

10TH IHSC

MARCH 5TH - 6TH, 2026

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ference

Abstract book

The Conference is organised by the Students' Scientific Society of Lithuanian University of Health Sciences.

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The authors remain responsible for the content of their respective abstracts. All abstracts presented at the conference were reviewed.

Edited by Beatrice Ziulyte, Karina Zerr, Gabija Varkuleviciute & Ignas Jusis

Cover by Beatrice Ziulyte

Anniversary Speeches

Dear Participants and Organizers of the International Conference of Health Sciences,

It is a great honor and privilege to host this event at our University. The Lithuanian University of Health Sciences considers research and science as one of the core missions embedded in the university's strategic vision. Studies and research are tightly woven into both internal and external policies; therefore, they are strongly supported and highly valued within our academic community.

For more than 60 years, the Students' Scientific Society has upheld the traditions and values of scientific inquiry and research throughout the study process in our university programs. Naturally, it has become a nurturing environment for the next generation of researchers and scientists—not only within the Lithuanian University of Health Sciences, but also among respected names in national and international scientific and research institutions.



Let this wonderful cooperation between the Students' Scientific Society, our international colleagues, and the Lithuanian University of Health Sciences continue to flourish. Conferences such as this serve as a place for exchanging ideas and laying the foundation for meaningful collaboration.

I wish you all the best on your journey toward future discoveries. May your research results serve humanity, and contribute to the wellbeing, health, and life of all.

Professor Rimantas Benetis

Rector of the Lithuanian University of Health Sciences

Dear young scientists,

The Student Scientific Society has been decorating the Lithuanian University of Health Sciences with its activities for many years. In different eras - Student scientific activity has a different shade, but it is always very significant. We see that as we enter a new era of symbiosis of studies and science, the importance of student scientific activity becomes special.

Today, we cannot imagine a successful future specialist without early contact with scientific research, preparation of the first theses, publication of the first article, joining a group of scientists in a scientific project.

We know that any health specialist without the basics of scientific research will not be able to best help their patients in the future.

The Student Scientific Society, operating in very clear thematic areas - organizing and promoting the activities of scientific circles, not only lays the foundations for scientific research, the use of various scientific methods, but also introduces students to the process of scientific research, its organization and successful completion. No matter how significant a specific research conclusion is, the greatest benefit is achieved by learning the basics of scientific research.

For many years now, we have seen that the activities of the Student Scientific Society develop not only scientific research skills, but also introduce students to the latest clinical achievements in individual medical fields, and in recent decades, allow students to experience new clinical skills and their very early formation in the hands of a young specialist-researcher.

All the best to the young researchers, prosperity to the Student Scientific Society!

Prof. Andrius Macas, MD, PhD, FESAIC.

Dean of Medicine
Head of Anaesthesiology Department
Lithuanian University of Health Sciences
Hospital of Lithuanian University of Health Sciences Kaunas
Clinics
Past President of Lithuanian Society of Anaesthesiology and
Intensive Care



LIETUVOS SVEIKATOS
MOKSLŲ UNIVERSITETAS



Celebrating its 10th anniversary, this conference is not only a milestone but also a reflection of a vibrant and growing community. Over the years, it has brought together curious, motivated students from the Lithuanian University of Health Sciences and from around the world, creating a space where ideas, cultures, and friendships meet.

Science is wonderfully versatile. It can be found everywhere from epidemiology and data science to clinical practice and fundamental research. No matter the field, it begins with something simple: curiosity and consistency. Science invites us to be creative, to ask questions, to try, to fail, and to try again. It reminds us that each of us can be an innovator and that every piece of work truly matters.

At its heart, science is also about honesty and trust. Let us continue to approach it with openness, without bias, and with transparency.

The journey in science is not always quick or easy, but it is deeply rewarding. Along the way, we grow not only intellectually but also personally. We meet people who inspire us, challenge us, and support us. And often, the connections and friendships formed here stay with us for a lifetime.

With the warmest congratulations to everyone who has been a part and will be a part of this fantastic journey—your curiosity and dedication are and will be what make this conference so special.

Prof. Lina Jankauskaite, MD, PhD

Scientific Supervisor of the Students' Scientific Society
of Lithuanian University of Health Sciences
Scientific Advisor of the IHSC 2026 Organising
Committee



Dear academic society,

We are sincerely grateful for the opportunity to organize the 10th „International Health Conference 2026“. It is not only a great honor, but also a meaningful responsibility to contribute to a long-standing and valuable academic tradition. We are truly happy to see this conference continue to grow each year, bringing together more curious and motivated students and fostering an interest in science—because medicine without science is unimaginable.

Organizing this conference has provided us with invaluable experience: we have learned to work as a team, solve unexpected problems, communicate effectively, and take responsibility for shared outcomes. This journey has helped us grow not only as organizers, but also as individuals—it strengthened our confidence, collaboration skills, and adaptability. Moreover, it allowed us to connect more closely with science itself—not only its achievements, but also the challenges that researchers face every day.

We hope that this conference will continue to be a space where ideas are born, collaborations are formed, and a new generation of curious, brave, and responsible medical professionals can grow. **To future participants**, we wish you to remain curious, to never be afraid to ask questions, to seek answers, and to contribute to the advancement of science. May your journey in science lead not only to new discoveries, but also to a more aware, healthier, and better society.



To future organizers, we wish you the courage to dream bigger, the creativity to bring new ideas to life, and the resilience to overcome every challenge along the way. May your teamwork be your greatest strength, your passion the driving force behind every decision, and your vision one that continues to expand beyond borders. Keep building bridges across countries, cultures, and minds—so that this conference not only grows, but inspires, connects, and leaves a lasting impact year after year.

Beatrice Ziulyte & Gabija Varkuleviciute

Co-Chairs of IHSC 2026

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Conference winners

Session	Abstract title	Authors
Orthopaedics & Traumatology, Plastic Surgery CASE REPORTS	Multiple Comminuted Pelvic Ring Fractures: Case Report of Surgical Management	Ugnius Chmieliauskis, Jonas Tamosiunas, Juste Subaciene, Deimantas Masaitis
Gastroenterology & General Surgery CASE REPORTS	Clostridioides Difficile Infection Masking Severe Ulcerative Colitis: a Diagnostic Challenge.	Audrius Jakubenas, Gabriele Rozyte, Algimantas Tamelis
Nursing, Sports Medicine & Public Health POSTER	Associations Between Forward Head Posture and Neck/Upper Limbs Functional Status in Massage Therapists	Indre Morkeviciene, Vilma Tamulionyte
Ophthalmology CASE REPORT	Case Report: X-Linked Juvenile Retinoschisis in a Young Female	Greta Rupeikyte, Andrius Montrimas
Oncology & Pathology CASE REPORTS	MR-LINAC-Guided Radiotherapy for Early-Stage Laryngeal Cancer: A Case Report	Robertas Kazakevicius, Ignas Bukauskas, Viktoras Rudzianskas
Cardiology I: cardiovascular surgery & cardiology CASE REPORTS	Aggressive multisystem aortic and valvular disease in TGFBR2-Related Loeys-Dietz syndrome: a case report	Gabija Medvedevaite, Lukas Brazauskas, Marius Sukys, Monika Bieseveciene, Egle Ereminiene
Internal Medicine: infectious diseases, rheumatology, nephrology & pulmonology, etc. CASE REPORTS	Donor-Origin Urolithiasis in Kidney Transplantation: A Clinical Case	Gabija Dadurkaite, Elzbieta Novosinskaite, Lukas Mickevicius
Paediatrics CASE REPORTS	Unraveling the Rasopathy: Cardiac Involvement in a Rare Case of Costello Syndrome	Agne Gudauskaite, Ugne Statkute, Rasa Traberg, Marius Sukys, Egle Ereminiene

Conference winners

Obstetrics & Gynaecology, Neonatology CASE REPORT	Prenatal Diagnosis of Mosaic Trisomy 14 Presenting with Uncommon Physical Anomalies	Aleksandra Kolobova, Rasa Traberg, Egle Savukyne
Molecular, Oncology & Genetics POSTER	Functional analysis of U87 glioblastoma cells under inducible Sox2 and Oct4 expression	Gabija Ziuraite, Arunas Kazlauskas, Vilma Kaskoniene
Cardiology ORIGINAL RESEARCH	Adherence to Lifestyle and Pharmacological Recommendations Among Patients After Acute Coronary Syndrome: Insight from EUROASPIRE VI	Gabriele Ramanauskaite, Emile Gudaite, Indre Ceponiene, Jurgita Plisiene
Odontology ORIGINAL RESEARCH	Prevalence of Maxillary Sinus Septa in the Lithuanian Population	Auguste Brazyte, Julija Brazenaite, Aine Jakonyte, Povilas Daugela
Cardiology II CASE REPORTS	Cardiac Arrhythmia and Conduction Disorder Management for a Patient with Pectus Excavatum	Justas Kacerauskas, Lina Gastilaviciute, Vilius Kviesulaitis
Neurosciences: Neurology, Neurosurgery & Psychiatry CASE REPORTS	Acute psychosis as the first manifestation of autoimmune encephalitis.	Mantas Verkys, Gabija Simanaviciute, Goda Tikniute
Intensive therapy, anaesthesiology & radiology CASE REPORTS	Intensive therapy, anaesthesiology & radiology CR: Kounis syndrome: an uncommon cause of acute coronary syndrome. A case report	Gabija Kiskyte, Mantas Kazlauskas, Kristina Varnaite
Otorhinolaryngology, odontology & allergology CASE REPORTS	Extensive Orbit-to-Parotid Malignant Peripheral Nerve Sheath Tumor in Neurofibromatosis Type 1 with Aggressive Recurrence: A Case Report	Inesa Stonkute, Bohdan Haltsev, Marijus Leketas

Conference winners

Dermatovenerology CASE REPORTS	Acrodermatitis Continua of Hallopeau: A Rare Disease with Diagnostic Pitfalls	Austeja Dieninyte, Saule Jaskovikaite, Arunas Petkevicius
Endocrinology & Genetics CASE REPORTS	Second Known Case of Combination of 3p Deletion and 3p Partial Distal Duplication Syndromes	Gabriele Neverauskaite, Zivile Zemeckiene, Rasa Traberg
Core Specialties: General Surgery, Radiology, Anaesthesiology, Oncology & Internal Medicine ORIGINAL RESEARCH	Echocardiography-based assessment of septic cardiomyopathy in patients with sepsis and septic shock	Urte Parchutikaite, Lina Puodziukaite
Obstetrics & Gynaecology, Paediatrics ORIGINAL RESEARCH	Factors Influencing Pediatric Emergency Asthma Management	Ieva Rinkeviciute, Greta Zineviciute, Lina Jankauskaite
Ophthalmology, Otorhinolaryngology & Neurology ORIGINAL RESEARCH	Comorbidity Profile and Independent Predictors of Periodic Limb Movement Disorder: a Retrospective Case-Control Study from a Single Sleep Centre	Domante Lipskyte, Tadas Vanagas, Evelina Pajediene

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**Cardiology | Original
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Abstracts

Thyroid function as a Predictor of Patient-Oriented Composite Endpoints During a 7-Year Follow-Up After ST-segment Elevation Myocardial Infarction

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Introduction

ST-segment elevation myocardial infarction (STEMI) is associated with high mortality, making long-term outcomes clinically relevant. Patient-oriented composite endpoints (POCE) integrate major adverse events and provide a comprehensive assessment of post-STEMI prognosis (1). Evidence links neuroendocrine factors to MI prognosis, but long-term (7-year) data on the associations of free triiodothyronine (FT3), free thyroxine (FT4), thyroid-stimulating hormone (TSH) with STEMI outcomes remain limited (2).

Aim

Evaluate associations between thyroid hormone levels and the occurrence of long-term patient-oriented composite endpoints (POCE) in patients with ST-elevation myocardial infarction (STEMI).

Methods

A prospective study at LSMU Kaunas Clinics included 123 patients after a first STEMI in 2018. Assuming a clinically meaningful difference in 7-year POCE incidence between two patient groups (45% vs 70%, $\alpha=0.05$, power 80%, 1:1 ratio), the required sample size was 122 patients. Blood samples for hormonal assessment were drawn immediately after diagnosis with informed consent. Patients were classified by 7-year POCE occurrence (all-cause mortality, MI, stroke, any revascularization). Continuous variables were compared between POCE groups using Student's t-test or Man-Whitney U test, categorical variables using χ^2 test and associations of hormones and clinical variables with POCE using binary logistic regression. Statistical significance was set at $p<0.05$.

Results

POCE occurred in 68 of 123 patients (55.3%). The POCE (+) group included 37 men (54.4%), and 31 women (45.6%); sex distribution differed significantly between POCE (+) and POCE (-) groups ($\chi^2=6.38$, $p=0.012$) and patients with POCE were significantly older ($t=-2.3$, $p=0.023$). Statistically significant differences in FT3 levels were observed between POCE groups (Mann-Whitney U=1290.000; $p=0.034$): median FT3 concentration in POCE (+) group 3.9 (2.0-6.2), POCE (-) 4.4 (2.8-7.3), whereas FT4 and TTH concentrations did not differ significantly between groups ($p>0.05$). In

univariable analyses, higher FT3 levels (OR=0.629, 95% CI=0.435-0.909, p=0.014), male sex (OR=0.369, 95% CI=0.169-0.809, p=0.013) were significantly associated with lower odds of POCE, whereas older age (OR=1.038 95% CI=1.004-1.072, p=0.026) was associated with higher odds; FT4 and TTH were not significant. In the multivariable stepwise model, only FT3 (OR=0.658 95% CI=0.452-0.957, p=0.029) and male sex (OR=0.411 95% CI=0.179-0.947, p=0.037) remained independently associated with lower odds of POCE.

Conclusions

Lower FT3 levels were observed in patients who experienced POCE. Logistic regression analysis demonstrated that higher FT3 was associated with a decreased risk of POCE, while FT4 and TSH showed no significant association with patient-oriented composite endpoints.

References

1. Serruys PW, Tomaniak M, Chichareon P, Modolo R, Kogame N, Takahashi K, et al. Patient-oriented composite endpoints and net adverse clinical events with ticagrelor monotherapy following percutaneous coronary intervention: Insights from the randomised GLOBAL LEADERS trial. *EuroIntervention*. 2019;15(12).
2. Razvi S, Jabbar A, Bano A, Ingoe L, Carey P, Junejo S, et al. Triiodothyronine (T3), inflammation and mortality risk in patients with acute myocardial infarction. *Eur Thyroid J*. 2022;11(2).

Perivascular Fat Attenuation Index as a Marker of Artery-Specific Coronary Inflammation in Non-Obstructive CAD

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Introduction

Perivascular fat attenuation index (pFAI) is a novel imaging marker of coronary inflammation assessed on CCTA with growing evidence for its prognostic role in adverse cardiovascular outcomes. [1–3] However, it remains unclear whether pFAI reflects vessel-specific inflammatory activity and how it relates to circulating inflammatory biomarkers, leaving important gaps in understanding its clinical significance.

Aim

The aim was to evaluate artery-specific pFAI and its associations with circulating inflammatory biomarkers, and to explore relationships with CAD burden indices in non-obstructive CAD.

Methods

This cross-sectional study included 189 patients with non-obstructive CAD on CCTA (CAD-RADS 1–2). pFAI was quantified in the proximal 40 mm of the right coronary artery (RCA), left anterior descending artery (LAD), and left circumflex artery (LCX). CAD burden was assessed using Leaman score, Segment Involvement Score (SIS), and plaque severity (P1–P4; CAD-RADS 2.0). Statin use and traditional risk factors (arterial hypertension (AH), diabetes mellitus (DM), dyslipidaemia, smoking, body mass index (BMI)) were recorded. Plasma high-sensitivity C-reactive protein (hs-CRP), neutrophil extracellular traps (NET), and matrix metalloproteinase-1 (MMP-1) were measured. Associations were analysed using Spearman and partial correlations, Mann–Whitney U, Friedman, χ^2 , and Fisher's exact tests ($p < 0.05$).

Results

Mean pFAI values differed modestly between arteries (LAD -70.8 ± 5.8 HU; RCA -68.2 ± 8.2 HU; LCX -69.7 ± 8.3 HU). No significant associations were observed between pFAI and Leaman score, SIS, or plaque severity (all $p > 0.05$). RCA pFAI correlated with hs-CRP ($r = 0.223$, $p = 0.005$), but this association attenuated after adjustment for age and BMI. LCX pFAI was significantly associated with NET levels ($r = 0.368$, $p = 0.023$). No statistically significant

correlations were found between MMP-1 concentrations and pFAI values in any coronary artery. In patients with AH, pFAI differed significantly across coronary arteries, with the least negative values in the RCA (Friedman $p < 0.001$). No artery-specific pFAI differences were observed in DM. pFAI was not associated with statin use, dyslipidemia, smoking, BMI or cumulative risk factor burden.

Conclusions

In patients with non-obstructive CAD, artery-specific pFAI was not associated with CT-based measures of coronary atherosclerotic burden but demonstrated selective associations with systemic inflammatory biomarkers. These findings suggest that pFAI primarily reflects inflammatory activity rather than anatomical disease severity and may provide complementary information when interpreted alongside circulating biomarkers in non-obstructive CAD.

References

1. Oikonomou EK, Marwan M, Desai MY, Mancio J, Alashi A, Hutt Centeno E, et al. Non-invasive detection of coronary inflammation using computed tomography and prediction of residual cardiovascular risk (the CRISP CT study): a post-hoc analysis of prospective outcome data. *Lancet*. 2018;392(10151):929–39.
2. Sun JT, Sheng XC, Feng Q, Yin Y, Li Z, Ding S, et al. Pericoronary Fat Attenuation Index Is Associated With Vulnerable Plaque Components and Local Immune-Inflammatory Activation in Patients With Non-ST Elevation Acute Coronary Syndrome. *J Am Heart Assoc*. 2022;11(2):22879.
3. Sagris M, Antonopoulos AS, Simantiris S, Oikonomou E, Siasos G, Tsioufis K, et al. Pericoronary fat attenuation index—a new imaging biomarker and its diagnostic and prognostic utility: a systematic review and meta-analysis. *Eur Heart J Cardiovasc Imaging*. 2022;23(12):e526–36.

Atrial remodeling in patients with left-sided valvular heart disease: echocardiographic characteristics

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Introduction

Atrial remodeling (AR) comprises structural and mechanical changes of the atria. These alterations may differ depending on the underlying left-sided valvular heart disease (LSVHD). Transthoracic echocardiography (TE) plays a pivotal role in identifying associations between AR patterns and the severity of valvular disease, as left atrial strain has emerged as a sensitive marker of atrial mechanical dysfunction and chronic pressure or volume overload (1).

Aim

To assess left and right atrial structural and functional parameters in patients with left-sided valvular heart disease and to compare these parameters across different valvular disease entities and severity groups.

Methods

This prospective study included 90 patients with LSVHD. The TE evaluated the ejection fraction, reservoir strain (LASr) for filling, conduit strain (LAScd) for passive emptying, contractile strain (LASct) of left atria. All TE parameters were analyzed using appropriate parametric or non-parametric tests for group comparisons and correlation analyses.

Results

Transthoracic echocardiography showed marked AR. Left atrial (LA) enlargement was common (indexed LA volume $46,8 \pm 19,7$ mL/m²) and was associated with impaired LA function, including reduced emptying fraction ($r = -0,38$, $p < 0,001$) and LASr ($r = -0,43$, $p < 0,001$). LA emptying fraction strongly correlated with LASr ($r = 0,81$, $p < 0,001$). Right atrial (RA) enlargement was less pronounced but was associated with reduced RA functional and strain parameters (all $p < 0,01$). Left ventricular ejection fraction was largely preserved ($56,1 \pm 5,9\%$), while global longitudinal strain revealed subclinical systolic dysfunction ($-17,4 \pm 3,6\%$). Pathological left ventricular geometry was present in over 80% of patients, and diastolic dysfunction was common ($E/e' 11,0 \pm 4,7$). Valve-specific analyses showed distinct atrial patterns. In moderate-to-severe or severe aortic stenosis (AoS), LASr was significantly reduced ($p = 0,029$; random $p = 0,026$) and demonstrated moderate discriminatory ability (AUC 0,69), with values $> -21,5\%$ associated with the presence of AoS (OR 6,11). LAScd was also reduced in AoS ($p = 0,026$; random $p = 0,032$), with values $> -10,5\%$ associated with the diagnosis (OR 4,33). In advanced aortic regurgitation, LA emptying fraction was higher ($p = 0,022$) and LAct was reduced ($p = 0,015$).

accompanied by lower RA volume indices ($p = 0,008$ and $p = 0,011$, respectively). In moderate-to-severe mitral regurgitation, indexed LA volume was increased ($p = 0,007$) and LA emptying fraction was reduced ($p = 0,041$).

Conclusions

LSVHD is associated with significant AR. Separate valve pathologies show different atrial changes: aortic stenosis is associated with impaired LASr, aortic regurgitation with altered LASct, and mitral regurgitation with progressive atrial dilatation. These findings indicate that atrial structural and functional changes vary according to valve pathology and severity.

References

1. Marincheva G, Iakobishvili Z, Valdman A, Laish-Farkash A. Left atrial strain: clinical use and future applications: a focused review article. *Rev Cardiovasc Med*. 2022 Apr 26;23(5):154. doi:10.31083/j.rcm2305154.
2. Kupczyńska K, Mandoli GE, Cameli M, Kasprzak JD. Left atrial strain: a current clinical perspective. *Kardiol Pol*. 2021;79(9):955–964. doi:10.33963/KP.a2021.0105.
3. Sooriyakanthan M, Graham FJ, Ho N, Leong-Poi H, Tsang W. Alterations in left atrial and left ventricular coupling in mixed aortic valve disease. *Eur Heart J Cardiovasc Imaging*. 2024 Nov 27;25(12):1652–1660. doi:10.1093/ehjci/jeae199.

Association Between Cardiovascular Risk Factors and Coronary Artery Disease Burden in Patients with Non-Obstructive Coronary Atherosclerosis

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Introduction

Segment Involvement Score (SIS) is a semi-quantitative measure of total coronary atherosclerotic burden, defined as the number of coronary artery segments containing any plaque, regardless of stenosis severity, and is assessed using coronary computed tomography angiography (CCTA) [1]. A higher SIS has been shown to independently predict major adverse cardiovascular events (MACE) in multiple cohorts, even beyond obstructive stenosis or calcium scoring [2].

