zaytseva, M.	482
		Zeidaka, A.	429, 459
Talackaite, A.	309, 437	Ziaja, B.	363
Taurmane, L.	131, 368	Zicāns, M.	283
Terehova, K.	365, 457	Zieliński, D.	153, 162
Tetarenko-Supe, A.	268	Zimackis, H.	305
Tikmers, J.	92, 93	Zitāns, R.	39, 41, 158
Titovs, A.	138, 436	Ziverte, M.	144, 158, 483
Tokarczyk, K.	153, 162	Znamenskaite, A.	74
Tomīņa, K.	120	Zodāne, A.	33
Truong, C.	197	Zīle, N.	371
Tupuriņa, N.	385		
		Ābola, A.	479
Upenieks, K. (Riga Stradins University.)	168, 174, 353	Āboliņa, R.	50
Upenieks, K. (University of Latvia, Latvia)	376	Čapulīšs, S.	9, 15
Urbonaitē, E.	199, 200, 391	Čerpakovska, L.	66
Urtāne, L.	462	Češūnaitē, I.	464
		Ģermanovičs, M.	227
Vaicekauskaitē, K.	24, 461	Ķeze, M.	73
Valdovska, D.	76, 398	Ķibilda, E.	180
Valiulis, T.	249	Ļevčiks, R.	141
Vanaga, P.	345		
Vančuka, A.	73	Ņikiforova, D.	198
Varena, J.	442	Šalms, M.	231
Varkulevičiūtē, G.	121	Šepte, K.	192
Vasiliauskis, K.	12	Šepte, L.	192, 193
Vecbaštiks, A.	18, 35	Šimkus, M.	285, 434
Veja, U.	39, 41, 103	Škinča, E.	3
Verbovenko, K.	20	Škiļs, A.	262
Verzbicka, A.	235	Šneidere, A.	215
Vierula, V.	197	Štarka-Rantiņa, M.	258, 414
Vilite, D.	83	Štromberga, M.	308
Vindele, I.	133	Šulniūtē, R.	159
Vinklere, L.	71	Šēnbergs, A.	157
Viļums, G.	326, 430	Šēra, D.	50, 312
Vištarts, K.	356	Žakaite, R.	216
Vārslavs, M.	57	Žekonis, M.	27
		Žekonis, R.	27

Sponsors & Partnerships

General Sponsors

iVF Riga is a leading infertility treatment and reproductive genetics clinic in Latvia offering comprehensive diagnosis and advanced therapies such as IUI, IVF, and ICSI. The clinic's multidisciplinary team uses innovative technologies and genetic screening to support patients on their fertility journey and improve outcomes in reproductive healthcare.



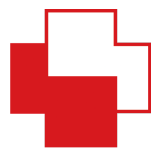
www.ivfriga.lv

Olpha is a leading pharmaceutical manufacturer in the Baltic region with more than 50 years of experience. The company develops and produces medicines across several therapeutic areas and exports its products to over 60 countries, contributing to improved access to healthcare worldwide.



www.olpha.eu/en

MFD Veselības grupa is one of the largest multi-profile healthcare providers in Latvia, offering a wide range of outpatient medical services. With more than 50 years of experience, the organization provides diagnostics, treatment, and preventive healthcare services to hundreds of thousands of patients, combining modern technologies with the expertise of experienced medical professionals.



MFD
Veselības grupa

www.mfd.lv

SIA Arbor Medical Corporation has more than 20 years of experience providing medical equipment, products, and IT solutions from world-leading manufacturers in Latvia and across the Baltic region. The company also ensures equipment servicing and user training, supporting hospitals, clinics, and other healthcare institutions with modern medical technologies.



www.arbormedical.lv

The Latvian Association of Gynecologists and Obstetricians is a professional medical organization in Latvia representing specialists in gynecology and obstetrics. The association promotes high standards of clinical practice, organizes educational events and guidelines for its members, and supports professional development in women's healthcare.



www.ginasoc.lv

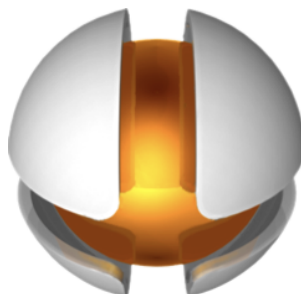
ARDE LINE -Look Professional, Keep Comfortable!

ARDE LINE supplies medical professionals with functional and stylish apparel designed for comfort throughout the workday. Featuring top international brands like CHEROKEE, DICKIES, JAANUU, LOUIS LANIER, and SAFETY JOGGER, the company ensures high-quality garments that meet the demands of healthcare environments.



www.ardeline.lv

Baltijas Dialīzes Serviss is a Latvian company representing global manufacturers of medical and pharmaceutical products since 2003. The company supplies medical devices and equipment for renal and hepatic replacement therapy, haemotransfusion, apheresis, and cardiac surgery, and supports healthcare professionals with wholesale distribution and technical services.



**BALTIJAS
DIALĪZES
SERVISS**

www.dialize.lv

Nutricia (Danone Group) specializes in advanced medical nutrition developed for patients with specific nutritional needs. The company provides scientifically developed products that support nutritional care in various medical conditions and help improve patients quality of life.



www.nutricia.com

Sponsors & Associations

RSU Student Union

Love Your Life

Latvian Human Genetics Association

CHEMI PHARM

Northern Kurzeme Regional Hospital

FitoDroga

Latvian Society of Cardiology

Karameļu Darbnīca

RSU Anatomy Museum

ZELT

Latvian Foreign Policy Institute

Skrīveru saldumi

ECO HONEY LATVIA

FLORERE'S

Latvian Association of Physiotherapists

Saldaiz Dzintars

G9 DRINK

KurPrikols?

Sigulda Adventures

Jivamukti Yoga Riga

Nutriboom	ISOSTAR
Splashing	ICONFIT
Bellevue Park Hotel Riga	RTU Ķīpsala Swimming Pool
Healthstore.lv	Brain Games
Kafijas pasaule	MyFitness
Gardumu Avēnija	Medicīnas apgāds
Dzīvības dzēriens	Pop House
Nordista Latvija	Rundāles pils muzejs
Herbitum	Drustu saldumi
	Chill Spritz

Partnerships

IMSC 2026 - 34th International Medical Students' Conference

NeuRi 2026 - 15th STUDENT CONGRESS OF NEUROSCIENCE

SCHMS 2026 - Scientific Congress of Hellenic Medical Students

ICHAMS 2026 - International conference for Healthcare and Medical Students

OSCON 2026 - International Translational Medicine Congress of Students and Young
Physicians

ICMS 2026 - XXIV International Congress of Medical Sciences

Mosa Conference 2026 - The 30th Biomedical Sciences Conference

ISC 2026 - International Student Congress

ALIS 2026 - International Student Congress "A Look Into Science"

YES Meeting 2026 - Young European Scientist Meeting

ISSC 2026 - International Student Scientific Conference

iMED 2026 - A Conference for Medicine and Life Sciences' Students in Europe

LISSC 2026 - 4th Lublin International Students' Surgical Congress

AIMS Meeting 2026 - Annual International (bio)Medical Students Meeting

STUDENT CONGRESS MoReMED XI EDITION