Aim

To evaluate the association between coronary atherosclerotic plaque burden (assessed by SIS on CCTA) and cardiovascular risk factors, such as sex, hypertension and body mass index (BMI), in adults, diagnosed with non-obstructive coronary artery disease (CAD).

Methods

This was a cross-sectional analysis approved by Kaunas Regional Biomedical Research Ethics Committee (BE-2-39). We included 190 participants who underwent CCTA at the Hospital of LUHS Kaunas Clinics. Only individuals with minimal or mild coronary atherosclerosis (CAD-RADS (Coronary Artery Disease Reporting and Data System) 1 or 2: 1–24 % or 25–49 % stenoses on CCTA, respectively) were enrolled. Demographic data, BMI, and hypertension status were collected during patients' interview on the same day as CCTA. Plaque burden was assessed using SIS, defined as the total number of coronary artery segments showing any atherosclerotic plaque on CCTA. We compared SIS between subgroups (by sex, hypertension status) using Mann-Whitney U test and assessed the correlation between BMI and SIS using Spearman's correlation. Unless stated otherwise, data are presented as mean $\pm$ standard deviation. A p-value < 0.05 was considered statistically significant. Statistical analysis was performed using IBM SPSS Statistics 30.0.

Results

The study included 190 participants, of whom 63 (33.2 %) were female and 127 (66.8 %) male with a median age of 60.45 ± 8.42 years. Men had significantly higher coronary

plaque burden as measured by SIS compared to women (4.32 ± 1.75 vs. 3.65 ± 1.90 ; $p=0.012$). Participants with hypertension had a higher SIS than those without hypertension (4.24 ± 1.79 vs. 3.74 ± 1.88 ; $p=0.036$). Additionally, there was a significant positive correlation between BMI and SIS ($r=0.177$; $p=0.015$). Overall, higher SIS values were consistently observed in patients with traditional cardiovascular risk factors.

Conclusions

Higher coronary plaque burden (SIS) was associated with male sex and hypertension, and correlated with elevated BMI. These findings indicate that traditional cardiovascular risk factors are linked not only to the grade of luminal stenosis, but also to a greater overall burden of subclinical atherosclerosis. Further studies are required to confirm these associations and to clarify their prognostic significance.

References

1. Cundari G, Marchitelli L, Pambianchi G, Catapano F, Conia L, Stancanelli G, Catalano C, Galea N. Imaging biomarkers in cardiac CT: moving beyond simple coronary anatomical assessment. *Radiol Med*. 2024 Mar;129(3):380-400.
2. Ayoub C, Erthal F, Abdelsalam MA, Murad MH, Wang Z, Erwin PJ, Hillis GS, Kritharides L, Chow BJW. Prognostic value of segment involvement score compared to other measures of coronary atherosclerosis by computed tomography: A systematic review and meta-analysis. *J Cardiovasc Comput Tomogr*. 2017 Jul-Aug;11(4):258-267.

Association between body mass index and NT-proBNP concentrations in older patients with chronic heart failure: a retrospective analysis

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Introduction

Heart failure (HF) affects millions worldwide, and NT-proBNP is a key biomarker for diagnosis and severity assessment [1,2]. Older patients with HF often have elevated body mass index (BMI), which has been associated with lower NT-proBNP levels, a phenomenon known as the “obesity paradox” [3,4]. Clinical factors such as NYHA functional class and left ventricular ejection fraction (LVEF) also influence NT-proBNP concentrations [4,5]. However, evidence on how BMI, NYHA, and LVEF relate to NT-proBNP in older HF patients remains limited. Therefore, this study aimed to explore these associations.

Aim

To examine associations between NT-proBNP concentrations and BMI, NYHA functional class, and LVEF in patients aged ≥ 65 years with chronic HF.

Methods

This retrospective study analyzed data from 215 patients aged ≥ 65 years with chronic HF. Clinical data included BMI, NT-proBNP concentrations, NYHA functional class, and LVEF. Patients were categorized into three BMI groups: normal weight (BMI 18.5–24.9 kg/m²), overweight and class I obesity (BMI 25.0–34.9 kg/m²), and class II–III obesity (BMI ≥ 35 kg/m²). Descriptive statistics summarized BMI groups and NT-proBNP. Differences in NT-proBNP levels across the three BMI categories were evaluated using the Kruskal-Wallis test. The correlation between continuous BMI and NT-proBNP was assessed using Spearman’s rank correlation. Multiple linear regression was used to assess independent effects of BMI, NYHA class, and LVEF on NT-proBNP levels. A p-value < 0.05 was considered statistically significant.

Results

Among the 215 patients, 26.3% were of normal weight, 56.8% were overweight or had class I obesity, and 16.9% had class II–III obesity. NT-proBNP levels decreased with increasing BMI: the median was 4,738 pg/mL (IQR 2,329–11,551) in normal-weight patients, 3,945 pg/mL (IQR 1,403–7,193) in the overweight/class I obesity group, and 2,379 pg/mL (IQR 1,292–7,271) in the class II–III obesity group. NT-proBNP levels differed between BMI groups (Kruskal-Wallis test, $p = 0.034$). A weak but statistically significant negative correlation was observed between continuous BMI and NT-proBNP (Spearman’s $\rho = -0.158$; $p = 0.020$), indicating that higher BMI was associated with lower NT-proBNP concentrations. A multiple linear regression model including BMI, NYHA functional class, and LVEF was statistically significant ($R^2 = 0.153$; adjusted $R^2 = 0.141$; $p < 0.001$),

explaining 15.3% of variability in NT-proBNP levels. In this model, BMI ($\beta = -0.134$, $p = 0.038$) and LVEF ($\beta = -0.332$, $p < 0.001$) were independently associated with NT-proBNP concentrations, whereas NYHA was not statistically significant ($p = 0.359$).

Conclusions

An inverse association between BMI and NT-proBNP levels was observed in older patients with chronic HF, supporting the obesity paradox. After adjustment for NYHA and LVEF, BMI remained an independent predictor of lower NT-proBNP concentrations, while LVEF showed a strong independent association with NT-proBNP levels.

References

1. Goryacheva OA, Ponomaryova TD, Drozd DD, Kokorina AA, Rusanova TY, Mishra PK, et al. Heart failure biomarkers BNP and NT-proBNP detection using optical labels. *TrAC Trends in Analytical Chemistry* 2022;146:116477. <https://doi.org/10.1016/j.trac.2021.116477>.
2. Shahim B, Kapelios CJ, Savarese G, Lund LH. Global Public Health Burden of Heart Failure: An Updated Review. *Card Fail Rev* 2023;9:e11. <https://doi.org/10.15420/cfr.2023.05>.
3. Aggrawal K, Gupta V, Singh B, Medatwal R, Singh S, Jain P, et al. Exploring the obesity parADOX: A multisystem review. *The American Journal of the Medical Sciences* 2025;370:315–20. <https://doi.org/10.1016/j.amjms.2025.07.010>.
4. Ha Manh T, Do Anh D, Le Viet T. Effect of body mass index on N-terminal pro-brain natriuretic peptide values in patients with heart failure. *Egypt Heart J* 2023;75:75. <https://doi.org/10.1186/s43044-023-00401-1>.
5. Caraballo C, Desai NR, Mulder H, Alhanti B, Wilson FP, Fiuzat M, et al. Clinical Implications of the New York Heart Association Classification. *J Am Heart Assoc* 2019;8:e014240. <https://doi.org/10.1161/JAHA.119.014240>.

SGLT2 Inhibitor Prescribing in Patients with HFpEF and HFmrEF After the 2023 ESC Guideline Update: A Retrospective Study

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Introduction

SGLT2 inhibitors have become a key component in the treatment of chronic heart failure (HF) [1]. Based on evidence from the EMPEROR-Preserved and DELIVER trials, the updated 2023 ESC guidelines expanded recommendations for SGLT2 inhibitors to patients with LVEF $\geq 41\%$, including HFmrEF and HFpEF [1,2]. However, their adoption in real-world clinical practice may be limited by patient-specific contraindications [3]. Therefore, this study focuses on patients with LVEF $\geq 41\%$, for whom SGLT2 inhibitors were newly recommended.

Aim

This study aimed to assess SGLT2 inhibitor prescribing patterns in patients with HFmrEF and HFpEF during the period following the 2023 ESC guideline update, comparing an early post-guideline phase with a later phase more than one year after implementation.

Methods

A retrospective study was conducted analyzing data from 100 patients with chronic heart failure and LVEF $\geq 41\%$ (HFmrEF and HFpEF) treated at LSMU Kaunas Hospital. In addition to prescription status, baseline data on age, sex, and LVEF were collected to describe the study population. Patients were divided into two groups based on the treatment period: September–November 2023 (early phase) and 2024–2025 (later phase). The prescription of SGLT2 inhibitors was assessed (no/yes). Statistical analysis was performed using SPSS, applying frequency analysis and the chi-square test, with a significance level set at $p < 0.05$.

Results

The two groups were similar in terms of baseline characteristics. The mean age was 77.9 years in 2023 and 80.0 years in 2024–2025, with 52% and 62% of patients being male, respectively. In 2023, 31 patients (62%) had HFmrEF and 19 (38%) had HFpEF; in 2024–2025, 28 patients (56%) had HFmrEF and 22 (44%) had HFpEF. SGLT2 inhibitors were prescribed to 84% of patients in 2023 and to 88% in 2024–2025, indicating a high baseline level of use already in the early post-guideline period. Although a slight increase was observed, the difference was not statistically significant ($\chi^2(1) = 0.083$; $p = 0.773$), suggesting stable prescribing patterns over time.

Conclusions

The 2023 ESC guideline update did not lead to a significant increase in SGLT2 inhibitor prescribing, as usage was already high shortly after publication. This suggests early and widespread adoption in clinical practice,

with non-prescription likely reflecting clinical contraindications rather than poor guideline adherence.

References

1. 2023 Focused Update of the 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure n.d.
2. McDonagh TA, Metra M, Adamo M, Gardner RS, Baumbach A, Böhm M, et al. 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure: Developed by the Task Force for the diagnosis and treatment of acute and chronic heart failure of the European Society of Cardiology (ESC) With the special contribution of the Heart Failure Association (HFA) of the ESC. *Eur Heart J* 2021;42:3599–726. <https://doi.org/10.1093/eurheartj/ehab368>.
3. Padda IS, Mahtani AU, Parmar M. Sodium-Glucose Transport 2 (SGLT2) Inhibitors. StatPearls, Treasure Island (FL): StatPearls Publishing; 2025.

Safety and Efficacy of Percutaneous Patent Foramen Ovale Closure in Individuals Who Have Experienced an Acute Cerebrovascular Event

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Introduction

A patent foramen ovale (PFO) is a congenital heart defect that occurs when the fetal blood shunt does not close completely after birth [1]. It is found in approximately 25% of the general population [2,3]. In most cases, this defect does not cause significant symptoms in patients, but it is associated with a higher incidence of acute cerebrovascular events (ACE) [4,5]. According to the Society for Cardiovascular Angiography and Interventions guidelines, transcatheter PFO closure is recommended for selected patients aged 18–60 years with confirmed PFO after cryptogenic stroke, when no other cause of cerebrovascular events is identified, rather than pharmacological therapy alone [6].

Aim

To evaluate the safety of transcatheter closure of PFO procedure and its efficacy in reducing the risk of recurrent ACE and improving patients' quality of life.

Methods

This retrospective study examined the medical data of patients at Kaunas Clinics of the Lithuanian University of Health Sciences (LSMUL KK) who had experienced ACE and were subsequently treated with transcatheter closure of PFO. The analysis included 57 patients treated at LSMUL KK between 2020 and 2025. The follow up was 6 months after the procedure. Data analysed: echocardiography before the procedure and during the follow up, records of procedures, medical history regarding ACE and comorbidities. Statistical data analysis was performed using IBM SPSS Statistics 30.0 software. Differences were considered statistically significant when $p < 0.05$.

Results

All patients had experienced prior ACE with a mean risk of paradoxical embolism score of 5.37 ± 1.5 and an estimated risk of recurrent cerebrovascular events of $9.1 \pm 4.4\%$. The defect size measured during transesophageal echocardiography was 8.1 ± 4.65 mm. After the procedures all patients had no residual shunt. There was 1 intraprocedural

complication (1.8%) and 2 (3.5%) that occurred during the hospital stay. During the first 6 months after the intervention, 3 adverse events (5.4%) were recorded, all of which were pulmonary embolisms and there were no ACEs during the same time. No statistically significant differences ($p>0.05$) were found in gender, age, procedure time, or defect size regarding the occurrence of complications. No statistically significant differences ($p>0.05$) were found comparing symptoms before and after the intervention. There was a significant difference in reduction of systolic pulmonary artery pressure and the diameter of the pulmonary artery when compared before and after the procedure, ($p=0.002$), ($p=0.006$) respectively.

Conclusions

During the follow up there were no ACEs and considering the number of complications, the closure of a PFO is an effective and safe procedure to reduce the risk for future ACEs. The closure of a PFO statistically significantly effective in reducing systolic pulmonary artery pressure and decreasing its diameter, which shows a reduced strain on the right ventricle.

References

1. Hampton T, Alsaleem M, Murphy-Lavoie HM. Patent Foramen Ovale [Internet]. PubMed. Treasure Island (FL): StatPearls Publishing; 2020 [cited 2026 Jan 25].
2. Chen X, Fang J, Yang Q, Liu L. Predictors of recurrent ischemic stroke: anatomical characteristics of patent foramen ovale. *Front Cardiovasc Med*. 2025 Nov 14;12:1658804.
3. Lanzone AM, Boldi E, Della Pina P, Silvestro A, Continisio S, Biondi-Zoccai G. Effectiveness and safety of MemoPart for patent foramen ovale closure in real-world patients. *Minerva Med* [Internet]. 2025 Dec [cited 2025 Dec 15];
4. Zubizarreta CAS, Sinnott M, Rizvi Z, Sanchez R, Labrada A, Zubizarreta CAS, et al. Posterior Circulation Stroke in a Patient With May-Thurner Syndrome and Patent Foramen Ovale: A Case of Paradoxical Embolism. *Cureus* [Internet]. 2025 Oct 31 [cited 2025 Dec 15];17(10).
5. Li W, Zhang J, Zhang Y, Shentu W, Yan S, Chen Q, et al. Clinical research progress on pathogenesis and treatment of Patent Foramen Ovale-associated stroke. *Front Neurol* [Internet]. 2025 [cited 2025 Dec 15];16.
6. Kavinsky CJ, Szerlip M, Goldsweig AM, Amin Z, Boudoulas KD, Carroll JD, et al. SCAI Guidelines for the Management of Patent Foramen Ovale. *Journal of the Society for Cardiovascular Angiography & Interventions* [Internet]. 2022 Jul 1 [cited 2025 Dec 15];1(4).

Computed Tomography-Derived Ascending Aortic Elongation as a Marker of Genetically Mediated Thoracic Aortic Aneurysm

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Introduction

Thoracic aortic aneurysm (TAA) includes both degenerative and genetically mediated forms associated with pathogenic variants in connective tissue-related genes. Although maximal aortic diameter guides clinical decision-making, it does not fully reflect aortic remodeling. Transthoracic echocardiography (TTE) is essential for routine assessment, while computed tomography (CT) enables complementary geometric evaluation. In this context, CT-derived ascending aortic elongation has emerged as a potential marker of early aortic remodeling, particularly in genetically mediated aortopathies.

Aim

To evaluate the relevance of CT-derived ascending aortic elongation in patients with TAA and to assess its association with echocardiographic aortic dimensions and the presence of pathogenic genetic variants.

Methods

This retrospective observational study

included 56 patients with TAA who underwent targeted genetic testing according to European Society of Cardiology guidelines, as well as TTE and CT imaging. Ascending aortic elongation was measured on CT from the aortic valve plane and the sinuses of Valsalva and indexed to body surface area (BSA). Echocardiographic assessment included aortic dimensions and left ventricular (LV) structure and function. Associations were analysed using Spearman correlation and the Mann–Whitney U test.

Results

The study population consisted of 41 males and 15 females, with a mean age of 52.7 ± 16.1 years (range 20–79). Pathogenic genetic variants were identified in 25 patients (45%). CT-based aortic elongation measurements were available in 36 patients. Mean ascending aortic elongation measured from the aortic valve plane was 10.6 ± 1.8 cm, while median elongation measured from the sinuses of Valsalva was 8.5 cm (IQR 3.2 cm). Elongation measured from the valve plane correlated positively with aortic annulus diameter ($r = 0.392$, $p = 0.024$) and ascending aorta diameter ($r = 0.640$, $p < 0.001$), whereas elongation measured from the sinuses correlated positively with ascending aorta diameter ($r = 0.491$, $p = 0.004$). Patients with pathogenic genetic variants demonstrated significantly greater elongation measured from the sinuses compared with mutation-negative patients (median 9.1 vs 7.8 cm, $p = 0.033$), which remained significant after indexing to BSA (median 4.9 vs 3.7 cm/m², $p = 0.004$). No associations were observed between aortic elongation and LV dimensions, systolic function, or aortic valve hemodynamic parameters (all $p > 0.05$).

Conclusions

In patients with TAA, CT-derived ascending aortic elongation is positively associated with aortic size and the presence of pathogenic genetic variants, independent of body size and cardiac function. These findings suggest that aortic elongation may represent a morphological feature of genetically mediated aortic disease and may complement diameter-based assessment, although further studies are required.

References

1. Vianna EC, Cikach F, et al. Aortic diameter is a poor predictor of aortic tissue failure metrics in patients with ascending aneurysms. *J Thorac Cardiovasc Surg*. 2024;167(6):2049–2059.e2.
2. Kalogerakos P, Pirentis A, et al. Significant unfavorable geometrical changes in ascending aorta despite stable diameter at follow-up. *Hellenic J Cardiol*. 2024;80:55–63.
3. Lucia Mazzolai, Gisela Teixido-Tura, et al. 2024 ESC Guidelines for the management of peripheral arterial and aortic diseases. *Eur Heart J*. 2024;45(36):3538–3700.

Adherence to Lifestyle and Pharmacological Recommendations Among Patients After Acute Coronary Syndrome: Insight from EUROASPIRE VI

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Introduction

Cardiovascular diseases account for over half of all deaths in Lithuania, representing one of the highest proportions in the European Union [1]. Acute coronary syndrome (ACS) is associated with a high risk of recurrent cardiovascular events [2]. Although European guidelines strongly emphasize lifestyle modification and pharmacological therapy for secondary prevention, real-world adherence—particularly to lifestyle recommendations—remains suboptimal and represents a major barrier to effective risk reduction [3].

Aim

To evaluate adherence to lifestyle and pharmacological recommendations after ACS and to assess whether physician advice was associated with patients' subsequent efforts to modify lifestyle behaviours.

Methods

This cross-sectional study included 160 patients (mean age 62.7 ± 9.0 years) assessed 6–12 months after ACS within a EUROASPIRE-based framework. Physical activity was assessed using weekly metabolic equivalent minutes (MET-min/week); adequate activity was defined as ≥ 600 MET-min/week. Lifestyle adherence analyses were limited to patients who reported receiving relevant recommendations. Smoking analyses included patients who smoked at the index event. Weight loss analyses were limited to patients with body mass index (BMI) ≥ 25 kg/m², with additional stratification by BMI 25–30 and ≥ 30 kg/m². Pharmacological therapy at discharge and current use were recorded. Chi-square or Fisher's exact tests were applied ($p < 0.05$).

Results

The mean age 62.7 ± 9.0 years. Among patients who reported receiving advice to increase activity ($n = 99$), 56.6% reported adherence, while 80.8% met the objectively defined minimum physical activity threshold. Among patients with insufficient activity and available recommendation data, 26.3% reported behavioural modification following advice. At

the index event, 57 patients were smokers; among those advised to quit ($n = 44$), 40.9% achieved smoking cessation at follow-up. BMI ≥ 25 kg/m² was present in 74.4% of patients. Among those who received weight reduction advice, 50.0% of overweight (BMI 25–30 kg/m²) and 40.0% of obese patients (BMI ≥ 30 kg/m²) attempted weight loss. Overall, physician advice was not consistently associated with behavioural changes, whereas adherence to pharmacological secondary prevention was consistently high.

Conclusions

Despite high adherence to pharmacological therapy (>85% for most drug classes), lifestyle modification remained limited after ACS. Among advised patients, only 26.3% of insufficiently active individuals improved physical activity and 40.9% of smokers achieved cessation at follow-up. These findings suggest that physician advice alone may be insufficient to achieve sustained behavioural change and underscore the need for structured, long-term strategies to improve secondary prevention outcomes.

References

1. Eurostat. Causes of death statistics – diseases of the circulatory system [Internet]. Luxembourg: Statistical Office of the European Union; 2022 [cited 2025 Jan 10].
2. Visseren FLJ, Mach F, Smulders YM, et al. 2021 ESC Guidelines on cardiovascular disease prevention in clinical practice. *Eur Heart J*. 2021;42(34):3227–3337.
3. De Bacquer D, Astin F, Kotseva K, et al. Poor adherence to lifestyle recommendations in patients with coronary heart disease: results from the EUROASPIRE surveys. *Eur J Prev Cardiol*. 2021;28(16):1766–1775.

Vimentin and Endocan Association with the Presence and Severity of Coronary Atherosclerosis Assessed by Coronary Imaging

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Introduction

Atherosclerosis is driven by endothelial dysfunction and chronic vascular inflammation [1,2]. Consequently, circulating biomarkers of endothelial injury have gained increasing interest. Vimentin has been linked to coronary artery disease (CAD) severity and atherogenesis through pro-inflammatory mechanisms [3], while endocan is considered a marker of endothelial dysfunction [4].

Aim

To evaluate the association of circulating vimentin and endocan concentrations with the presence and severity of coronary atherosclerosis assessed by coronary imaging.

Methods

This cross-sectional study included 248 patients undergoing coronary computed tomography angiography and/or invasive coronary angiography. Coronary atherosclerosis was defined as CAD-RADS ≥ 1 on computed tomography, segment stenosis score (SSS) ≥ 1 , or angiographic coronary stenosis $\geq 50\%$. Disease severity was assessed using CAD-RADS categories, SSS, and angiographic stenosis degree. Patients were classified according to the presence or absence of atherosclerosis. Serum vimentin and endocan concentrations, together with selected inflammatory markers, were measured. Due to non-normal data distribution, nonparametric tests and Spearman correlation analysis were applied.

Results

Mean age was 52.3 ± 10.7 years; 54.4% were male. Vimentin concentrations were significantly higher in patients with atherosclerosis than in those without ($p=0.014$). Vimentin correlated positively

with SSS ($r=0.358$, $p=0.002$) and CAD-RADS severity ($r=0.320$, $p=0.006$) and increased across SSS categories ($p=0.015$). Patients with $\geq 50\%$ stenosis on invasive angiography had higher vimentin levels than those with $<50\%$ stenosis ($p=0.027$). Endocan concentrations showed no significant associations with the presence or severity of atherosclerosis ($p=0.743$). Vimentin also correlated with selected inflammatory markers (all $p<0.05$).

Conclusions

Vimentin, but not endocan, is associated with both the presence and severity of coronary atherosclerosis assessed by imaging. These findings suggest that vimentin may reflect structural coronary atherosclerotic burden, whereas endocan does not appear to be a marker of stenosis severity.

References

1. Gimbrone MA Jr, García-Cardena G, Endemann DH, et al. Endothelial cell dysfunction and the pathobiology of atherosclerosis. *Circ Res*. 2016;118(4):620–636.
2. Libby P, Hansson GK. Inflammation and immunity in diseases of the arterial tree. *Circ Res*. 2015;116(2):307–311.
3. Gong DH, Dai Y, Chen S, et al. Secretory vimentin is associated with coronary artery disease and promotes atherogenesis. *Int J Cardiol*. 2019; 283:9 – 16.
4. Chen J, Jiang L, Yu X, et al. Endocan: a key player of cardiovascular disease. *Front Cardiovasc Med*. 2022; 9:798699.

Endocrinology & Genetics | Case Report

Abstracts

Use of Oral Urea in Hyponatremia Caused by the Syndrome of Inappropriate Antidiuretic Hormone Secretion: A Case Report

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Introduction

Syndrome of inappropriate antidiuretic hormone (ADH) secretion (SIADH) is characterized by excessive ADH activity, impaired water excretion, euvolemic hyponatremia, concentrated urine [1]. Most common causes: malignancy, CNS disorders, medications, postoperative states, head trauma [2,3]. SIADH is frequently diagnosed, yet effective correction of hyponatremia is often difficult.

Case Presentation

A 62-year-old man was admitted after a seizure during cranial CT in April 2025. Anamnesis: left nephrectomy due to renal cell carcinoma (RCC) was performed in December 2024. Initial laboratory tests – hyponatremia (127 mmol/L). Brain MRI showed a left occipital lobe metastasis, which was resected and histologically confirmed as RCC metastasis. After surgery, severe chronic hyponatremia persisted (115–122 mmol/L). Further endocrinological evaluation: hyponatremia (116 mmol/L), low serum osmolality (254 mOsm/kg), high urine osmolality (614 mOsm/kg), and elevated urine sodium (86 mmol/L), consistent with SIADH, most likely related to malignancy or recent neurosurgery. Hyponatremia was managed by a multidisciplinary team. Potentially causative medications were discontinued, fluid restriction, hypertonic saline and furosemide 20 mg/day were initiated without adequate response. SGLT2 inhibitors were discontinued due to a generalized pruritic rash. An oral urea formulation prepared by the LSMU pharmacy was administered (30 g in the morning and 15 g in the evening), representing the first use of urea for SIADH treatment at Kauno Klinikos. Serum sodium increased to 126 mmol/L. Target sodium range was defined as 120–129 mmol/L and the patient was discharged for outpatient follow-up on the same treatment.

Discussion

SIADH treatment includes fluid restriction, hypertonic saline or sodium supplementation in symptomatic patients, and loop diuretics [1]. Oral urea has re-emerged as an effective, safe, and cost-efficient option for chronic or refractory SIADH. Yet it is limited by uncertain long-term outcomes and side effects such as allergic reactions [4, 5], while SGLT2 inhibitors represent an adjunctive option with limited evidence [6].

Conclusions

In this case SIADH management was challenging and required a multidisciplinary approach. Oral urea was effective and could

be considered as an alternative treatment for hyponatremia caused by SIADH.

References

1. Mentrasti G, Scortichini L, Torniai M, Giampieri R, Morgese F, Rinaldi S, et al. Syndrome of Inappropriate Antidiuretic Hormone Secretion (SIADH): Optimal Management. *Ther Clin Risk Manag.* 2020 Jul 24;16:663-672.
2. Verbalis JG, Greenberg A, Burst V, et al. Diagnosing and treating the syndrome of inappropriate antidiuretic hormone secretion. *Am J Med.* 2016;129(5):537.e9-553.e23.
3. Cuesta M, Garrahy A, Slattery D, et al. The contribution of undiagnosed adrenal insufficiency to euvoaemic hyponatraemia: results of a large prospective single-centre study. *Clin Endocrinol (Oxf).* 2016;85(6):836-844.
4. Perelló-Camacho E, Pomares-Gómez FJ, López-Penabad L, Mirete-López RM, Pinedo-Esteban MR, Domínguez-Escribano JR. Clinical efficacy of urea treatment in syndrome of inappropriate antidiuretic hormone secretion. *Sci Rep.* 2022 Jun 17;12(1):10266.
5. Wendt R, Fenves AZ, Geisler BP. Use of Urea for the Syndrome of Inappropriate Secretion of Antidiuretic Hormone: A Systematic Review. *JAMA Netw Open.* 2023 Oct 2;6(10):e2340313.
6. Bioletto F, Varaldo E, Prencipe N, Benso A, Berton AM. Long-term efficacy of empagliflozin as an add-on treatment for chronic SIAD: a case report and literature review. *Hormones (Athens).* 2023 Jun;22(2):343-347.

Giant Sphenoid Sinus Pyoceles Mimicking Pituitary Macroadenoma With Secondary Adrenal Insufficiency

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Introduction

Sphenoid sinus mucocèles/pyocèles are uncommon but can mimic sellar tumors and present with headache, visual deficits, and pituitary dysfunction.

Case Presentation

A 58-year-old woman with Graves' disease (on methimazole), hypertension, and paroxysmal atrial fibrillation presented after 4 days of progressive headache and high blood pressure (up to 162/85 mmHg). Head computed tomography (CT) showed a 4.4 × 2.8 × 3.0 cm sellar/parasellar mass with bony remodeling, suspicious for a pituitary macroadenoma. On admission, endocrine testing revealed secondary adrenal insufficiency and hydrocortisone was started. Two days later, neuro-ophthalmologic examination and visual field testing were normal, but after another two days she developed acute left visual impairment with mydriasis. Sellar magnetic resonance imaging (MRI) demonstrated a 3.9 × 4.7 × 3.1 cm T1-hyperintense expansile lesion arising from the left sphenoid sinus with bony dehiscence, sellar displacement, and optic canal narrowing; no pituitary adenoma was seen. After review by ear, nose and throat specialists (ENT) and neurosurgeons, urgent endoscopic endonasal sphenoidectomy with drainage of purulent material was performed the following day, followed by antibiotics and steroid coverage. The patient stabilized and was discharged with scheduled follow-up in otorhinolaryngology and endocrinology.

Discussion

This case highlights a key diagnostic pitfall: a giant sphenoid sinus pyocèle can clinically and radiologically mimic a pituitary macroadenoma, causing headache, apparent sellar mass effect on CT, and even optic pathway compromise. Importantly, mucocèles may also produce pituitary stalk/sellar compression, leading to hypopituitarism. MRI is critical to identify the true sinus origin, distinguish pituitary displacement from a pituitary tumor, and guide urgent endoscopic decompression.

Conclusions

Sphenoid sinus mucocèles/pyocèles should be included in the differential diagnosis of sellar masses. They may cause pituitary dysfunction, including secondary adrenal insufficiency, so endocrine evaluation and timely steroid replacement are essential. MRI confirmation of lesion origin and prompt

endoscopic decompression are key to preventing irreversible visual and endocrine complications.

References

1. Salehi PP, Chithiwala Z, Balough B. Atypical presentation of a sphenoid sinus mucocele: vision loss, partial hypopituitarism, adrenal insufficiency and SIADH. *B-ENT*. 2017;13(4):327–334.
2. Gozgec E, Ogul H. Unusual Cause of Hypopituitarism: Sphenoid Mucocele. *J Craniofac Surg*. 2020;31(4):e399–e400. doi:10.1097/SCS.00000000000006381.
3. Kennedy DW. Endoscopic sinus surgery for mucoceles: a viable alternative. *Otolaryngol Head Neck Surg*. 1989.
4. Har-El G. Endoscopic management of 108 sinus mucoceles. *Otolaryngol Head Neck Surg*. 2001.

Craniopharyngioma Presenting During Pregnancy with Acute Vision Loss: A Case Report

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Introduction

Craniopharyngioma (CP) is a rare benign (non-cancerous) Rathke's pouch tumor causing morbidity via optic chiasm and hypothalamic-pituitary compression [1,2].

Case Presentation

A 33-year-old woman at 15 weeks' gestation presented with rapid visual field deficits to the Emergency Department of the Hospital of Lithuanian University of Health Sciences Kaunas Clinics on 2025-05-08. Medical history revealed left-eye amblyopia, treated with occlusion therapy. A left-eye central scotoma manifested in November 2024 and resulted in vision loss by February 2025, followed by right-eye visual deficit. A non-contrast brain MRI on 2025-05-09 revealed a ~37x33x24 mm intra-/supra-/retrosellar mass with pronounced optic chiasm compression (OCC), indicative of CP. The patient was admitted to the Endocrinology Department for hormonal evaluation. Transsphenoidal tumor resection was performed on 2025-05-15. Postoperative MRI suggested complete tumor resection. Visual function improved, and histopathology confirmed a CP CNS WHO grade I, with 2/10 HPF mitoses and Ki-67 labeling index of 8%. Postoperative hypopituitarism required replacement therapy with desmopressin (60 mcg, single dose → 180 mcg/d), hydrocortisone (80 mg/d → 30 mg/d), levothyroxine (50 mcg/d). At 35 weeks' gestation, an MRI showed cystic recurrence causing bitemporal hemianopia. A multidisciplinary team decision led to a cesarean delivery at 36 weeks' gestation (Apgar 9/10), followed by stereotactic cyst aspiration, resulting in temporary vision recovery. With BRAF mutation negative and recurrent cysts causing visual deficits, fractionated stereotactic radiosurgery using Gamma Knife (27,5 Gy/5 fx) was performed in December 2025. Significant shrinkage of the cyst on MRI one month later, along with visual field improvement, was observed.

Discussion

CP usually manifests as visual disturbances during adulthood [1,5]. Visual decline might be accelerated by physiological pituitary hypertrophy during pregnancy as it exacerbates OCC [3,4]. MRI without contrast is a standard diagnostic method in pregnant women [1,3,6]. Early operative decompression in cases of visual compromise is linked to favorable visual prognosis [5,7].

Conclusions

Pregnancy may accelerate CP growth. Prompt diagnosis and multidisciplinary care preserve vision and outcomes.

References

1. Müller HL, Merchant TE, Warmuth-Metz M, Martinez-Barbera JP, Puget S. Craniopharyngioma. *Nat Rev Dis Primers*. 2019 Dec 1;5(1).
2. Erfurth EM. Craniopharyngioma—An update on metabolic and cognitive complications and new therapy. *J Intern Med*. 2023 Sep 1;294(3):269–80.
3. Tleubergenov MA, Zhamoldin DK, Baymukhanov DS, Omarova AS, Ryskeldiyev NA, Doskaliyev A, et al. Brain Tumors in Pregnancy: A Review of Pathophysiology, Clinical Management, and Ethical Dilemmas. *Cancers* 2025, Vol 17. 2025 Nov 30;17(23).
4. Karaca Z, Tanriverdi F, Unluhizarci K, Kelestimur F. Pregnancy and pituitary disorders. *Eur J Endocrinol*. 2010 Mar 1;162(3):453–75.
5. Müller HL. Craniopharyngioma. *Endocr Rev*. 2014;35(3):513–43.
6. Ray JG, Vermeulen MJ, Bharatha A, Montanera WJ, Park AL. Association Between MRI Exposure During Pregnancy and Fetal and Childhood Outcomes. *JAMA*. 2016 Sep 6; 316(9):952–61.
7. Stefko ST, Snyderman C, Fernandez-Miranda J, Tyler-Kabara E, Wang E, Bodily L, et al. Visual Outcomes after Endoscopic Endonasal Approach for Craniopharyngioma: The Pittsburgh Experience. *J Neurol Surg B Skull Base*. 2016 Aug 1;77(4):326.

Recurrent Cushing's Disease Despite Multimodal Therapy: An Eight-Year Follow-Up Case Analysis

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Introduction

Cushing's disease (CD) is a rare condition, affecting roughly 1–2 individuals per million annually, and accounts for about 70% of endogenous Cushing's syndrome cases [1]. Since persistent cortisol excess causes serious metabolic, cardiovascular, and skeletal problems, long-term management requires a multidisciplinary approach and combinations of surgery, radiotherapy, radiosurgery, and medical therapy [2]. For patients with recurrent or uncontrolled CD, osilodrostat has emerged as an important therapeutic option [3, 4].

Case Presentation

A 59 y.o. male was diagnosed with ACTH-dependent CD in 2017. Initial transsphenoidal adenectomy achieved only partial control, with early evidence of residual tumor. Over time, the patient underwent fractionated radiotherapy and 3 Gamma Knife procedures due to repeated tumor progression with cavernous sinus invasion. Pasireotide, metyrapone, and osilodrostat were used as part of his medical treatment. Throughout the disease's course, the patient developed systemic complications (e.g. deep leg vein thrombosis and pulmonary thromboembolism, caused by prolonged hypercortisolism). Treatment-induced complications were hypopituitarism, adrenal insufficiency, oculomotor nerve damage, and left eye ptosis. Biochemical control was eventually achieved on osilodrostat.

Discussion

The course of this patient reflects the known challenges of recurrent CD, particularly in cases of invasive adenomas, which often respond incompletely to surgery and radiotherapy [2, 5]. Radiosurgery may provide additional control, but multiple treatments are sometimes required due to residual disease or recurrence [2]. Osilodrostat has demonstrated meaningful reductions in cortisol and sustained disease control in patients with persistent CD [6].

Conclusions

Recurrent CD requires individualized, long-term multidisciplinary care. Early recognition of aggressive tumor behavior and timely use of effective medical and surgical

therapies may improve outcomes.

References

1. Tritos NA, Biller BMK. Current management of Cushing's disease. *J Intern Med.* 2019;286(5):526-41.
2. Gao Y, Wang M, Wu Y, Deng H, Xu Y, Ren Y, et al. Gamma Knife radiosurgery for Cushing's disease: evaluation of biological effective dose from a single-center experience. *J Clin Med.* 2023;12(4):1288.
3. Pivonello R, Fleseriu M, Newell-Price J, Bertagna X, Findling J, Shimatsu A, et al. Efficacy and safety of osilodrostat in patients with Cushing's disease (LINC 3): a multicentre phase III study with a double-blind, randomised withdrawal phase. *Lancet Diabetes Endocrinol.* 2020;8(9):748-761.
4. Rasool S, Skinner BW. Osilodrostat for the treatment of Cushing's disease. *Expert Opin Pharmacother.* 2021;22(9):1099-1106.
5. Fleseriu M, Auchus R, Bancos I, Ben-Shlomo A, Bertherat J, Biermasz NR, et al. Consensus on diagnosis and management of Cushing's disease: a guideline update. *Lancet Diabetes Endocrinol.* 2021;9(12):847-875.
6. Gadelha M, Snyder PJ, Witek P, Bex M, Belaya Z, Turcu AF, et al. Long-term efficacy and safety of osilodrostat in patients with Cushing's disease: results from the LINC 4 study extension. *Front Endocrinol.* 2023;14:1236465.

Paget's Disease of Bone: A Case Report

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Introduction

Paget's disease of bone (PDB) is characterized by focal regions of increased osteoclastic bone resorption, associated with augmented yet structurally disorganized bone formation [1].

Case Presentation

A 71-year-old male presented with complaints of right knee and calf aching pain. During physical examination, the right knee area was swollen, with mild tenderness on palpation. Range of motion was severely limited due to pain. The patient's medical history revealed a diagnosis of Parkinson's disease, CKD, AH, HF, cardiomyopathy, AF, GERD, cardiac pacemaker and hypothyroidism due to Hashimoto's thyroiditis. During hospital visits, laboratory and radiological examinations were performed, which showed elevated serum alkaline phosphatase; bilateral knee x-ray, CT scan and MRI of the right lower leg suspected a bone lesion, with no bone fracture identified, and the patient was referred for further evaluation. A biopsy was performed and Paget's disease was diagnosed. DEXA scan showed decreased bone density; no active lesions were observed on pelvic, cranial and spine X-rays. A single intravenous infusion of zoledronic acid accompanied by IV fluid therapy was prescribed for the patient due to active disease. Vitamin D and calcium prophylaxis, physical activity, and continued disease monitoring were advised.

Discussion

PDB is generally considered to be a rare disease. The global prevalence of PDB is from 1.5% to 8.3% [2]. It begins with increased osteoclast-driven bone breakdown, followed by irregular and excessive bone formation by osteoblasts. On genetic level, the key risk gene is SQSTM1, encoding the osteoclast regulator p62 [3]. PDB most commonly affects older adults, with frequent involvement of the pelvis, spine, femur, tibia, and skull. Many patients are asymptomatic and diagnosed through elevated alkaline phosphatase, typical imaging findings and confirmed by biopsy [4]. Treatment with zoledronate allows better control of disease over the long term with a single infusion and has contributed to an improvement in the clinical management of this invalidating disorder [5].

Conclusions

Early recognition of PDB, confirmed through targeted imaging and biopsy, allows effective treatment with a single zoledronic acid infusion and appropriate supplementation, leading to improved disease control and reduced risk of complications.

References

1. Ralston SH. Latest developments in Paget's disease of bone. *Eur J Endocrinol*. 2025 Sep 30;193(4):R43-R49. doi: 10.1093/ejendo/lvaf202.
2. Banaganapalli B, Fallatah I, Alsubhi F, Shetty PJ, Awan Z, Elango R, Shaik NA. Paget's disease: a review of the epidemiology, etiology, genetics, and treatment. *Front Genet*. 2023 Apr 26;14:1131182. doi: 10.3389/fgene.2023.1131182.
3. Ralston SH, Corral-Gudino L, Cooper C, Francis RM, Fraser WD, Gennari L, Guañabens N, Javaid MK, Layfield R, O'Neill TW, Russell RGG, Stone MD, Simpson K, Wilkinson D, Wills R, Zillikens MC, Tuck SP. Diagnosis and Management of Paget's Disease of Bone in Adults: A Clinical Guideline. *J Bone Miner Res*. 2019 Apr;34(4):579-604. doi: 10.1002/jbmr.3657.
4. Kravets I. Paget's Disease of Bone: Diagnosis and Treatment. *Am J Med*. 2018 Nov;131(11):1298-1303. doi: 10.1016/j.amjmed.2018.04.028.
5. Merlotti D, Rendina D, Cavati G, Abate V, Falchetti A, Mingiano C, Nuti R, Gennari L. Drug treatment strategies for paget's disease: relieving pain and preventing progression. *Expert Opin Pharmacother*. 2023 Apr;24(6):715-727. doi: 10.1080/14656566.2023.2196011.

Clinical Case: Familial Partial Lipodystrophy

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Introduction

Lipodystrophy syndromes are a heterogeneous group of diseases, where the primary defect is the loss of functional adipocytes. This leads to ectopic steatosis, severe dyslipidemia, and insulin resistance [1,2].

Case Presentation

A 34-year-old woman with type 1 diabetes, hypertriglyceridemia, polycystic ovary syndrome (PCOS), and arterial hypertension (HTN) was hospitalized in the Endocrinology Department of LSMU Kaunas Clinics due to poorly controlled glycemia. At admission, she was at 18 weeks of gestation (gravida III, para II). Family history was significant for diabetes, affecting the patient's brother, sister, and both grandmothers. Due to suspected genetically inherited diabetes, the patient was sent for genetic consultation. Conclusion of the Genetic Evaluation: Peroxisome Proliferator-Activated Receptor Gamma (PPARG) gene mutation causing familial partial lipodystrophy (FPLD3). Following a multidisciplinary team meeting, leptin therapy was not indicated during pregnancy. Furthermore, amniocentesis revealed a PPARG gene mutation. The patient's brother and sister were referred for genetic consultation, as both have symptoms characteristic of FPLD3. A 32-year-old brother has HTN, hypertriglyceridemia, and type 2 diabetes. 36-year-old sister - HTN, unspecified diabetes with insulin resistance, hypertriglyceridemia with need for plasmapheresis, suspected of PCOS. Conclusion of the Genetic Evaluation: PPARG gene mutation.

Discussion

FPLD3 is the most common form and is usually an autosomal dominant Mendelian disorder. It has been estimated that their global prevalence is 1.7–2.8 cases per million for FPLD3 [2]. The main symptoms are hypertriglyceridemia, diabetes, HTN, PCOS, and liver steatosis [3]. No well-defined diagnostic criteria have been established for lipodystrophy. Thus, its diagnosis is based on medical history, physical examination, body composition, and the evaluation of metabolic complications [2]. Treatment focuses on intensive management of metabolic complications. Leptin replacement therapy with metreleptin is indicated in FPLD3 patients with severe metabolic complications and low leptin levels [4].

Conclusions

Familial partial lipodystrophy is a very rare disease [1-4]. This clinical case highlights the importance of thoroughly evaluating not only the patient but also at-risk family members.



References

1. Akinci B, Gular MC, Oral EA. Lipodystrophy Syndromes: Presentation and Treatment. 2024 Aug 21
2. Fernández-Pombo A, Sánchez-Iglesias S, Cobelo-Gómez S, Hermida-Ameijeiras Á, Araújo-Vilar D. Familial partial lipodystrophy syndromes. Presse Med [Internet]. 2021 Nov 1;50(3):104071.
3. Soares RMV, da Silva MA, Campos JTA de M, Lima JG. Familial partial lipodystrophy resulting from loss-of-function PPAR γ pathogenic variants: phenotypic, clinical, and genetic features. Vol. 15, Frontiers in Endocrinology. Frontiers Media SA; 2024.
4. Kountouri A, Korakas E, Maratou E, Ikonomidis I, Balampanis K, Liatis S, et al. Familial Partial Lipodystrophy: Clinical Features, Genetics and Treatment in a Greek Referral Center. Int J Mol Sci. 2023 Aug 1;24(15).

A Rare Case of Persistent Amenorrhea and Hormonal Imbalance in a Young Woman Presenting for Fertility Assessment

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Introduction

Congenital hypogonadotropic hypogonadism (CHH) is a rare disorder caused by impaired gonadotropin-releasing hormone (GnRH) secretion, leading to absent puberty and infertility. Early recognition allows timely pubertal induction and prevents long-term complications [1].

Case Presentation

The 23-year-old woman was referred to an endocrinologist for diagnosis clarification and fertility evaluation. Her medical history revealed delayed puberty and primary amenorrhea due to hypogonadotropic hypogonadism, with low follicle-stimulating hormone (FSH), low estradiol (E2), and elevated thyroid-stimulating hormone (TSH), alongside subclinical hypothyroidism. Gynecological assessment showed a hypoplastic uterus and small ovaries. Estrogen replacement therapy was initiated at 16 years of age to correct hormone deficiency and support pubertal progression, promoting breast maturation from Tanner B2P2 to B5 and onset of menses before age 18. Persistent amenorrhea was subsequently managed with cyclic estradiol and norethisterone therapy. Further evaluation confirmed a normal female 46,XX karyotype, a normal pituitary MRI, and excluded Fragile X messenger ribonucleoprotein 1 (FMR1)-related pathology. Genetic testing identified compound heterozygous variants in the gonadotropin-releasing hormone receptor (GNRHR) gene (c.416G>A and c.317A>G), confirming CHH. Estradiol and norethisterone therapy was continued under endocrinology and gynecology care

Discussion

CHH is a rare disorder (~1 in 10,000 births), affecting 20–25% of cases in females, and can involve pathogenic GNRHR variants (~3%), as seen in our patient [1–3]. Females present with amenorrhea and incomplete secondary sexual characteristics, with preserved growth [2]. Pubertal induction with sex hormones supports pubertal, bone and psychosocial health [4]. Infertility results from GnRH deficiency causing chronic anovulation, which can be managed with hormonal induction, pulsatile GnRH, exogenous gonadotropins, or assisted reproductive technologies such as IVF (in vitro fertilization) or ICSI (intracytoplasmic sperm injection) [1,5].

Conclusions

This case highlights the importance of early diagnosis, genetic confirmation, and multidisciplinary management to optimize developmental and reproductive outcomes in

CHH.

References

1. Correa FDA, Habibi I, Zhai J, et al. Pleiotropic genes linking congenital hypogonadotropic hypogonadism and cleft lip/palate: evidence from a genomic CHH cohort study. *Eur J Hum Genet.* 2026. <https://doi.org/10.1038/s41431-025-02005-6>
2. Young J, Xu C, Papadakis GE, Acierno JS, Maione L, Hietamäki J, et al. Clinical management of congenital hypogonadotropic hypogonadism. *Endocr Rev.* 2019;40(2):669–710.
3. Poch A, Dougherty MP, Roman RA, Chorich L, Hawkins Z, Kim SH, Kim HG, Layman LC. Prevalence of pathogenic variants and digenic disease in patients diagnosed with normosmic hypogonadotropic hypogonadism/Kallmann syndrome. *Mol Cell Endocrinol.* 2024;589:112224. doi:10.1016/j.mce.2024.112224
4. Klein DA, Emerick JE, Sylvester JE, Vogt KS. Disorders of puberty: an approach to diagnosis and management. *Am Fam Physician.* 2017;96(9):590–599. PMID: 29094880.
5. Xu W, Li R, Qiao J. ART outcomes in women with isolated hypogonadotropic hypogonadism. *BMC Pregnancy Childbirth.* 2023;23:255. doi:10.1186/s12884-023-05570-5

Second Known Case of Combination of 3p Deletion and 3p Partial Distal Duplication Syndromes

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Introduction

3p deletion syndrome causes hypotonia, congenital heart defects, renal anomalies. Partial distal 3p duplication syndrome causes seizures, cardiac and urogenital abnormalities. Both of them causes craniofacial dysmorphism and intellectual disability. Correlation of genotype and phenotype in cases of combined copy number variants (CNVs) is complex. Only one case of these CNVs combination have been reported, and we report second case of a patient who has both CNVs.

Case Presentation

A 2-year old female, born full-term, was admitted to geneticist due to delayed development since infancy. She has some dysmorphic features: hypotelorism, epicanthus, microstomia, small rotated ear auricles, micrognathia. SNP-array detected 5,8 Mb deletion within chromosome range 3p26.1 – 3p26.3, that covers 13 genes, and 13,1 Mb duplication within 3p24.3 – 3p26.1, that covers 84 genes. Development of a patient was evaluated by Diagnostic inventory for screening children (DISC). Test value was 39 – 60 %, especially speech expression with auditory attention and memory. Pediatric neurologist planned stationary habilitation for development stimulation.

Discussion

We found only one case report of female patient, present with craniofacial dysmorphism, global developmental delay, cardiac abnormalities, hypotonia, hemangiomas, whose SNP-array showed 5,37 Mb deletion within chromosome range 3p26.1 – 3p26.3, containing 22 genes, and 13,68 Mb duplication within chromosome range 3p24.3 – 3p26.1, containing 126 genes. [1] Variants in genes, such as SRGAP3, located in 3p25.3 region, and CNTN4, located in 3p26.3 – p.26.2 region, lead to developmental delay. [2,3] Our patient has significant similarities, that can help learn more about combination of these CNVs.

Conclusions

It is crucial to make correct diagnosis for children with developmental delay and report rare copy number variants to gather information, as it helps to improve patient centered care.

References

1. Riley JD et al. Chromosome 3p inverted duplication with terminal deletion: second postnatal case report with additional clinical

features. Case Rep Genet. 2019;2019:5384295. doi:10.1155/2019/5384295. PMID: 31428485. PMCID: PMC6683815

2. 607280: Contactin 4. Online Mendelian Inheritance in Man (OMIM)®. Johns Hopkins University School of Medicine, Baltimore, MD

3. 606525: SLIT-ROBO Rho GTPase activating protein 3; SRGAP3. Online Mendelian Inheritance in Man (OMIM)®. Johns Hopkins University School of Medicine, Baltimore, MD



A Rare Overlap: Prader-Willi Syndrome and Wilson Disease

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Introduction

Wilson disease is a rare autosomal recessive disorder causing copper accumulation, most commonly presenting with hepatic involvement in children [1,2]. Prader-Willi syndrome is associated with obesity and metabolic dysfunction that may exacerbate liver disease [3]. Their coexistence is rare and diagnostically challenging.

Case Presentation

A 16-year-old girl with Prader-Willi syndrome presented with jaundice and was admitted to the PICU due to suspected acute liver failure. Laboratory tests revealed elevated liver enzymes, hyperbilirubinemia, hypoalbuminemia and coagulopathy (ALT 103 IU/L, AST 183 IU/L, total bilirubin 146 μ mol/L, INR 2.5, albumin 22.7 g/L). Liver ultrasound showed hyperechogenic foci in segments S6/S8. Low ceruloplasmin (0.12 g/L) and elevated IgG (20 g/L) prompted differentiation between Wilson disease and autoimmune hepatitis. Liver biopsy demonstrated sparse copper deposits, chronic active hepatitis and stage 5 fibrosis. Liver copper concentration was markedly elevated (3838.72 μ g) with increased urinary copper excretion (443.29 μ g/24 h). Genetic testing confirmed a pathogenic ATP7B variant, establishing the diagnosis of Wilson disease. Treatment for acute liver failure and Wilson disease was initiated, including a copper-restricted diet and D-penicillamine. Due to the lack of clinical response, trientine (Cuprior) was considered. Liver transplantation was not pursued due to neurodevelopmental and psychosocial factors. After stabilisation, outpatient treatment with D-penicillamine was continued. As her condition worsened, the patient was admitted to Klaipeda Hospital, where she subsequently died as a result of decompensated liver failure.

Discussion

The Leipzig scoring system is used to diagnose Wilson disease [1]. In Prader-Willi syndrome, overlapping metabolic burden, neurodevelopmental features and genotype-phenotype variability may complicate and delay recognition and management of coexisting Wilson disease [4].

Conclusions

This case highlights the rare coexistence of two genetic disorders in a single patient and underscores the importance of early recognition of comorbid conditions. Wilson disease requires lifelong treatment, including strict adherence to medical therapy and a

copper-restricted diet, with long-term management essential to prevent disease progression [1].

References

1. [1] Immergluck J, Grant LM, Anilkumar AC. Wilson Disease. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing. 2025 Jan. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK441990/>
2. [2] Wedemeyer M, Berg K, Rockstroh Sarrazin. Hepatology: a clinical textbook. Eleventh edition 2024 – 2025. Available from: <https://www.hepatologytextbook.com/>
3. [3] Pascut D, Giraudi J, P, Banfi C. Proteome profiling identifies circulating biomarkers associated with hepatic steatosis in subjects with Prader-Willi syndrome. Front Endocrinol. 2024 Nov. Available from: <https://www.frontiersin.org/journals/endocrinology/articles/10.3389/fendo.2023.1254778>
4. [4] Pellikaan K, Rosenberg AGW, Kattentidt-Mouravieva AA, et al. Missed Diagnoses and Health Problems in Adults With Prader-Willi Syndrome: Recommendations for Screening and Treatment. J Clin Endocrinol Metab. 2020;105(12):e4671-e4687. Available from: <https://pubmed.ncbi.nlm.nih.gov/32877518/>

Macular staphyloma caused by a mutation in the CFAP410 gene: a case report

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Introduction

Pathogenic CFAP410 variants cause a rare ciliopathy with skeletal abnormalities and early-onset retinal dystrophy; macular staphyloma can also be present [1]. Macular staphyloma is a focal outpouching of the posterior eye wall at the macula and is often linked to pathologic myopia [2].

Case Presentation

The patient, a 15-year-old girl, underwent genetic testing following surgery for scoliosis. Pathogenic biallelic variants were identified in exon 4 of the CFAP410 gene, which are associated with autosomal recessive spondyloepiphyseal dysplasia and retinal dystrophy with macular staphyloma. The patient has myopic refraction of -2.25/-1.75x175 in the right eye and -3.25/-2.00x173 in the left eye. On examination, best-corrected visual acuity was 1.0 bilaterally; however, fundoscopy revealed uneven retinal pigmentation. Optical coherence tomography showed macular outpouching, while the peripapillary retinal nerve fibre layer thickness remained within normal limits. Electroretinography showed normal scotopic and reduced photopic responses, findings compatible with an inherited retinal dystrophy. Ultrasonography also confirmed the presence of a macular staphyloma. No specific treatment was initiated and long-term monitoring every 4–6 months was recommended.

Discussion

The ophthalmic phenotype of CFAP410-related disease mainly causes early-onset retinal dystrophy, with childhood reduced visual acuity, photophobia, and delayed dark adaptation [1]. Macular staphyloma usually develops with high myopia, but in some CFAP410-associated disease cases it can occur even with only moderate myopia [1,3]. In our patient, the macular staphyloma is more likely due to CFAP410-related ciliopathy than to refractive error alone [2]. Definitive diagnosis requires molecular genetic testing to confirm pathogenic CFAP410 variants [4]. Posterior, especially macular, staphyloma increases the risk of myopic maculopathy progression and worse long-term vision, so patients need careful age-related follow-up of axial length, ocular shape, and staphyloma changes [5–7].

Conclusions

Since there is currently no specific treatment for CFAP410-related macular staphyloma, care for these patients mainly consists of regular monitoring and updating their vision



correction [6].

References

1. Schmidt RE, Pohodich AE, Birch D, Jones K, Lam BL, Jung EH, et al. Variants in CFAP410 cause a range of retinal and skeletal phenotypes. *NPJ Genom Med* [Internet]. 2025 Dec 1 [cited 2025 Dec 12];10(1):32. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC12006490/>
2. Ohno-Matsui K, Jonas JB. Posterior staphyloma in pathologic myopia. *Prog Retin Eye Res* [Internet]. 2019 May 1 [cited 2025 Dec 12];70:99–109. Available from: <https://pubmed.ncbi.nlm.nih.gov/30537538/>
3. Ohno-Matsui K, Wu PC, Yamashiro K, Vutipongsatorn K, Fang Y, Cheung CMG, et al. IMI Pathologic Myopia. *Invest Ophthalmol Vis Sci* [Internet]. 2021 Apr 1 [cited 2025 Dec 12];62(5). Available from: <https://pubmed.ncbi.nlm.nih.gov/33909033/>
4. Tatour Y, Ben-Yosef T. Syndromic Inherited Retinal Diseases: Genetic, Clinical and Diagnostic Aspects. *Diagnostics (Basel)* [Internet]. 2020 Oct 1 [cited 2025 Dec 12];10(10). Available from: <https://pubmed.ncbi.nlm.nih.gov/33023209/>
5. Flores-Moreno I, Puertas M, Fernández-Jiménez M, Franco LC, Terrón-Vilalta M, Eslava B, et al. Myopic Maculopathy Progression: Insights Into Posterior Staphyloma and Macular Involvement. *Am J Ophthalmol* [Internet]. 2025 Feb 1 [cited 2025 Dec 12];270:164–71. Available from: <https://pubmed.ncbi.nlm.nih.gov/39393422/>
6. An G, Dai F, Wang R, Liu Z, Guo J, Pan M, et al. Association Between the Types of Posterior Staphyloma and Their Risk Factors in Pathological Myopia. *Transl Vis Sci Technol* [Internet]. 2021 [cited 2025 Dec 12];10(4). Available from: <https://pubmed.ncbi.nlm.nih.gov/34003983/>
7. Flores-Moreno I, Puertas M, Ruiz-Medrano J, Almazán-Alonso E, García-Zamora M, Ruiz-Moreno JM. Influence of posterior staphyloma in myopic maculopathy and visual prognosis. *Eye (Lond)* [Internet]. 2024 Jan 1 [cited 2025 Dec 12];38(1):145–52. Available from: <https://pubmed.ncbi.nlm.nih.gov/37365301/>

Core Specialties:

General Surgery, Radiology, Anaesthesiology,
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Abstracts

Laparoscopic Approach to Median Arcuate Ligament Syndrome: Single-Centre Experience

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Introduction

Median arcuate ligament syndrome (MALS) is a rare vascular compression disorder caused by the median arcuate ligament and diaphragmatic crura compressing the celiac artery. The clinical manifestations of MALS include postprandial abdominal pain, unintentional weight loss, and abdominal bloating [1,4]. The diagnosis of MALS is confirmed by CT angiography, and treatment options such as angioplasty, stenting, and surgical intervention are considered. The indications for surgery are clinically significant pain, radiologically confirmed on CT angiography, and celiac trunk stenosis 50% or greater [3,4]. Laparoscopy has become the preferred first-line treatment for MALS, with small single-center studies reporting 70–90% symptom relief after laparoscopic median arcuate ligament release [2,5].

Aim

To evaluate nine years results of MALS, outlining our institutional approach to laparoscopic median arcuate ligament release and evaluating preoperative assessment, postoperative outcomes, and patient-reported results.

Methods

A prospective Cohort study analysis of all patients who diagnosed and underwent laparoscopic decompression for MALS at the Department of Surgery, Lithuanian University of Health Sciences. Data collected from 2017 January to 2026 January. CT angiography was used to confirm the diagnosis of MALS in all patients. The collected data included age, gender, clinical and diagnostic findings, American Society of Anesthesiologists (ASA) score, intraoperative findings and complications, postoperative complications and mortality, length of hospital stay, and readmissions. Follow-up was conducted in the outpatient clinic 1 month and 3 years postoperatively. Patients completed Gastrointestinal Quality of Life Index and Gastrointestinal Symptom Rating Scale questionnaires preoperatively and postoperatively.

Results

Eleven patients with hemodynamically significant celiac trunk stenosis underwent laparoscopic decompression. Nine (81.8%) were women and two (18.2%) men, age mean 56.7 ± 10.7 . Symptom duration ranged from 2 months to 3 years, and seven patients (63.6%) experienced weight loss (14 ± 11.6). Operative time was 103 ± 54 minutes, and mean hospital stay was 4.2 ± 2.2 days with no

postoperative complications. At 3-year follow-up, 8 patients (72.3%) reported significant symptom relief most notably in postprandial pain.

Conclusions

Laparoscopic decompression of the median arcuate ligament is a safe and effective treatment for symptomatic MALS with most patients experiencing significant symptom relief.

References

1. Iqbal S, Chaudhary M. Median arcuate ligament syndrome (Dunbar syndrome). *Cardiovasc Diagn Ther*. 2021;11(5):1172-1176. DOI:10.21037/cdt-20-846
2. Kazmi SSH, Safi N, Berge ST, Kazmi M, Sundhagen JO, Hisdal J. Laparoscopic Surgery for Median Arcuate Ligament Syndrome (MALS): A Prospective Cohort of 52 Patients. *Vasc Health Risk Manag*. 2022;18:139-151. Published 2022 Mar 24. DOI: 10.2147/VHRM.S350841
3. Giakoustidis A, Moschonas S, Christodoulidis G, et al. Median arcuate ligament syndrome often poses a diagnostic challenge: A literature review with a scope of our own experience. *World J Gastrointest Surg*. 2023;15(6):1048-1055. DOI: 10.4240/wjgs.v15.i6.1048
4. Nikolova D, Antovic S, Karagjozov P, et al. Chronic Abdominal Pain, an Overlooked Diagnosis of Median Arcuate Ligament Syndrome (MALS). *Pril (Makedon Akad Nauk Umet Odd Med Nauki)*. 2022;43(1):95-99. Published 2022 Apr 22. DOI: 10.2478/prilozi-2022-0009
5. Kafadar MT, Oguz A, Aday U, Bilge H, Basol Ö. Median arcuate ligament (Dunbar) syndrome: Laparoscopic management and clinical outcomes of a single centre. *J Minim Access Surg*. 2021;17(3):363-368. DOI: 10.4103/jmas.JMAS_265_20

The Role of Carcinoembryonic Antigen as a Prognostic Factor for Patients with Advanced Pancreatic Cancer

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Introduction

Pancreatic cancer (PC) is relatively uncommon in comparison to other cancers of the alimentary tract. However, it ranks 7th in the cumulative mortality rate among the most aggressive forms of cancer [1]. Because of poor early diagnosis, it is mostly discovered at advanced, inoperable stages, severely limiting its treatment options and leading to an estimated death rate of 95% [2,3]. Currently, there are few reliable indicators for the prognosis of metastatic PC [4]. Among the tumor-associated antigens that have been studied, carbohydrate antigen (CA) 19-9 continues to act as the standard prognostic marker. Although the prognostic significance of carcinoembryonic antigen (CEA) is not specific to PC, recent studies indicate that it may serve as a useful predictive marker specifically in the advanced stages of the disease [2]

Aim

The aim of this study was to assess how pretreatment serum levels of CA 19-9 and CEA predict overall survival in advanced pancreatic cancer patients.

Methods

A retrospective analysis of medical records was conducted at the Hospital of Lithuanian University of Health Sciences Kauno Klinikos, covering the period from 11 December 2018 to 30 November 2023. The study cohort consisted of 489 adult patients diagnosed with advanced PC with an average age of 69 years at the time of PC diagnosis. Baseline serum tumour marker levels, including CA 19-9 and CEA, were assessed at diagnosis, prior to treatment. Patients were divided into groups based on survival after diagnosis (<3 months, 3–6 months, 6–12 months, 1–2 years, 2–5 years, and >5 years). Associations between clinical variables and laboratory findings were analysed. Statistical analysis was performed using IBM SPSS Statistics 30.0 data analysis software. A statistical significance level of $p < 0.05$ was chosen for testing the hypotheses.

Results

Among patients who had survived up to 3 months after initial diagnosis, the average concentration of CEA was 196.52 ng/mL ($n = 119$) and CA19-9 was 200.11 U/mL ($n = 124$), while patients who survived for 3 to 6 months ($n = 50$ for CEA and $n = 52$ for CA19-9) had correspondingly decreasing concentrations.

A similar trend was observed across the other groups. The Kruskal-Wallis test found statistically significant differences in CA 19-9 levels between survivor groups at initial diagnosis and subsequent disease progression ($H = 20.649$ and $H = 23.928$, $p < 0.001$). While evident differences in CEA levels were observed among survivor groups at diagnosis ($H = 23.558$; $p < 0.001$), no difference was observed in later stages of the disease ($H = 5.794$).

Conclusions

The study found that higher levels of tumor markers CA19-9 and CEA were associated with poorer patient survival. While CEA was significant only at the time of diagnosis, CA19-9 levels remained significant across survivor groups throughout disease progression.

References

1. Gheorghe G, Bungau S, Ilie M, Behl T, Vesa CM, Brisc C, et al. Early diagnosis of pancreatic cancer: The key for survival. *Diagnostics* 2020;10. <https://doi.org/10.3390/diagnostics10110869>.
2. Demir B. CEA and CA 19-9 combined tumor marker index as a prognostic tool for metastatic pancreatic cancer: is two better than one? *Am J Cancer Res* 2025;15:3557–69. <https://doi.org/10.62347/jyad4332>.
3. Lee KJ, Yi SW, Chung MJ, Park SW, Song SY, Chung JB, et al. Serum CA 19-9 and CEA levels as a prognostic factor in pancreatic adenocarcinoma. *Yonsei Med J* 2013;54:643–9. <https://doi.org/10.3349/ymj.2013.54.3.643>.
4. Ahmadipour M, Bhattacharya A, Sarafbidabad M, Syuhada Sazali E, Krishna Ghoshal S, Satgunam M, et al. CA19-9 and CEA biosensors in pancreatic cancer. *Clinica Chimica Acta* 2024;554:117788. <https://doi.org/10.1016/J.CCA.2024.117788>.
5. Wang M, Bu H, Luo W, Zeng X, Chen G, He Y, et al. CA19-9, CEA and PIVKA- II as a novel panel of serum markers for diagnosis of pancreatic cancer. *Clin Biochem* 2025;137:110902. <https://doi.org/10.1016/J.CLINBIOCHEM.2025.110902>.

Echocardiography-based assessment of septic cardiomyopathy in patients with sepsis and septic shock

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Introduction

Septic cardiomyopathy (SCM) is a reversible cardiac dysfunction in patients with sepsis or septic shock and is associated with increased mortality [1,2]. Early recognition of SCM using reliable echocardiographic parameters is essential for optimising clinical management and improving outcomes [3,4].

Aim

To determine the prevalence of SCM in ICU patients with sepsis or septic shock using echocardiography-based tools.

Methods

The multicentre prospective observational study was conducted in tertiary referral hospitals in Lithuania and Poland between March 2024 and October 2025. Inclusion criteria were adult patients (≥ 18 years) with Sepsis-3-defined sepsis or septic shock requiring norepinephrine >0.1 $\mu\text{g/kg/min}$ and informed consent. Exclusion criteria were cardiogenic shock, congenital heart disease, and NYHA class IV heart failure. All patients underwent transthoracic echocardiography and hemodynamic evaluation within 48 hours of enrolment. Cardiac output was derived from transthoracic echocardiography and used to calculate cardiac power output (CPO) and afterload-related cardiac performance (ACP). In this mixed population, sedation was administered only when clinically indicated, primarily in mechanically ventilated patients. SCM was diagnosed using three criteria: reduced left ventricular ejection fraction (LVEF $<50\%$ or $\geq 10\%$ relative decrease from baseline documented patient history), reduced CPO ($<0.6\text{W}$), and impaired ACP ($<80\%$). Statistical analyses were performed using SPSS (version 31.0.1.0).

Results

A total of 104 patients were enrolled. The median patient age was 64 years [52–72]. The median SOFA score was 10 [9–13], the mean APACHE II score was 21.8 ± 6.9 , the mean SAPS II score was 48.9 ± 15.5 . The median lactate concentration was 2.96 mmol/L [1.9–5.5], the median maximal norepinephrine dose was 0.35 $\mu\text{g/kg/min}$ [0.2–0.5], and the median VIS score was 34 [20–50]. Septic shock was diagnosed in 89 patients (85.6%). SCM prevalence varied by diagnostic criteria: reduced LVEF was identified in 21 patients (20.2%), reduced CPO in 33 patients (33.3%), and impaired ACP in 49 patients (49.5%). LVEF was used as the reference standard. Pearson's Chi-square analysis showed no significant association between LVEF and either CPO ($P=0.215$) or ACP ($P=0.960$). Logistic regression showed increased ICU mortality in patients with reduced CPO ($P=0.038$) and ACP ($P=0.032$), with a 2.7-fold and 0.8-fold increase in mortality, respectively. In the 28-day mortality model, only CPO remained associated with mortality ($P=0.014$), with a 3.3-fold increase.

Conclusions

SCM was highly prevalent in ICU patients with sepsis or septic shock. Echocardiography-derived CPO and ACP identified additional SCM cases beyond LVEF, suggesting that these parameters may detect distinct aspects of septic cardiac dysfunction not captured by LVEF alone.

References

1. Aissaoui N, Boissier F, Chew M, Singer M, Vignon P. Sepsis-induced cardiomyopathy. *Eur Heart J*. 2025 Sept 7;46(34):3339–53.
2. L'Heureux M, Sternberg M, Brath L, Turlington J, Kashiouris MG. Sepsis-Induced Cardiomyopathy: a Comprehensive Review. *Curr Cardiol Rep*. 2020 May 6;22(5):35.
3. Lima MR, Silva D. Septic cardiomyopathy: A narrative review. *Rev Port Cardiol*. 2023 May;42(5):471–81.
4. Carbone F, Liberale L, Preda A, Schindler TH, Montecucco F. Septic Cardiomyopathy: From Pathophysiology to the Clinical Setting. *Cells*. 2022 Sept 11;11(18):2833.

Prognostic Impact of Cardiac Functional Parameters and the Extent of Myocardial Ischemia on the Occurrence of Cardiovascular Events Following Myocardial Perfusion Scintigraphy

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Introduction

Myocardial perfusion scintigraphy (SPECT) is a non-invasive nuclear medicine examination method allowing assessment of regional myocardial perfusion changes and left ventricular (LV) functional parameters [1]. Perfusion disorders in different coronary artery basins can separately affect ventricular mechanical synchrony, systolic and diastolic function and mechanics before development of global functional decline [2].

Aim

To evaluate how the severity of coronary artery stenosis and regional myocardial perfusion changes, determined by SPECT, are related to: 1) left ventricular systolic function; 2) left ventricular diastolic function; 3) left ventricular mechanical parameters.

Methods

A retrospective analysis of gated myocardial perfusion SPECT data from 16 patients examined at the Hospital of Lithuanian University of Health Sciences was performed. Patients were included if they underwent myocardial perfusion SPECT and had available invasive coronary angiography results. Perfusion indices included summed stress score (SSS) and summed difference score (SDS). Coronary artery stenosis severity in the right coronary artery (RCA), left anterior descending artery (LAD) and left circumflex artery (LCx) was categorized as none, >35% and >70%. Patients were additionally grouped according to perfusion impairment. LV functional (ejection fraction (EF), stroke volume) and mechanical parameters (systolic/diastolic eccentricity, peak phase) were derived using QGS/QPS software. Statistical analysis was performed in IBM SPSS Statistics 29.0 using Student's t-test or Mann-Whitney U test, with $p < 0.05$ considered significant.

Results

Comparison of patient groups according to perfusion impairment severity scores showed that SSS values were significantly higher in the LAD ($p < 0.001$) and LCx ($p = 0.014$) basins in impaired perfusion group ($n = 3$) and no differences in mechanical parameters were found between groups ($p > 0.05$). In patients with >70% stenosis ($n = 5$) in LCx basin, stroke volume was statistically significantly higher than in patients without stenosis ($n = 11$) ($p = 0.025$). On evaluating the >35% stenosis threshold, only LAD basin ($n = 10$) showed a significantly lower ejection

fraction ($p=0.004$). Mechanical analysis showed that patients with $>70\%$ LCx stenosis ($n=5$) had greater systolic ($p=0.009$) and diastolic ($p=0.017$) eccentricity. In group with $>35\%$ LCx stenosis ($n=9$), only an increase in systolic eccentricity was observed ($p=0.013$). In the LAD basin, in group with $>35\%$ stenosis ($n=8$), a prolonged peak phase was observed ($p=0.012$). RCA stenosis was not associated with significant changes in LV functional or mechanical parameters.

Conclusions

Regional perfusion defects and coronary stenosis were associated with changes in 1) LV systolic function (higher stroke volume and lower stress EF), 2) LV diastolic function (suggesting early diastolic dysfunction), 3) LV mechanics: LCx stenosis was associated with higher stroke volume and increased systolic/diastolic eccentricity, while LAD $>35\%$ stenosis was associated with lower stress ejection fraction and prolonged peak phase.

References

1. Al Badarin FJ, Malhotra S. Diagnosis and Prognosis of Coronary Artery Disease with SPECT and PET. *Curr Cardiol Rep.* 2019;21(7):57. Published 2019 May 18. doi:10.1007/s11886-019-1146-4
2. Erhardsson M, Ljung Faxén U, Venkateshvaran A, et al. Regional differences and coronary microvascular dysfunction in heart failure with preserved ejection fraction. *ESC Heart Fail.* 2023;10(6):3729-3734. doi:10.1002/ehf2.14569

Modulatory Roles of Caffeine and Its Metabolites in Intestinal Inflammation and Epithelial Barrier Maintenance

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Introduction

Inflammatory bowel disease (IBD) is a chronic inflammatory autoimmune disease affecting the lower gastrointestinal tract, pathologically defined by epithelial barrier disruption, dysregulated immune responses, and characteristics of an autoinflammatory syndrome. Caffeine is a widely consumed methylxanthine found in drinks and some medications. However, its effects and those of its metabolites on intestinal inflammation and epithelial barrier function are not fully understood. Recent advances in the treatment of IBD have led to a paradigm shift in the goals of treatment from symptom-free daily life to mucosal healing.

Aim

This study examined the impact of caffeine and its main metabolites – paraxanthine, theobromine, and theophylline – on inflammatory signaling and epithelial integrity in gut epithelial models, with relevance to gastrointestinal health and Inflammatory Bowel Disease.

Methods

Initial evaluation of the caffeine and its main metabolites – theobromine, theophylline, and paraxanthine – was conducted using the Caco-2 intestinal epithelial cell line. This step allowed the identification of the compounds and their concentrations that could have the most significant biological and the least toxic effects on cells. The chosen metabolites were additionally assessed in 3D intestinal epithelial organoids from a patient with ulcerative colitis (n = 1) and a non-IBD donor (n = 1), following a 24-hour induction of inflammation using a combined TNF- α and IFN- γ treatment. To evaluate effects on inflammatory responses and epithelial barrier function, targeted gene expression was analyzed by RT-PCR. In addition, the antioxidant capacity of caffeine metabolites was examined by measuring reactive oxygen species (ROS) using flow cytometry and the DHE assay, while post-inflammatory barrier integrity was assessed using the FITC-dextran permeability assay.

Results

Although caffeine and paraxanthine altered the expression of certain inflammatory markers, their primary impact was on maintaining epithelial barrier stability. Paraxanthine markedly enhanced the expression of several tight junction components (OCLN, TJP1, CLDN1; p < 0.05), whereas caffeine increased CLDN1 alone (p < 0.05). In inflamed 3D intestinal organoids, neither compound significantly

suppressed cytokine-related gene expression; however, caffeine and paraxanthine showed a tendency to reduce the production of reactive oxygen species (25% and 8%, respectively; $p > 0.05$). Paraxanthine demonstrated a tendency to decrease (17%, $p > 0.05$) the proportion of organoids permeable to low-molecular-weight dextran, whereas caffeine, the metabolic precursor of this metabolite, increased the permeability of the inflammation-affected barrier by 36% ($p < 0.05$).

Conclusions

Caffeine and its primary metabolite, paraxanthine, may support gut epithelial barrier integrity by reestablishing the expression of tight junction-related genes.

References

1. [1] S. K. Vuyyuru et al. JGH Open 2022, 6.2: 100-111.
2. [2] R. P. Barcelos et al. Nutrition Research 2020, 80: 1-17.
3. [3] V. S. Reddy et al. European Journal of Medicinal Chemistry Reports 2024, 10, 100138.

Risk Factors for Discordance Between Positive Preoperative Synovial Fluid Cultures and Intraoperative Cultures in Revision Arthroplasty

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Introduction

Accurate identification of the causative pathogen in periprosthetic joint infection prior to revision surgery is essential for selecting appropriate postoperative antibiotic therapy [1]. Preoperative joint aspiration with microbiological analysis of synovial fluid is considered one of the key diagnostic steps in evaluating patients undergoing revision arthroplasty [2,3].

Aim

To evaluate discrepancies between preoperative synovial fluid and intraoperative culture results in periprosthetic joint infection and to identify risk factors associated with discordance in revision arthroplasty.

Methods

Data were collected from medical records and electronic databases. The analysis included adult patients diagnosed with periprosthetic joint infection between 1 January 2018 and 31 January 2024 at the Hospital of the Lithuanian University of Health Sciences Kaunas Clinics and the Lithuanian University of Health Sciences Kaunas Hospital and had a positive preoperative synovial fluid culture. Risk factors associated with discordance between preoperative synovial fluid and intraoperative culture results were analyzed. Potential contaminants were considered to include the following pathogens: coagulase-negative staphylococci, *Corynebacterium* spp., and *Cutibacterium acnes*. Statistical analysis was performed using IBM SPSS Statistics 29.0. A significance level of 0.05 was used for hypothesis testing.

Results

A total of 300 patients were included in the study, of whom 55.3% were female and 44.7% were male. The mean age was 67 years (SD = 11.96), and the mean weight was 81.68 kg (SD = 17.98). Revision surgery involved the hip joint in 183 cases, the knee joint in 109 cases, and the shoulder joint in 8 cases. 43.3% of preoperative microbiological test results were discordant with intraoperative findings. Obesity was identified as a risk factor contributing to outcome discordance (12.33%). Evaluating discordant results, significant differences were observed among joint types: hip joint (n = 90), knee joint (n = 38), and shoulder joint (n = 2). Discrepancies were most frequently identified in the hip joint. Potential contaminants accounted for 39%, of which 20.33% (n = 61) were statistically significantly associated with outcome discrepancy (p = 0.02).

Conclusions

Study demonstrated that nearly half (43.3%)

of preoperative synovial fluid culture results were discordant with intraoperative microbiological findings. Among the analyzed risk factors, obesity, joint type and the presence of potential contaminants in preoperative synovial fluid emerged as statistically significant predictors of these discrepancies.

References

1. Boyle KK, Kapadia M, Chiu Y, et al. The James A. Rand Young Investigator's Award: are intraoperative cultures necessary if the aspiration culture is positive? A concordance study in periprosthetic joint infection. *J Arthroplasty*. 2021;36(7S):S4–S10.
2. Li H, Xu C, Hao L, Chai W, Jun F, Chen J. The concordance between preoperative aspiration and intraoperative synovial fluid culture results: intraoperative synovial fluid re-cultures are necessary whether the preoperative aspiration culture is positive or not. *BMC Infect Dis*. 2021;21:1018.
3. Schulz P, Dlaska CE, Perka C, Trampuz A, Renz N. Preoperative synovial fluid culture poorly predicts the pathogen causing periprosthetic joint infection. *Infection*. 2021;49:427–436.

Association Between Gastric Adenocarcinoma Anatomic Location and Metastatic or Locally Advanced Disease

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Introduction

Gastric cancer remains the fifth most common malignancy worldwide and the fourth leading cause of cancer-related mortality, for both sexes [1]. Although gastric cancer most commonly arises in the distal stomach, the incidence of proximal tumours has been steadily increasing [2,3]. Although tumour location's impact on metastatic or locally advanced gastric cancer prognosis remains controversial, proximal tumours show more hematogenous metastases (lungs, bones, nervous system), while non-cardia tumours are more often marked by peritoneal dissemination and poorer differentiation [4].

Aim

The aim of this study was to evaluate the association between the anatomic location of gastric adenocarcinoma and the prevalence of metastatic or locally advanced disease, as well as cancer stage and differentiation grade.

Methods

This retrospective cross-sectional study included patients aged 18 years and older who were diagnosed with gastric adenocarcinoma at the LSMU Kaunas Clinics Gastroenterology department, during 2021-2023. An observational analysis was performed. The study subjects were divided into 3 stomach cancer location groups: upper (cardia or upper third of the gastric body), middle (middle third of the gastric body), and lower (lower third of the gastric body or antrum). Statistical analysis was performed using IBM SPSS Advanced Statistics 29.0. The χ^2 test was used to determine the differences in the categorical variables. Binary logistic regression was used to predict outcomes. The value of $p < 0.05$ was deemed statistically significant.

Results

A total of 17 (21%) patients had a tumour in the upper third, 20 (24,7%) patients had a tumour in the middle third, and 44 (54,3%) patients had tumours located in the lower third of the stomach. Cancer was more commonly metastatic or locally advanced in the lower third than in the upper third or middle third (68.2% vs. 52.9% vs. 50%, $p = 0.299$). Stage III-IV gastric adenocarcinoma was less frequent in the middle third compared to the lower third and upper third (38.9% vs. 45.9% vs. 43.8%, $p = 0.885$). The χ^2 test revealed a statistically significant association between the

anatomical location of gastric adenocarcinoma and cancer differentiation grade ($\chi^2 = 6.627$, $p = 0.036$). Post-hoc pairwise comparisons showed that a worse cancer differentiation grade (G3) was significantly more common in the lower third compared to the upper third (adjusted $p < 0.05$). Binary logistic regression confirmed this finding ($p = 0.014$). Tumours located in the lower part were 4.7 times more likely to be poorly differentiated compared to tumours located in the upper part.

Conclusions

No statistically significant associations were observed between the anatomical location of gastric adenocarcinoma and assessed factors except for cancer differentiation grade. More studies of larger sample sizes remain to be done to draw definitive conclusions.

References

1. Menon G, El-Nakeep S, Babiker, H. Gastric Cancer. StatPearls Publishing [Internet]. 2024 Oct 28 [cited 2025 Dec 16]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK459142/>
2. Ajani JA, D'Amico TA, Bentrem DJ, Chao J, Cooke D, Corvera C, et al. Gastric Cancer, Version 2.2022, NCCN Clinical Practice Guidelines in Oncology. Journal of the National Comprehensive Cancer Network [Internet]. 2022 Feb 1 [cited 2025 Dec 16];20(2):167–92. Available from: <https://jnccn.org/view/journals/jnccn/20/2/article-p167.xml>
3. Kim SJ, Choi CW. Common Locations of Gastric Cancer: Review of Research from the Endoscopic Submucosal Dissection Era. J Korean Med Sci [Internet]. 2019 Jan 1 [cited 2025 Dec 16];34(35). Available from: <https://jkms.org/DOIx.php?id=10.3346/jkms.2019.34.e231>
4. Riihimäki M, Hemminki A, Sundquist K, Sundquist J, Hemminki K, Riihimäki M, et al. Metastatic spread in patients with gastric cancer. Oncotarget [Internet]. 2016 Jul 20 [cited 2025 Dec 16];7(32):52307–16. Available from: <https://www.oncotarget.com/article/10740/text/>
5. Kodama M, Mizukami K, Hirashita Y, Okimoto T, Wada Y, Fukuda M, et al. Differences in clinical features and morphology between differentiated and undifferentiated gastric cancer after Helicobacter pylori eradication. PLoS One [Internet]. 2023 Mar 1 [cited 2025 Dec 16];18(3):e0282341. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10065271/>
6. Marupuru S, Arku D, Axon DR, Villa-Zapata L, Yaghoubi M, Slack MK, et al. First-Line Systemic Therapy Outcomes in Western Population with Locally Advanced and Metastatic Gastric Cancer—A Systematic Review. Gastroenterology Insights 2023, Vol 14, Pages 515-537 [Internet]. 2023 Nov 1 [cited 2025 Dec 16];14(4):515–37. Available from: <https://www.mdpi.com/2036-7422/14/4/37/htm>
7. Mansfield PF. Clinical presentation, diagnosis, and staging of gastric cancer - UpToDate [Internet]. [cited 2025 Dec 16]. Available from: https://www.uptodate-com.ezproxy.dbazes.lsmuni.lt/contents/clinical-presentation-diagnosis-and-staging-of-gastric-cancer?search=stomach%20cancer%20staging&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1
8. Zhou YJ, Lu XF, Meng JL, Wang XY, Zhang QW, Chen JN, et al. Neo-adjuvant radiation therapy provides a survival advantage in T3-T4 nodal positive gastric and gastroesophageal junction adenocarcinoma: a SEER database analysis. BMC Cancer 2021 21:1 [Internet]. 2021 Jul 3 [cited 2025 Dec 16];21(1):771. Available from: <https://link.springer.com/article/10.1186/s12885-021-08534-9>

The Association Between Osteoporosis and Coronary Artery Stenosis in Postmenopausal Women.

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Introduction

Osteoporosis and atherosclerosis are age-related diseases that share common risk factors and pathogenic mechanisms [1]. Both conditions substantially contribute to morbidity and mortality among postmenopausal women due to increased fracture and cardiovascular event risk [2, 3].

Aim

To evaluate the association between osteoporosis and coronary artery stenosis in postmenopausal women.

Methods

This retrospective study was conducted at LUHS Kaunas Hospital and approved by the LUHS Bioethics Centre (No. 2025-BEC2-0938). Medical records of 131 postmenopausal women aged 50–80 years who underwent dual-energy X-ray absorptiometry and coronary CT angiography were analyzed. Women were included irrespective of medication use. Both women who were taking and those who were not taking medications affecting bone mineralization were included. Exclusion criteria included unclear medical documentation and secondary osteoporosis. Associations between categorical variables were assessed using the chi-square (χ^2) test and Spearman's rank correlation. The association between bone mineral density (BMD) category (normal/osteopenia/osteoporosis) and coronary artery stenosis severity (absent/mild/moderate/severe) was evaluated using age-adjusted ordinal logistic regression. Results are presented as odds ratios (ORs) with 95% confidence intervals (CIs) and statistical significance was set at $p < 0.05$.

Results

The distribution of coronary artery stenosis severity differed descriptively across BMD categories; however, no statistically significant association was identified using the chi-square test ($\chi^2 = 11.93$, $p = 0.154$). Despite this, correlation analysis revealed a weak but statistically significant monotonic relationship between the lower BMD category and greater coronary artery stenosis severity (Spearman's $\rho = 0.210$, $p = 0.016$). The proportional odds assumption was satisfied, supporting the use of ordinal logistic regression ($\chi^2 = 4.330$; $df = 9$; $p = 0.888$). Increasing age was statistically significantly associated with higher odds of clinically significant coronary artery stenosis



(OR = 1.067; 95% CI 1.016–1.122; p = 0.010). Osteoporosis was related to higher odds of more severe coronary artery stenosis compared with normal BMD, after adjustment for age (OR = 2.915; 95% CI 1.188–7.145; p = 0.020). The model demonstrated an adequate fit to the data - Nagelkerke pseudo R² was 0.102.

Conclusions

Advancing age and osteoporosis were associated with increased severity of coronary artery stenosis, indicating a potential link between skeletal health and coronary artery disease in postmenopausal women.

References

1. Park J, Kim KM, Yoon YE, et al. Risk of earlier atherosclerotic cardiovascular disease in women with low bone mineral density. *Sci Rep* [Internet]. 2022 [cited 2025 Dec 15];12:15996. Available from: <https://doi.org/10.1038/s41598-022-19801-5>
2. Park J, Yoon YE, Kim KM, Hwang IC, Lee W, Cho GY. Prognostic value of lower bone mineral density in predicting adverse cardiovascular disease in Asian women. *Heart* [Internet]. 2021 [cited 2025 Dec 15];107(13):1040–1047. Available from: <https://heart.bmj.com/content/107/13/1040>
3. Rodríguez-Gómez I, Gray SR, Ho FK, Petermann-Rocha F, Welsh P, Cleland J, et al. Osteoporosis and its association with cardiovascular disease, respiratory disease, and cancer: findings from the UK Biobank prospective cohort study. *Mayo Clin Proc* [Internet]. 2022 [cited 2025 Dec 15];97(1):110–121. Available from: <https://doi.org/10.1016/j.mayocp.2021.07.019>

Evaluation of Vancomycin-Resistant *Enterococcus* spp. Infections in Surgery Departments: A Single-center Study

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Introduction

Enterococcus spp. Is a Gram-positive, facultative anaerobe, mostly found in the intestinal flora. By mutation or genetic elements transfer *Enterococcus* spp. Can easily acquire resistance to antibiotics such as vancomycin [1]. According to the World Health Organization vancomycin-resistant *Enterococcus* spp. (VRE) infections are a worldwide problem that tends to cause challenges, especially in surgical departments, where the use of broad-spectrum antibiotics and the high number of invasive procedures are leading to the development of resistance [2,3].

Aim

To evaluate associations between monomicrobial versus polymicrobial VRE infections and characteristics including age, sex, empirical antibacterial therapy, and duration of hospitalization before VRE diagnosis, among surgical patients.

Methods

This retrospective, single-center study included adult patients at the General Surgery Departments of Kaunas Clinics, who underwent surgical treatment, from minor interventions to major operations, and had proven cases of VRE. Culture specimens were obtained from intraoperative materials and clinical samples including blood, urine, bile, cystic fluid, abscesses, wounds, and drains. Two groups based on microbiological findings were distinguished: VRE monomicrobial isolate and polymicrobial infection, determined by the presence of VRE in association with other bacteria. In addition, patients were divided into two age groups (<60 and ≥60 years), to explore whether age correlated with infection type and outcomes. Medical records from 2020, 2022, and 2024 were selected to reflect clinical patterns of VRE infection over time. Associations between infection type and gender, age, empirical antibacterial therapy and hospitalization prior to VRE isolation were evaluated using IBM SPSS Statistics 30.0 data analysis software. A p-value of <0.05 was regarded as statistically significant.

Results

Among 101 patients, 69 (68.3%) had confirmed polymicrobial VRE infection and 32 (31.7%) had monomicrobial VRE infection. Bile was the most common specimen from which VRE was isolated. The distribution of culture sources was similar among monomicrobial and polymicrobial infections ($p=0.141$). In older patients (≥60 years) VRE tended to grow more frequently in co-culture (76.9%) rather than monoculture (23.1%), but no statistically significant difference was found

($\chi^2 = 1.273$, $p = 0.259$). Additionally, no significant associations were found between infection type and sex ($p=0.601$), type of empirical antibacterial therapy (monotherapy versus combination therapy, $p=0.187$), hospitalization length prior to VRE isolation ($p=0.163$).

Conclusions

Study results indicate that VRE infection type (monomicrobial versus polymicrobial) is not associated with age, sex, empirical antibacterial therapy, or length of hospitalization prior to VRE diagnosis. Although larger-scale studies are needed to further confirm these results.

References

1. Hota S, Patil SR, Mane PM. Enterococcus: Understanding Their Resistance Mechanisms, Therapeutic Challenges, and Emerging Threats. *Cureus* [Internet]. 2025 Feb 25;17(2):e79628. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11948867/>
2. Eichel VM, Last K, Brühwasser C, von Baum H, Dettenkofer M, Götting T, et al. Epidemiology and outcomes of vancomycin-resistant enterococcus infections: a systematic review and meta-analysis. *J Hosp Infect* [Internet]. 2023 Nov 1;141:119–28. Available from: <https://pubmed.ncbi.nlm.nih.gov/37734679/>
3. Sacco C, Iacchini S, Isonne C, Iera J, Boros S, Fadda G, et al. Temporal trend and individual and hospital characteristics associated to vancomycin-resistant *Enterococcus faecium* bloodstream infections: a retrospective analysis from the national surveillance system, Italy 2015–2023. *Antimicrob Resist Infect Control* [Internet]. 2025 Dec 1;14(1):120. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC12523168/>

Circulating bacterial DNA in the blood of patients hospitalized with severe COVID-19 infection

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Introduction

Severe forms of COVID-19 are linked to significant systemic inflammation, endothelial dysfunction, and an elevated risk of thrombotic and cardiovascular complications (1). SARS-CoV-2-induced hypoxia, cytokine-driven inflammation, and direct injury to epithelial and endothelial tissues can disrupt vital biological barriers facilitating the movement of microbial components into the bloodstream (1–3). Increasing evidence indicates that microbial components in the bloodstream may contribute to inflammation-related endothelial activation and vascular damage (4,5). This interaction among viral infection, bacterial translocation, and impaired host immunity may underlie increased susceptibility to complications. Nevertheless, the occurrence, composition, and taxonomic diversity of circulating bacterial DNA in complicated COVID-19 patients have not been thoroughly characterized.

Aim

To investigate the presence, taxonomic diversity, and variability of circulating bacterial DNA in the venous blood of patients hospitalized with severe COVID-19 infection, using next-generation sequencing.

Methods

The study was conducted at the Laboratory of Molecular Cardiology of the Institute of Cardiology at the Lithuanian University of Health Sciences. Venous blood samples were collected from 65 patients after hospitalization for severe COVID-19 infection. PCR targeting the 16S rRNA gene was employed to amplify bacterial DNA from patient samples. At the time of analysis, sequencing was completed for 21 samples, while analysis of the remaining samples is ongoing. Subsequently, microbiome profiling using Oxford Nanopore Technologies (ONT) sequencing was performed only on samples containing 16S

rRNA gene sequences. Taxonomic interpretation was performed at the class level. A healthy control group was not included, as previous studies conducted in the same laboratory have not demonstrated the presence of circulating bacterial DNA in healthy individuals. Clinical and laboratory parameters related to cardiac injury, inflammation and coagulation were evaluated.

Results

Bacterial 16S rRNA gene sequences were detected in 20 out of 21 analyzed samples (95.2%). Gammaproteobacteria and Alphaproteobacteria were the predominant classes, detected in 95.2% of samples. Betaproteobacteria were identified in 42.9% of samples, while Actinomycetes and Bacilli were present in 28.6% and 33.3% of cases, respectively. Within one year after hospitalization, 14 of the 21 patients were diagnosed with cardiovascular conditions.

Conclusions

Circulating bacterial DNA is detectable in the blood of patients after hospitalization for severe COVID-19 infection, and its interpatient variability is evident. The relevance of the Gammaproteobacteria class indicates a non-random microbial DNA signal and supports further investigation into the potential role of bacterial components in systemic inflammation.

References

1. Lamers MM, Haagmans BL. SARS-CoV-2 pathogenesis. *Nature Reviews Microbiology* 20(5):270–84 (2022).
2. Yazici D, Cagan E, Tan G, Li M, Do E, Kucukkase OC, et al. Disrupted epithelial permeability as a predictor of severe COVID-19 development. *Allergy: European Journal of Allergy and Clinical Immunology* 78(10):2644–58 (2023).
3. Tsounis EP, Triantos C, Konstantakis C, Marangos M, Assimakopoulos SF. Intestinal barrier dysfunction as a key driver of severe COVID-19. *World J Virol* 12(2):68 (2023).
4. Giedraitiene A, Tatarunas V, Kaminskaite K, Meskauskaite U, Boieva S, Ajima Y, et al. Enterobacterales Biofilm-Specific Genes and Antimicrobial and Anti-Inflammatory Biomarkers in the Blood of Patients with Ischemic Heart Disease. *Diagnostics* 14(5):546 (2024).
5. Palomo, M., Moreno-Castaño, A. B., Salas, M. Q., Escribano-Serrat, S., Rovira, M., Guillen-Olmos, E., Fernandez, S., Ventosa-Capell, H., Youssef, L., Crispi, F., Nomdedeu, M., Martinez-Sanchez, J., De Moner, B., & Diaz-Ricart, M. Endothelial activation and damage as a common pathological substrate in different pathologies and cell therapy complications. *Frontiers in Medicine*, 10 (2023).

**Otorhinolaryngology,
odontology &
allergology | Case
Report | Oral**

Abstracts

Conometric Technology in Posterior Mandibular Implant Prosthetics: A Case Report

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Introduction

Dental rehabilitation by implant-supported prosthetics involves several conventional fixation techniques of fixed dental prosthetics. Conometric method improves conventional retention methods involving the conometric crowns and precise friction-fit connection between the abutment and implant-fixed prosthetics. This approach provides minimal biological complications, lifts our manipulations from subcrestal connection between implant and abutment that allow to perform preparation of surrounding soft tissue for prosthetic fixed constructions. The purpose of this case report is to evaluate clinical outcomes of fixed dental prosthetics in unilateral mandibular premolar and molar region defect facilitated by conometric technique.

Case Presentation

A patient presented with a unilateral linear defect in right posterior mandibular region involving teeth 44,45,46,47. Four "ROOT R" Implants were fixed in edentulous defect. Conometric crowns were placed as secondary abutments, extending to level of soft tissue margins. Customized zirconia conometric formers placed to guide the soft tissue healing and shape. During the healing phase, protective splint was applied using REVOTEK LC material to create more safe stability and reduce functional overload of tongue to defect area. During follow-ups, no complications related with abutment screw loss, peri-mucous inflammation were detected. After healing phase, adequate emergency profile, healthy soft tissues contours around conometric abutments was observed. Definitive prosthetics was mechanically retained on conometric abutments without additional cementation.

Discussion

In recent decades, conventional methods of fixation of prosthetics are established. This technique characterized as major risk factor of biological, technical complications. To elucidate more optimal approach the conometrics technique has been demonstrated and evaluated with minimal complications. On the other hand, this technique consists limitations in literature and studies. Therefore, this case report aims to propose accuracy of fixation prosthetics by conometric method.

Conclusions

Clinical case illustrates the superior results and practicability of conometric technology for fixation and preparation of soft tissue margins for implant-fixed dental prosthetics.

References

1. Lupi SM, De Martis D, Todaro C, Isola G, Beretta M, Rodriguez Y Baena R. Conometric Connection for Implant-Supported Crowns: A Prospective Clinical Cohort Study. *J Clin Med*. 2023 Dec 13;12(24):7647. doi: 10.3390/jcm12247647. PMID: 38137716; PMCID: PMC10743547.
2. Al-Hity TR, El-Dhuwaib B, Al-Zahawi AR, Gul SS. Comparison of primary and secondary stability of a one-piece compressive conometric implant system in the posterior upper and lower jaws. *Front Oral Health*. 2025 Jul 25;6:1625593. doi: 10.3389/froh.2025.1625593. PMID: 40786186; PMCID: PMC12331769.
3. Montevecchi M, Valeriani L, Salvadori MF, Stefanini M, Zucchelli G. Excess cement and peri-implant disease: A cross-sectional clinical endoscopic study. *J Periodontol*. 2025 Sep;96(9):965-973. doi: 10.1002/JPER.24-0510. Epub 2025 Jan 15. PMID: 39812473; PMCID: PMC12447370.
4. Gaddale R, Mishra SK, Chowdhary R. Complications of screw- and cement-retained implant-supported full-arch restorations: a systematic review and meta-analysis. *Int J Oral Implantol (Berl)*. 2020;13(1):11-40. PMID: 32186285.
5. Sharma V, Paliwal J, Bhansali S, Meena KK, Gupta N, Dadarwal A. Evaluation of clinical and radiographic outcome of friction fit conical abutment system in implant-supported dental prostheses: An in vivo study. *J Indian Prosthodont Soc*. 2022 Jan-Mar;22(1):29-37. doi: 10.4103/jips.jips_340_21. PMID: 36510945; PMCID: PMC8884356.

Endodontic Microsurgery of Recurrent Fistula in Maxillary Central Incisors Associated with Multiple Granulomas and a Lateral Canal: a Case Report

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Introduction

Endodontic microsurgery is a treatment modality for persistent periapical pathologies unresponsive to conventional root canal therapy (1,2). Primary determinants include refractory pathological entities and restorative considerations that lead to compromise in non-surgical re-treatment (1,2). The case highlights the role of microsurgery in managing recurrent periapical pathology, while revealing an undetected lateral canal.

Case Presentation

A 21-year-old female, presented with a recurrent sinus tract on tooth 21. She reported no pain, percussion and palpation tests were negative. A periapical radiograph and cone-beam computed tomography revealed three radiolucencies: bone destruction apically, in the mid-root, and within the nasopalatine foramen. Endodontic microsurgery was performed using a CJ-Optik microscope: removal of granulation tissue, enucleation of three distinct inflammatory granulomas each 0.5cm in size, followed by apicoectomy of tooth 11. At the three-month follow-up, bone healing around tooth 11 was seen. However, clinical examination revealed an active sinus tract around tooth 21. Repeat microsurgery was performed. Under local anaesthesia (1.7 mL Citocartin™), a full-thickness mucoperiosteal flap was elevated. Following granulation tissue curettage, a lateral canal was identified on the mid-root surface of tooth 21. Ultrasonic preparation was completed, and the canal was retrogradely obturated using a bioceramic cement (TotalFill®). The surgical site was closed with sutures. At 3.5 months postoperatively, radiographic follow-up verified healing of both the sinus tract and areas of bone destruction.

Discussion

The lateral canal of tooth 21 was unidentifiable preoperatively and only became apparent during surgical exploration, due to challenges from radiological imaging (1,3). Endodontic microsurgery served as a treatment modality as well as a diagnostic tool (4). Although the orthograde root canal treatment was of satisfactory quality, the persistent fistula indicated the presence of bacterial ingress, highlighting the need to consider anatomical variations (5).

Conclusions

Endodontic microsurgery is an option for managing persistent periapical lesions when retreatment is impractical, serving both therapeutic and diagnostic advantages through direct visualisation of anatomical complexities.

References

1. Liebhlich SE. 18 - Principles of Endodontic Surgery. Contemporary Oral and Maxillofacial Surgery. Seventh Edition. Elsevier Inc; 2019. p. 364–389.
2. 2Setzer FC, Kratchman SI. Present status and future directions: Surgical endodontics. Int Endod J 2022;55:1020–1058.
3. Parirokh M, Hatami N. Conservative Treatment of an Infected Lateral Canal: A Case Report with a 4-Year Follow-up. Iran Endod J. 2022 Summer;17(3):156-160.
4. Floratos S, Kim S. Modern Endodontic Microsurgery Concepts. Dental Clinics of North America 2017 -01;61(1):81.
5. versiani MA, Martins J, Ordinola-Zapata R. Anatomical complexities affecting root canal preparation: a narrative review. Aust Dent J 2023;68:S5–S23.

Extensive Orbit-to-Parotid Malignant Peripheral Nerve Sheath Tumor in Neurofibromatosis Type 1 with Aggressive Recurrence: A Case Report

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Introduction

Malignant peripheral nerve sheath tumor (MPNST) is a rare, aggressive soft-tissue sarcoma of Schwann-cell origin, accounting for 5–10% of all sarcomas (1). The risk is substantially increased in patients with neurofibromatosis type 1 (NF1), in whom malignant transformation of pre-existing nerve sheath tumors represents a major cause of morbidity and mortality (2). Prognosis remains poor due to frequent local recurrence and limited efficacy of systemic therapies (1).

Case Presentation

An 57-year-old female was referred to the Department of Maxillofacial surgery Kaunas clinics in September 2025 with a large recurrent tumor of the left temporal region. The disease originated in 2016 as a lower eyelid lesion initially classified as malignant melanoma based on S100 and SOX10 expression. During a nine-year period, the patient underwent ten surgical resections for recurrent lesions variably diagnosed as neuroma, hybrid nerve sheath tumor, and NF1-associated neurofibroma. Treatment included imatinib, pembrolizumab, doxorubicin, and hypofractionated radiotherapy. Rapid progression in 2024 necessitated orbital exenteration, followed by further aggressive recurrence. Preoperative biopsies demonstrated marked intratumoral heterogeneity with discordant proliferative activity. Radical en bloc resection of the scalp, temporalis muscle, zygomatic arch, and superficial parotid gland was performed with facial nerve resection. Histopathology confirmed high-grade MPNST.

Discussion

The prolonged clinical course and shifting histopathological diagnoses reflect the morphological continuum of peripheral nerve sheath tumors and the limited specificity of immunohistochemical markers (3). Intratumoral heterogeneity and NF1 association support stepwise malignant transformation (4). Consistent with published data, systemic therapies were ineffective, while complete surgical resection achieved local control (3,5).



Conclusions

This case highlights the diagnostic challenges and aggressive behavior of NF1-associated MPNST and reinforces radical surgery as the principal determinant of local disease control.

References

1. Yao C, Zhou H, Dong Y, Alhaskawi A, Hasan Abdullah Ezzi S, Wang Z, et al. Malignant Peripheral Nerve Sheath Tumors: Latest Concepts in Disease Pathogenesis and Clinical Management. *Cancers (Basel)*. 2023 Feb 8;15(4):1077.
2. Hirbe AC, Dehner CA, Dombi E, Eulo V, Gross AM, Sundby T, et al. Contemporary Approach to Neurofibromatosis Type 1–Associated Malignant Peripheral Nerve Sheath Tumors. *American Society of Clinical Oncology Educational Book*. 2024 Jun;44(3).
3. Cai Z, Tang X, Liang H, Yang R, Yan T, Guo W. Prognosis and risk factors for malignant peripheral nerve sheath tumor: a systematic review and meta-analysis. *World J Surg Oncol*. 2020 Sep 30;18(1):257.
4. Watson KL, Al Sannaa GA, Kivlin CM, Ingram DR, Landers SM, Roland CL, et al. Patterns of recurrence and survival in sporadic, neurofibromatosis Type 1–associated, and radiation-associated malignant peripheral nerve sheath tumors. *J Neurosurg*. 2017 Jan;126(1):319–29.
5. Knight SWE, Knight TE, Santiago T, Murphy AJ, Abdelhafeez AH. Malignant Peripheral Nerve Sheath Tumors—A Comprehensive Review of Pathophysiology, Diagnosis, and Multidisciplinary Management. *Children*. 2022 Jan 1;9(1):38.

Apical Microsurgery for Right Maxillary Premolars Presenting Periapical Lesion and Diminished Crown-Root Ratio: A Case Report

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Introduction

Apical microsurgery may be an effective option when conventional retreatment is limited by prosthetic, anatomical or patient-related factors [1]. It allows direct access to periapical pathology, facilitating removal of persistent infection and preserving the existing restoration [2].

Case Presentation

The patient presented to LUHS Kaunas Clinics in 2025 May with recurrent pain and an active buccal sinus tract at the apex of tooth #14. Clinical examination of both teeth indicated grade III mobility, sensitivity to percussion and palpation. Periapical radiographs showed poor-quality endodontic treatment and full-coverage crowns with metal posts and fistulogram indicated extensive apical and marginal bone resorption in the region of the teeth #14, 15. Despite the guarded prognosis, the patient desired to preserve the teeth and apical microsurgery was chosen as the treatment. A full-thickness mucoperiosteal flap was elevated in the regions of teeth #16 and #13 and a periapical lesion about 10 mm in size was identified and enucleated. Three millimeters of the apices of both teeth were resected followed by retrograde cavity preparations using an endodontic ultrasonic tip. The root-end cavities were filled with TotalFill BC RRM Fast Set Putty (FKG Dentaire, Switzerland). The osseous defect was filled with a collagen matrix, and the surgical site was sutured using 4-0 Vicryl suture (Ethicon, USA). Teeth were removed from occlusion and stabilized with a semi-rigid splint. Histological examination of the enucleated fragment confirmed a cystic lesion. The splint was removed after two weeks, with fistula resolution noted. Regular clinical and periapical radiographic follow-ups were conducted. At six months follow-up, periapical radiographs revealed significant bone healing, and the patient reported no symptoms.

Discussion

Apical microsurgery was chosen to preserve the teeth due to lesion size and prosthetic restorations limiting nonsurgical retreatment [3]. Retrograde preparation and

root-end filling provided effective sealing and infection control, while removal from occlusion and stabilization with a splint reduced micromovement and supported periodontal healing.

Conclusions

In this clinical case, apical microsurgery preserved compromised teeth considered to have poor prognosis, with favorable clinical and radiographic findings observed.

References

1. Wang H, Xu X, Bian Z, Liang J, Chen Z, Hou B, et al. Expert consensus on apical microsurgery. *Int J Oral Sci.* 2025;17:2. <https://doi.org/10.1038/s41368-024-00334-8>
2. von Arx T. Apical surgery: A review of current techniques and outcome. *Saudi Dent J.* 2011;23(1):9–15. <https://doi.org/10.1016/j.sdentj.2010.10.004>
3. Truschnegg A, Rugani P, Kirnbauer B, Kqiku L, Jakse N, Kirmeier R. Long-term follow-up for apical microsurgery of teeth with core and post restorations. *J Endod.* 2020;46(2):178–83. <https://doi.org/10.1016/j.joen.2019.11.002>

Bisphosphonate related osteonecrosis of the jaw: A case report

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Introduction

Bisphosphonates (BP) are a class of antiresorptive drugs which target the activity of osteoclasts and inhibit their functions and bone mineralization capacity. In consequence, treating diseases of the bone. [1] However, when the patients undergo dental procedures, even minor trauma can disrupt normal jawbone remodeling and lead to bisphosphonate-related osteonecrosis of the jaw (BRONJ). [2]

Case Presentation

A 77 year old female presented with halitosis, dull pain, and a sensation of exposed bone lasting 6 six months post extraction of teeth 14,15. The patient had been diagnosed with osteoporosis 6 years prior and was treated with BP. When admitted, BP therapy had been stopped for 10 months due to remission. After CBCT a 1.5 cm bone defect in the region of teeth 13-15 was identified. Before any intervention, the C-terminal telopeptide (CTX) value was measured at 173 pg/ml. Following a proper value, the patient was hospitalized and an appropriate antimicrobial therapy was prescribed. Patient's blood was collected for the processing of plasma rich in growth factor (PRGF). PRGF was divided into two fractures, where the second one (F2), richer in GF, was to be used in the surgical site. During surgery, necrotic bone and granulations were removed with preservation of bleeding bone, tooth 13 was extracted and PRGF F2 was applied. The patient made a full recovery from BRONJ despite a long disease course. Four weeks after recovery, no relapse has been reported.

Discussion

According to literature, the incidence of BRONJ is rare, reported to be 2.7%. [3] And, although, the surgical treatment of BRONJ is a viable option, it is clinically appropriate when the CTX value is at least 150 pg/ml. In other cases, BP may need to be discontinued, following an interdisciplinary collaboration. The CTX value increases by approximately 26–66 pg/mL per month during drug discontinuation. Moreover, PRGF has been reported as an aid after surgical treatment of BRONJ, potentially contributing to soft tissue healing. [4] Yet, the best outcomes are still to be expected when the oral cavity is provided before prescribing BP. [5]

Conclusions

Assessment of CTX is advised in patients receiving BP prior to any surgical oral procedure. In addition, PRGF after surgical

removal of necrotic bone may have contributed to favorable clinical outcomes. Following these steps good clinical outcomes may be expected.

References

1. Hadad, H., de Jesus, L.K., da Silva, M.P. et al. A Systematic Review of the Effects of Bisphosphonates on Osteoblasts In Vitro. *Calcif Tissue Int* 116, 86 (2025). <https://doi.org/10.1007/s00223-025-01390-w>
2. Sharma S, Shankar R, Ravi Kiran BS, Breh R, Sarangi S, Kumar Upadhyay A. A Narrative Review of Osteonecrosis of the Jaw: What a Clinician Should Know. *Cureus*. 2023 Dec 27;15(12):e51183. doi: 10.7759/cureus.51183. PMID: 38283469; PMCID: PMC10817767.
3. Martins LHI, Ferreira DC, Silva MT, Motta RHL, Franquez RT, Bergamaschi CC. Frequency of osteonecrosis in bisphosphonate users submitted to dental procedures: A systematic review. *Oral Dis*. 2023 Jan;29(1):75-99. doi: 10.1111/odi.14003. Epub 2021 Sep 22. PMID: 34402147.
4. Solakoglu, Ö., Heydecke, G., Amiri, N. & Anitua, E. The use of plasma rich in growth factors (PRGF) in guided tissue regeneration and guided bone regeneration. A review of histological, immunohistochemical, histomorphometrical, radiological and clinical results in humans. *Ann Anat* 231, 151528 (2020). <https://doi.org/10.1016/j.aanat.2020.151528>
5. Teślak M, Chlebus I, Ordyniec-Kwaśnica I. The role of interdisciplinary cooperation in the prevention of Medication-Related Osteonecrosis of the Jaw (MRONJ). *Eur J Transl Clin Med*. 2020;3(1):60-65. DOI: 10.31373/ejtcml/120581

Wheat-Dependent Exercise-Induced Anaphylaxis triggered by nsLTP: A Case Report

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Introduction

Wheat-dependent exercise-induced anaphylaxis (WDEIA) is a rare but potentially life-threatening form of anaphylaxis [1]. WDEIA is most commonly mediated by immunoglobulin E sensitisation to wheat omega-5-gliadin (Tri a 19). However, wheat may also trigger anaphylaxis via cross-reactive plant pan-allergen nsLTP, which is less common and associated with systemic and cofactor-related reactions. Exercise is the most frequent cofactor, increasing intestinal permeability and enhancing allergen absorption, while heat exposure can further lower the threshold for mast cell activation and anaphylaxis[3]. Affected individuals usually tolerate wheat ingestion and exercise independently, delaying recognition of diagnosis [2].

Case Presentation

A 36-year-old female presented with recurrent episodes of anaphylaxis triggered by wheat ingestion combined with physical and thermal co-factors on different occasions. The first episode occurred after the consumption of a croissant, followed by aerobic exercise. The second episode developed after ingestion of a wheat bagel with poppy seeds and subsequent sauna exposure. Both reactions involved generalised urticaria, facial angioedema, gastrointestinal and cardiovascular symptoms, requiring intramuscular epinephrine. The patient tolerates wheat products at rest. Skin prick test showed sensitisation to wheat flour, rye flour and peanuts, while prick-to-prick test with poppy seeds was negative. Component-resolved diagnostics (Alex-2) revealed elevated total IgE- 153 kU/L (<100 kU/L) and sensitisation to 21 allergens, predominantly nsLTP-mediated, including wheat, corn, nuts, peach, apple, kiwi, grape, tomato, and celery. Omega-5-gliadin sensitisation was not detected. Treatment consisted of avoiding identified food allergens, particularly wheat, 4-6 hours before exercise or heat exposure. For acute episodes, intramuscular epinephrine was prescribed, and 2nd generation antihistamines were recommended for mild allergic symptoms.



Discussion

This case showcases the importance of recognising nsLTP-mediated food anaphylaxis. Omega-5-gliadin is considered the standard allergen marker for WDEIA and is associated with isolated wheat allergy and limited cross-reactivity. nsLTP-mediated reactions may be severe and more unpredictable due to broader plant food reactivity and cofactor dependence. The presence of exercise and heat as co-factors highlights the importance of recognising triggers beyond food alone.

Conclusions

While WDEIA is commonly mediated by omega-5-gliadin, this case represents a clinically relevant mechanism involving nsLTP sensitisation with cofactor-dependent amplification. This shows the importance of molecular allergy diagnostics for accurate phenotyping, risk stratification and individualised management strategies.

References

1. Faihs V, Kugler C, Schmalhofer V, Scherf KA, Lexhaller B, Mortz CG, et al. Wheat-dependent exercise-induced anaphylaxis: subtypes, diagnosis, and management. *J Dtsch Dermatol Ges.* 2023 Oct;21(10):1131-1135. Available from: <https://pubmed.ncbi.nlm.nih.gov/37462335/>.
2. Srisuwatchari W, Kanchanapoomi K, Pacharn P. Molecular diagnosis to IgE-mediated wheat allergy and wheat-dependent exercise-induced anaphylaxis. *Clin Rev Allergy Immunol.* 2025;68:47:1-13. Available from: <https://link.springer.com/article/10.1007/s12016-025-09059-w>.
3. Mobayed, H., Al-Nesf, M. A., Robles-Velasco, K., Cherrez-Ojeda, I., Ensina, L. F., & Maurer, M. Severe exercise-induced anaphylaxis in a hot and humid area successfully treated with omalizumab: a case report. 2023; *Frontiers in Allergy*, 4, 1228495. Available at: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10415072/>.

Beyond Structural Pathology: A Clinical Case of Irritable Larynx Syndrome

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Introduction

Chronic cough and related upper airway symptoms may persist despite standard management, reflecting underlying laryngeal hypersensitivity or neurogenic dysfunction that lowers the threshold for sensory activation of the cough reflex (1,2). This heightened sensorimotor response- called Irritable Larynx Syndrome (ILS)- arises from a peripheral and central sensitization mechanism, often triggered by inflammation, reflux or irritant exposure and represents a functional rather than structural disorder of the larynx (3,4).

Case Presentation

A 59-year-old woman presented with hoarseness and phonation-induced coughing fits after a history of unsuccessful treatments, multiple specialist evaluations and ineffective reflux therapy. Examination revealed smooth, reddish laryngeal mucosa with symmetrical vocal fold movement and no structural abnormalities. Patient was diagnosed with dysphonia due to suspected laryngeal hypersensitivity. A superior laryngeal nerve-directed treatment using lidocaine and dexamethasone was initiated, alongside reflux control and speech therapy recommendations. After two injections, symptoms and vocal fold closure improved, confirming a functional rather than structural etiology. Follow-up evaluation were scheduled at three and nine months.

Discussion

ILS underlies chronic cough and dysphonia, affecting up to 10% of adults with persistent upper airway symptoms (3). Peripheral and central sensitization produce exaggerated laryngeal reflexes to innocuous triggers, often following inflammation or irritation (1,4). Clinically patients present with hoarseness and phonation-triggered cough despite normal laryngoscopy (3). Diagnosis is confirmed by clinical findings after excluding structural, post-viral, reflux and pulmonary causes. Management combines neuromodulators, neural-directed therapy (e.g., SLN/lidocaine-steroid injections), modern reflux control and speech therapy (1,2). Early recognition and trigger avoidance favor symptom reversal and improved prognosis (2,4).

Conclusions

Dysphonia and chronic cough without structural changes likely reflect laryngeal hypersensitivity (2,4). Improvement after superior laryngeal nerve block confirms the benefit of neural-targeted therapy (1). Early recognition enables effective management and better outcomes (2,3).



References

1. Tipton CB, Walters R, Gudipudi R, Smyre D, Nguyen S, O'Rourke AK. The Efficacy of Superior Laryngeal Nerve Block for Neurogenic Cough: A Placebo-Controlled Trial. *Laryngoscope*. 2023 Nov 1. Available from: <https://pubmed.ncbi.nlm.nih.gov/37166167/>
2. Lilly GL, Carroll T, Pietsch K, Dhillon V, Bryson PC, Akst LM. Refractory Chronic Cough: A State-of-the-Art Review for Otolaryngologists. Vol. 172, *Otolaryngology - Head and Neck Surgery* (United States). John Wiley and Sons Inc; 2025. p. 419-35. Available from: <https://pubmed.ncbi.nlm.nih.gov/39575647/>
3. Roy N, Merrill RM, Pierce J, Sundar KM. Evidence of Possible Irritable Larynx Syndrome in Obstructive Sleep Apnea: An Epidemiologic Approach. *Journal of Voice*. 2021 Nov 1. Available from: <https://pubmed.ncbi.nlm.nih.gov/32171641/>
4. Saint-Jules W, Massé-Alarie H, Li-Jessen NYK, Desjardins M. Laryngeal Hypersensitivity From the Perspective of Pain Science: An Integrative Review of Empirical Studies on Associated Factors and Processes. *Journal of Voice*. Elsevier Inc.; 2025. Available from: <https://pubmed.ncbi.nlm.nih.gov/40300959/>

Neurosciences:

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Abstracts

Complex Organic Depression Following Myocardial Infarction (MI): A case report

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Introduction

Organic depression refers to a depressive syndrome meeting diagnostic criteria for depressive disorders that develops secondary to a medical condition rather than as a psychological response to illness [1]. Cardiovascular pathologies, including myocardial infarction (MI), are strongly associated with depressive disorders, affecting approximately 20–40% of patients [2].

Case Presentation

This case presents a 58-year-old man with recurrent depressive episodes since 2008, characterized by exhaustion, low mood, and impaired occupational functioning. He was treated on an outpatient basis but received no regular psychiatric medication during the 10 years preceding 2023. In 2023, he experienced a MI with significant functional decline and worsening depressive symptoms, including persistent low mood, fatigue, self-devaluation, insomnia, and slowed thinking. Between 2023 and 2025, was diagnosed with organic depression and required seven psychiatric hospitalizations due to relapses. During the most recent admission, pharmacological management with venlafaxine, mirtazapine and aripiprazole was continued based on partial prior response and tolerability. Venlafaxine was increased to optimize antidepressant response, and aripiprazole was maintained as augmentation.

Discussion

Depressive states emerging after MI are linked to increased overall mortality, and a greater likelihood of subsequent MI [3]. Inflammatory pathways are implicated in this association, prompting interest in adjunctive anti-inflammatory therapeutic strategies, such as omega 3 fatty acids, herbal compounds, probiotic supplementation. [4, 5]. Paroxetine may exert beneficial effects on cardiac function, including attenuation of myocardial fibrosis and improvement of ventricular performance [6]. Integrating anti-inflammatory approaches with conventional antidepressant treatment may support both psychological recovery and cardiovascular stability.

Conclusions

This case illustrates a shift toward persistent and difficult-to-treat depression after myocardial infarction, highlighting the

importance of re-evaluating depressive features and therapeutic approaches in the context of major somatic events.

References

1. World Health Organization (2004). ICD-10: international statistical classification of diseases and related health problems: tenth revision, 2nd ed. World Health Organization. World Health Organization. Available from: <https://iris.who.int/handle/10665/42980>
2. Goldfarb D, Abbasi O, Burke WJ. Depression. In: Ham's Primary Care Geriatrics. 7th ed. Philadelphia: Elsevier; 2025. p. 195-207. Available from: <https://www-clinicalkey-com.ezproxy.dbazes.lsmuni.lt/#!/content/book/3-s2.0-B9780323721684000197>
3. Lichtman JH, Froelicher ES, Blumenthal JA. et al. Depression as a risk factor for poor prognosis among patients with acute coronary syndrome: systematic review and recommendations: a scientific statement from the American Heart Association. *Circulation*. 2014; 129(12): 1350–1369. Available from: https://www-ahajournals-org.ezproxy.dbazes.lsmuni.lt/doi/10.1161/CIR.0000000000000019?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed
4. Garrels E, Kainth T, Silva B, Yadav G, Gill G, Salehi M, Gunturu S. Pathophysiological mechanisms of post-myocardial infarction depression: a narrative review. *Front Psychiatry*. 2023 Aug 4;14:1225794. Available from: <https://pmc-ncbi-nlm-nih-gov.ezproxy.dbazes.lsmuni.lt/articles/PMC10436342/>
5. Yang, Y., Li, X., Chen, S. et al. Mechanism and therapeutic strategies of depression after myocardial infarction. *Psychopharmacology* 238, 1401–1415 (2021). Available from: <https://doi-org.ezproxy.dbazes.lsmuni.lt/10.1007/s00213-021-05784-0>
6. Schumacher SM, Gao E, Zhu W, Chen X, Chuprun JK, Feldman AM, Tesmer JJ, Koch WJ. Paroxetine-mediated GRK2 inhibition reverses cardiac dysfunction and remodeling after myocardial infarction. *Sci Transl Med*. 2015 Mar 4;7(277):277ra31. Available from: <https://pubmed-ncbi-nlm-nih-gov.ezproxy.dbazes.lsmuni.lt/25739765/>

From early motor symptoms to psychosis: a case report

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Introduction

First-episode psychosis may initially resemble neurological or stress-related conditions, especially when early symptoms include abnormal movements. Motor abnormalities are common in first-episode psychosis and have also been described in prodromal and high-risk states (1-2). Coexisting medical conditions, such as Lyme disease, may further complicate diagnostic clarity due to possible neuropsychiatric effects (3). This case shows how stress, early motor abnormalities, and infection obscured recognition of an evolving schizophrenia-spectrum disorder.

Case Presentation

A 19-year-old male developed vocal tics, neck twisting and episodic tremors about one month before acute psychological deterioration triggered by a military summons. He became anxious, withdrawn and described intrusive internal images and somatic sensations. Initial impression was an acute stress reaction with possible brief psychotic features. Neurological examination and MRI were normal. A 25-cm erythema migrans led to a diagnosis of Lyme disease and doxycycline therapy, yet motor and perceptual symptoms progressed. Psychological testing excluded autism spectrum disorder but showed concrete thinking and slowed cognitive processing. During hospitalization, persistent hallucinations, affective flattening, social withdrawal and limited insight emerged. Symptoms improved with olanzapine, and motor phenomena diminished in parallel. The longitudinal course supported a diagnosis of paranoid schizophrenia rather than a transient stress-related disorder.

Discussion

Neurodevelopmental models of schizophrenia implicate abnormalities within cortico-subcortical motor circuits, including fronto-striatal, thalamic, and cerebellar pathways, which contribute to motor abnormalities observed across the schizophrenia spectrum (4-6). Dopaminergic dysregulation further modulates these circuits, providing a mechanistic link between early motor phenomena and subsequent psychotic symptoms (7-8). Improvement of both motor and psychotic symptoms with antipsychotic treatment aligns with these circuit-level models (1,8).



Conclusions

Motor abnormalities may reflect early circuit-level dysfunction underlying psychosis, highlighting the need for early detection and intervention.

References

1. Cuesta MJ, García de Jalón E, Campos MS, Moreno-Izco L, Lorente-Omeñaca R, Sánchez-Torres AM, Peralta V. Motor abnormalities in first-episode psychosis patients and long-term psychosocial functioning. *Schizophr Res*. 2018 Oct;200:97-103.
2. Damme KSF, Han YC, Han Z, Reber PJ, Mittal VA. Motor precision deficits in clinical high risk for psychosis. *Eur Arch Psychiatry Clin Neurosci*. 2024 Sep;274(6):1427-1435.
3. Fallon BA, Madsen T, Erlangsen A, Benros ME. Lyme Borreliosis and Associations With Mental Disorders and Suicidal Behavior: A Nationwide Danish Cohort Study. *Am J Psychiatry*. 2021 Oct 1;178(10):921-931.
4. Abboud R, Noronha C, Diwadkar VA. Motor system dysfunction in the schizophrenia diathesis: Neural systems to neurotransmitters. *Eur Psychiatry*. 2017 Jul;44:125-133.
5. Schäppi L, Stegmayer K, Viher PV, Walther S. Distinct Associations of Motor Domains in Relatives of Schizophrenia Patients-Different Pathways to Motor Abnormalities in Schizophrenia? *Front Psychiatry*. 2018 Apr 23;9:129.
6. Huang H, Zhang B, Mi L, Liu M, Chang X, Luo Y, Li C, He H, Zhou J, Yang R, Li H, Jiang S, Yao D, Li Q, Duan M, Luo C. Reconfiguration of Functional Dynamics in Cortico-Thalamo-Cerebellar Circuit in Schizophrenia Following High-Frequency Repeated Transcranial Magnetic Stimulation. *Front Hum Neurosci*. 2022 Jul 25;16:928315.
7. Kesby JP, Eyles DW, McGrath JJ, Scott JG. Dopamine, psychosis and schizophrenia: the widening gap between basic and clinical neuroscience. *Transl Psychiatry*. 2018 Jan 31;8(1):30.
8. McCutcheon RA, Abi-Dargham A, Howes OD. Schizophrenia, Dopamine and the Striatum: From Biology to Symptoms. *Trends Neurosci*. 2019 Mar;42(3):205-220.

Challenges of Pregnancy and Delivery in a Woman with Paranoid Schizophrenia and Mild Intellectual Disability: A Clinical Case Report

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Introduction

Mental disorders during pregnancy are common and associated with adverse maternal and fetal outcomes [1]. Pregnancies in women with schizophrenia remain high-risk due to relapse, obstetric complications, and social adversity [2,3]. Current evidence shows that antipsychotic use in pregnancy is not associated with a significant increase in major congenital malformations, while untreated psychosis poses greater risk to mother and fetus [4]. Prescribing antipsychotics requires regular, individualized psychiatric and obstetric follow-up throughout pregnancy, with closer monitoring during treatment initiation, dose changes, or symptom worsening. Reports of complex late-pregnancy cases are limited [5].

Case Presentation

A 32-year-old multiparous woman (gravida 3, para 2) at 37 weeks' gestation with paranoid schizophrenia and mild intellectual disability was admitted after suicidal threats. Her history included poor adherence, multiple psychiatric hospitalizations, domestic violence, and social risk. Pregnancy was complicated by intrahepatic cholestasis, anemia, and chronic hepatitis B. On admission, she presented with acute psychosis and suicidality. Treatment included close monitoring, short-term lorazepam, low-dose haloperidol, and brief physical restraint. Psychotic symptoms resolved within 10 days. Labor was induced at 37+5 weeks due to intrahepatic cholestasis, resulting in uncomplicated vaginal delivery of a healthy male neonate (3240 g, Apgar 10/10). Postpartum stability was maintained.

Discussion

This case illustrates the challenges of managing late-pregnancy psychosis in a high-risk patient with significant social adversity. Antipsychotic treatment was essential and was applied safely [6]. Physical restraint was used only when necessary [7]. Interdisciplinary psychiatric and obstetric coordination ensured stabilization and safe delivery. Close postpartum monitoring is crucial due to the high risk of relapse [8].

Conclusions

This case underscores the importance of coordinated multidisciplinary management

in late pregnancy complicated by severe psychotic disorder, intellectual disability, and obstetric comorbidities. Timely antipsychotic treatment, continuous risk assessment, and close psychiatric and obstetric monitoring enabled maternal stabilization and favorable neonatal outcomes.

References

1. World Health Organization. Mental health, brain health and substance use: maternal mental health [Internet]. Geneva: WHO; Available from: <https://www.who.int/teams/mental-health-and-substance-use/promotion-prevention/maternal-mental-health>
2. Taylor CL, Munk-Olsen T, Howard LM, Vigod SN. Schizophrenia around the time of pregnancy: leveraging population-based health data and electronic health record data to fill knowledge gaps. *BJPsych Open*. 2020;6(5):e97. doi:10.1192/bjo.2020.78. PMID: 32854798; PMCID: PMC7488329.
3. Steiger A, Seeman MV. Grappling with issues of motherhood for women with schizophrenia. *Healthcare (Basel)*. 2023;11(21):2882. doi:10.3390/healthcare11212882.
4. Etchecopar-Etchart D, Mignon R, Boyer L, Fond G. Schizophrenia pregnancies should be given greater health priority in the global health agenda: results from a large-scale meta-analysis of 43,611 deliveries of women with schizophrenia and 40,948,272 controls. *Mol Psychiatry*. 2022;27(8):3294–3305. doi:10.1038/s41380-022-01593-9.
5. Falcão AL, Leal BS, Figueiredo IM, et al. Prevention and treatment of psychosis in pregnant and/or postpartum women with known psychiatric illness: the state of the art of clinical practice guidelines. *Eur Psychiatry*. 2025;68(Suppl 1):S137–S138. doi:10.1192/j.eurpsy.2025.364.
6. Hrdlicková K, Němcová H, Horáková A, Sebel A. Use of antipsychotics during pregnancy and their impact on congenital malformations and early neonatal adaptation. *Ceska Gynekol*. 2023;88(3):221–230.
7. Lietuvos Respublikos sveikatos apsaugos ministras. Įsakymas dėl fizinio suvaržymo priemonių taikymo psichikos ir elgesio sutrikimų turintiems pacientams ir jų taikymo stebėsenos tvarkos aprašo patvirtinimo, 2019 m. gegužės 29 d. Nr. V-643 [Internet]. Vilnius; Available from: <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/2f732f00821611e98a8298567570d639>
8. Kang S, Yang JS, Yun BH, Gelaye B, An SK, Jung SJ. Antipsychotic continuation during pregnancy and risk of postpartum relapse in women with schizophrenia: a nationwide register-based study. *Br J Psychiatry*. 2025;227(3):614.

Acute Religious Delusional Psychosis Triggered by Sleep Deprivation After Antipsychotic Discontinuation

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Introduction

Non-adherence to antipsychotic treatment is a major predictor of psychosis relapse [1]. Sleep deprivation may further accelerate recurrence and worsen cognitive disorganization [2, 3]. Religious themes are common in acute psychosis, however, the role of insomnia as a precipitating factor following medication discontinuation remains insufficiently described [4].

Case Presentation

A 35-year-old woman experienced her first psychotic episode in 2021, characterized by inappropriate behavior, hyperactivity and elevated mood. Acute polymorphic psychotic disorder (F23.00) was diagnosed and remission was achieved with olanzapine 15 mg/day, which the patient later discontinued. In 2023, she relapsed with prominent religious and romantic delusions accompanied by severe insomnia, leading to revision of the diagnosis to other non-organic psychotic disorders (F28). In 2024, after independently stopping antipsychotic medication again, she was admitted following several days of near-total insomnia with intense religious preoccupations, auditory hallucinations, emotional lability and impaired judgment. No substance use was reported. Physical, neurological and laboratory evaluations were unremarkable. Affective, schizophrenia spectrum, substance-induced, and organic psychotic disorders were systematically excluded based on the episodic course, symptom variability, absence of negative symptoms and normal investigations. These findings supported the diagnosis of F28. Treatment with short-term haloperidol and benzodiazepines followed by risperidone titration led to symptom reduction, sleep normalization and partial insight recovery.

Discussion

This case highlights sleep deprivation as a critical precipitating factor for acute psychotic relapse following antipsychotic discontinuation. Recurrent episodes with fluctuating symptom profiles, preserved inter-episodic functioning and absence of persistent schizophrenia-defining features support classification under F28. Severe insomnia likely contributed to rapid intensification of religious delusions and perceptual disturbances, emphasizing the interaction between biological vulnerability and behavioral triggers.



Conclusions

Monitoring treatment adherence and sleep quality is crucial for preventing relapse in patients with psychotic disorders.

References

1. Patel KR, Cherian J, Gohil K, Atkinson D. Schizophrenia: overview and treatment options. *Pharm Ther.* 2014;39(9):638–45.
2. Waters F, Chiu V, Atkinson A, Blom JD. Severe sleep deprivation causes hallucinations and a gradual progression toward psychosis with increasing time awake. *Front Psychiatry.* 2018;9:303.
3. Reeve S, Sheaves B, Freeman D. The role of sleep dysfunction in the occurrence of delusions and hallucinations. *Curr Psychiatry Rep.* 2019;21:70.
4. Higuchi T, Akechi T. Religious delusions in psychosis: clinical characteristics and outcomes. *Psychiatr Clin Neurosci.* 2021;75(2):52–60.

Sensitivity to Antipsychotic Medications in a Patient with Schizophrenia

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Introduction

This case illustrates marked individual sensitivity to antipsychotic medications in a patient with schizophrenia, manifested by drug intolerance and recurrent hyperprolactinemia, significantly complicating treatment selection.

Case Presentation

A 44 year old female patient with paranoid schizophrenia developed psychiatric symptoms following the diagnosis and surgical treatment of Crohn's disease. Her clinical picture was characterized by anxiety, depressive symptoms, reduced energy, and episodic psychotic symptoms. Multiple first- and second-generation antipsychotics were trialed; however, most were poorly tolerated, causing akathisia, sedation, somatic discomfort, and pronounced hyperprolactinemia. Recurrent prolactin elevation was observed with antipsychotic exposure. An asymptomatic benign pituitary lesion was identified on a routine CT scan, but endocrinological assessment confirmed medication-induced hyperprolactinemia. Due to severe intolerance to several agents, a multidisciplinary team adopted a treatment strategy focused on the lowest effective antipsychotic dose.

Discussion

Antipsychotic-induced hyperprolactinemia is a frequent adverse effect in patients with schizophrenia, with recent studies reporting prevalence rates of 30–75%, particularly with dopamine D₂ receptor antagonists such as risperidone and amisulpride. This condition results from reduced dopaminergic inhibition of prolactin secretion, leading to elevated serum prolactin levels [1]. Clinically, hyperprolactinemia may be asymptomatic or present with menstrual disturbances, galactorrhoea and sexual dysfunction; diagnosis requires repeated prolactin measurements and exclusion of pituitary pathology [1]. Management options include dose reduction, switching to prolactin-sparing antipsychotics, or adjunctive treatment with partial D₂ agonists such as aripiprazole [2,3,4]. Complex cases require individualized strategies balancing psychotic symptom control with endocrine safety [5].

Conclusions

Severe individual intolerance to antipsychotics can substantially complicate

schizophrenia management and contribute to hyperprolactinemia. Multidisciplinary, personalized treatment approaches are essential, prioritizing overall clinical benefit over isolated laboratory normalization.

References

1. Bird S. Antipsychotic-induced hyperprolactinemia: Toxicologic mechanism and the increased breast cancer risk. *Science Direct*. 2025;1;14:101927.
2. Jiang Q, Li T, Zhao L, Sun Y, Mao Z, Xing Y, et al. Treatment of antipsychotic-induced hyperprolactinemia: an umbrella review of systematic reviews and meta-analyses. *Frontiers in Psychiatry*. 2024;5:15:1337274.
3. Lu Z, Sun Y, Zhang Y, Chen Y, Guo Liangkun, Liao Y, et al. Pharmacological treatment strategies for antipsychotic-induced hyperprolactinemia: a systematic review and network meta-analysis. *Translational Psychiatry*. 2022;12(1):267.
4. Yang J, Zhu X, Wang W, Wang H, Gong H, Zhang Y, et al. Aripiprazole or metformin for hyperprolactinemia in women with schizophrenia: A 6-month, real-world chart review study. *Science Direct*. 2025;280:76-84.
5. Tewksbury A, Olander A. Management of antipsychotic-induced hyperprolactinemia. *Mental Health Clinician*. 2016;29:185-190.

Adverse neuropsychiatric effects of donepezil in a patient with suspected dementia

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Introduction

Donepezil, an acetylcholinesterase inhibitor, is prescribed for mild to moderate Alzheimer's disease to improve cognition [1]. Although generally well tolerated, it may occasionally precipitate severe psychiatric and neurological adverse effects [2,3].

Case Presentation

A 58-year-old man presented with several days of insomnia, visual hallucinations, gait instability, and impaired speech. He had previously been prescribed melperone for behavioral symptoms before initiation of donepezil (5 mg daily) for suspected unspecified dementia. Shortly after starting donepezil, his symptoms markedly worsened, including vivid visual hallucinations ("angry dogs"), anxiety, disorientation, dysarthria, ataxic gait, and whole-body myoclonus. Other causes of organic psychosis were excluded based on preserved consciousness and unremarkable laboratory and neuroimaging findings. On hospital admission, donepezil was discontinued. The patient was treated sequentially with haloperidol, diazepam, trihexyphenidyl, mirtazapine, and later olanzapine. His visual hallucinations resolved rapidly, orientation improved, and speech articulation became clearer within days. The close temporal relationship between donepezil initiation and the onset of symptoms, combined with their resolution after withdrawal, supported a diagnosis of donepezil-induced hallucinosis.

Discussion

By inhibiting acetylcholinesterase, donepezil elevates synaptic acetylcholine, stimulating muscarinic receptors, including M2 [3]. Excessive cholinergic activity can paradoxically provoke hallucinations, insomnia, myoclonus, and motor instability – especially in patients without clear cholinergic deficits (non-Alzheimer, mixed dementia, mild cognitive impairment) [4]. In this case, MMSE showed mild cognitive impairment. Elevated acetylcholine also contributes to insomnia and nightmares, prolonging REM sleep and wakefulness [3,4]. Prior antipsychotic therapy with melperone may have interacted with donepezil, enhancing extrapyramidal and cognitive adverse effects [5].

Conclusions

This case highlights the importance of cautious donepezil use in patients with

unspecified dementia, or concurrent neuroleptic therapy. Clinicians should monitor for paradoxical neuropsychiatric reactions and consider withdrawal if such symptoms emerge.

References

1. Bittner N, Funk CSM, Schmidt A, Bempohl F, Brandl EJ, Algharably EEA, et al. Psychiatric Adverse Events of Acetylcholinesterase Inhibitors in Alzheimer's Disease and Parkinson's Dementia: Systematic Review and Meta-Analysis. *Drugs Aging*. 2023 Sep 8;40, 953–964. doi:10.1007/s40266-023-01065-x.
2. Zhang X, Lian S, Zhang Y, Zhao Q. Efficacy and safety of donepezil for mild cognitive impairment: A systematic review and meta-analysis. *Clin Neurol Neurosurg*. 2022 Feb 1;213:107134. doi:10.1016/j.clineuro.2022.107134.
3. Kumar A, Gupta V, Sharma S. Donepezil. Treasure Island, USA: StatPearls Publishing; 2023 Aug 17. Available from: <https://www.ncbi.nlm.nih.gov/sites/books/NBK513257/>
4. Pooladgar P, Sakhabakhsh M, Taghva A, Soleiman-Meigooni S. Donepezil Beyond Alzheimer's Disease? A Narrative Review of Therapeutic Potentials of Donepezil in Different Diseases. *Iranian Journal of Pharmaceutical Research*. 2022 Dec 31;21(1):e128408. doi:10.5812/ijpr-128408.
5. Rissardo JP, Caprara ALF. Movement disorders associated with acetylcholinesterase inhibitors in Alzheimer's dementia: A systematic review. *Brain Circulation*. 2025 Jan 1;11(1):9–23. doi: 10.4103/bc.bc_134_24.

Sexual Delusions in Male Psychosis with Substance Use

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Introduction

Sexual delusions are an underrecognized feature of psychotic disorders and are less frequently reported in male patients [1,2]. While existing research addresses sexual delusions in schizophrenia broadly, erotomanic or sexualized persecutory themes in male patients are sparsely described. These presentations may complicate diagnostic assessment, particularly alongside psychoactive substance use, a state associated with risk of progression to schizophrenia-spectrum disorders [3].

Case Presentation

A 22-year-old male was hospitalized with anxiety, persecutory sexual delusions, and auditory hallucinations. Collateral history revealed an 18-month course of progressive personality and behavioral change, including social withdrawal, affective incongruity, and occupational decline. Psychotic symptoms included persecutory beliefs, erotomanic content involving male figures, and hearing a deceased acquaintance's voice. Polysubstance use (cannabis, amphetamines, and hallucinogenic mushrooms) since late adolescence was reported, with panic and perceptual disturbances following use; however, symptoms persisted during abstinence. Mental status examination showed formal thought disorder and impaired insight, while neurological examination was unremarkable. Given the chronicity, progression, and symptom profile exceeding criteria for acute psychotic disorders, a diagnosis of paranoid schizophrenia was made. Aripiprazole 15 mg daily was initiated with short-term anxiolytic support.

Discussion

Comorbid substance use complicates psychiatric diagnostic assessment, as psychoactive substances may precipitate or amplify psychotic symptoms. In this case, symptom persistence during abstinence, an 18-month prodrome with negative symptoms, and functional decline supported primary schizophrenia over substance-induced psychosis [4]. The sexual persecutory content, potentially underrecognized in male patients, may have contributed to delayed presentation; such delusions are associated with interpersonal dysfunction and stigma-related barriers to help-seeking, which can worsen outcomes [5,6].

Conclusions

This case underscores the need for sustained observation and careful symptom characterization when evaluating psychosis



with atypical features, particularly in the context of comorbid substance use.

References

1. Blom J, Mangoenkarso E. Sexual Hallucinations in Schizophrenia Spectrum Disorders and Their Relation With Childhood Trauma. *Front Psychiatry*. 2018;9:193. doi: 10.3389/fpsy.2018.00193.
2. Li X, Zhou W, Yi Z. A glimpse of gender differences in schizophrenia. *Gen Psychiatr*. 2022;35(4):e100823. doi: 10.1136/gpsych-2022-100823.
3. Murrie B, Lappin J, Large M, Sara G. Transition of Substance-Induced, Brief, and Atypical Psychoses to Schizophrenia: A Systematic Review and Meta-analysis. *Schizophr Bull*. 2020;46(3):505-516. doi: 10.1093/schbul/sbz102.
4. World Health Organization. Clinical descriptions and diagnostic requirements for ICD-11 mental, behavioural and neurodevelopmental disorders (CDDR) [Internet]. Geneva: World Health Organization; 2024 [cited 2025 Dec 21]. Available from: <https://www.who.int/publications/i/item/9789240077263>.
5. Liu H, Pan X, Huang X, Tian H, Shao X, Wang D, et al. Do interpersonal trust and social avoidance mediate the association between psychotic symptoms and social functioning in chronic schizophrenia patients? *Front Psychiatry*. 2025;16:1433763. doi: 10.3389/fpsy.2025.1433763.
6. Skrobinska L, Newman-Taylor K, Carnelley K. Psychosis and help-seeking behaviour—A systematic review of the literature. *Psychol Psychother*. 2024;97(4):583-605. doi: 10.1111/papt.12531.

Acute psychosis as the first manifestation of autoimmune encephalitis.

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Introduction

Autoimmune encephalitis is a rare but clinically significant neurological condition that may initially present with prominent psychiatric symptoms and mimic a primary psychotic disorder [1]. As a result, patients are often first admitted to psychiatric units [1,2]. This case illustrates such a clinical presentation and highlights the importance of monitoring disease dynamics.

Case Presentation

A 29 year old female patient was admitted to a psychiatric ward due to the acute onset of delusions, hallucinations, behavioral disorganization, sleep disturbance and emotional lability. She had no prior psychiatric history. Symptomatic treatment for acute psychosis was initiated; however, during hospitalization the clinical course progressed, with the emergence of neurological features including psychomotor slowing, reduced responsiveness, and episodes of catatonia, alongside somatic deterioration requiring intensified medical care. Further diagnostic evaluation revealed cerebrospinal fluid abnormalities with elevated protein levels, and brain MRI demonstrated involvement of the limbic system. Based on the clinical course and investigation results, a diagnosis of autoimmune limbic encephalitis was established. Immunomodulatory treatment with high – dose corticosteroids was initiated, after which gradual clinical improvement was observed.

Discussion

Up to 60% of autoimmune encephalitis cases may initially present with psychiatric symptoms, including acute psychosis [1,2]. The underlying pathophysiology involves immune-mediated inflammation, most commonly affecting the limbic system, leading to disturbances of behavior, cognition and consciousness [1,3]. Diagnosis relies on careful evaluation of clinical progression supported by cerebrospinal fluid analysis, neuroimaging and neurological assessment [1]. Treatment is based on immunotherapy, and earlier initiation is associated with better outcomes and functional recovery [4].

Conclusions

This case demonstrates that acute psychosis may represent the first manifestation of autoimmune encephalitis. Close monitoring

of clinical dynamics and emerging atypical features is essential for timely diagnosis and treatment.

References

1. Graus F, Titulaer M, Balu R, Benseler S, Bien C, Cellucci T, et al. A clinical approach to diagnosis of autoimmune encephalitis. *Lancet Neurology*. 2016;15(4):391-404.
2. Pollak T, Lennox B, Müller S, Benros M, Prüss H, Klein H, et al. Autoimmune psychosis: an international consensus on an approach to the diagnosis and management of psychosis of suspected autoimmune origin. *Lancet Neurology*. 2020;7(1):93-108.
3. Dalmau J, Graus F. Antibody-Mediated Encephalitis. *New England Journal of Medicine*. 2018;378(1):840-851.
4. Ford H, Griffith S, Warren N, Swayne A, Blum S, Butzkueven H, et al. Psychiatric manifestations of autoimmune encephalitis. *Science Direct*. 2022;21(9):103145.

Clinical course and management of bipolar disorder with mixed features: a case report

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Introduction

Bipolar disorder (BD) is a chronic psychiatric condition marked by recurrent fluctuations in mood, spanning episodes of low, elevated or irritable states [1]. Episodes with mixed features, in which depressive and manic symptoms occur simultaneously, constitute a complex clinical subtype and are linked to more severe clinical features, reduced treatment efficacy, higher rates of psychiatric comorbidity, and an increased risk of suicide [2,3].

Case Presentation

A 29 year old female experienced an ectopic pregnancy 8 years ago and has since felt depressive symptoms. She refused to take antidepressants and tried to treat it herself by doing excessive exercise and maintaining a healthy diet. Since then the patient has been hospitalized in a psychiatric ward several times due to anxiety, insomnia, bad mood, the first hospitalization being in 2019. In summer 2025 the patient lacked insight, discontinued her medication and was hospitalized with manic, depressive and psychosis symptoms: agitation, aggression, property damage. The patient has been treated with Olanzapine, Mirtazapine, Zolpidem, Paroxetine, Quetiapine, but remission has not been induced. Before the latest hospitalization in October 2025 the patient presented with mood swings, insomnia, unrealistic plans and has shown suicidal tendencies. Last diagnosis was F31.6. Treatment consisted of Haloperidol, Olanzapine 20 mg, Trihexyphenidyl, Carbamazepine 600 mg with a positive effect on psychotic, depressive and manic symptoms.

Discussion

A meta-analysis has shown that BD with mixed features is associated with an increased risk of anxiety, rapid cycling, and suicidality, consistent with the unstable course observed in this case [4]. Although evidence on optimal treatment remains limited, available data indicates that only certain atypical antipsychotics, such as cariprazine or quetiapine combined with lithium, are effective for depressive symptoms in mixed states [5]. Combination



therapy with mood stabilizers and antipsychotics appears safer and more effective than antidepressant-based regimens, which may worsen manic symptoms and mood instability [6].

Conclusions

This case demonstrates that BD with mixed features may follow an unstable and rapidly deteriorating course. Further studies are needed to better define optimal treatment strategies for this complex subtype.

References

1. Lane, N. M., & Smith, D. J. (2023). Bipolar disorder: Diagnosis, treatment and future directions. *The Journal of the Royal College of Physicians of Edinburgh*, 53(3), 192–196.
2. Marzani, G., & Neff, A. P. (2021). Bipolar Disorders: Evaluation and Treatment. *American Family Physician*, 103(4), 227–239.
3. Durgam, S., Kozauer, S. G., Earley, W. R., Chen, C., Huo, J., Lakkis, H., Stahl, S., & McIntyre, R. S. (2025). Lumateperone for the Treatment of Major Depressive Disorder With Mixed Features or Bipolar Depression With Mixed Features: A Randomized Placebo-Controlled Trial. *Journal of Clinical Psychopharmacology*, 45(2), 67.
4. Bartoli F, Crocamo C, Carrà G. Clinical correlates of DSM-5 mixed features in bipolar disorder: A meta-analysis. *Journal of Affective Disorders*. 2020 Nov;276:234–40.
5. Xiao N, Yin L, Lee S, Teopiz KM, Wong S, Le GH, et al. The Efficacy of Pharmacological Interventions in the Treatment of Major Depressive Disorder and Bipolar Depression With Mixed Features: A Systematic Review. *Bipolar Disorders*. 2025 Aug;27(5):347–57.
6. Psychotherapeutic Medication Guidelines for adults 2023-2024 Florida Center for Behavioral Health Improvements and Solutions. Available from: <https://floridabhcenter.org>

Psychogenic Nonepileptic Seizures in Patients With Epilepsy – Dual Diagnosis and Diagnostic Challenges

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Introduction

Epilepsy is often comorbid with psychogenic nonepileptic seizures (PNES), which resemble epilepsy but lack electrophysiological activity. PNES are attributed to psychological trauma and mental illness [1–3]. PNES occur in 10–40% of epilepsy patients [4]. Even with an established differential diagnosis, challenges remain, and psychiatric evaluation is necessary for an accurate diagnosis [5].

Case Presentation

A 26-year-old female patient was hospitalized due to recurring seizure episodes and anxiety. Symptoms began at age 13 after witnessing her father's assault; in 2017 she had three short-lasting, alcohol-related generalized tonic-clonic seizures with epileptiform EEG discharges. In 2024, a tick bite triggered functional symptoms (speech disturbance, subjective fever symptoms, health anxiety), seizure frequency increased. Later episodes differed from earlier by prolonged duration, preserved posture, emotional triggers, lack of postictal confusion (current episodes last up to 60 min, start with "electric current" sensations). By 2025, her high stress environment work was disrupted due to seizures; the patient was hospitalized for diagnosis clarification. Head CT was normal; interictal EEG showed no epileptiform discharges. She reports preserved hearing but inability to respond. Significant anxiety was identified. This led to a dual diagnosis: Other specified anxiety disorders (F41.8) and Other epilepsy (G40.80). Combined antiseizure and psychiatric treatment was initiated to address both epileptic and anxiety-related nonepileptic events. The patient did not tolerate Levetiracetam. Current treatment includes lamotrigine 225 mg, paroxetine 10 mg, quetiapine 25 mg, and diazepam 15 mg, with reduced seizure frequency and intensity.

Discussion

Despite epilepsy diagnosis (G40.80), the absence of interictal EEG abnormalities and the observable clinical features of seizures suggest a coexisting PNES component [4]. Data suggests

that appropriate PNES treatment may reduce antiseizure medication use by ~40% and seizure severity [6].

Conclusions

Accurate differentiation between PNES and epilepsy is critical; treating PNES with increased antiepileptics is ineffective and potentially harmful. Integrating neurology and psychiatry is mandatory for such 'dual diagnosis' patients.

References

1. Popkirov S, Asadi-Pooya AA, Duncan R, Gigineishvili D, Hingray C, Kanner AM, et al. The aetiology of psychogenic non-epileptic seizures: risk factors and comorbidities. *Epileptic Disord.* 2019;21(6):529–547.
2. Anderson JR, Nakhate V, Stephen CD, Perez DL. Functional (psychogenic) neurological disorders: assessment and acute management in the emergency department. *Semin Neurol.* 2019;39(1):102–114.
3. Kutlubaev MA, Xu Y, Hackett ML, Stone J. Dual diagnosis of epilepsy and psychogenic nonepileptic seizures: systematic review and meta-analysis of frequency, correlates, and outcomes. *Epilepsy Behav.* 2018;89:70–78.
4. Xiang X, Fang J, Guo Y. Differential diagnosis between epileptic seizures and psychogenic nonepileptic seizures based on semiology. *Acta Epileptologica.* 2019;1:8.
5. Liampas A, Markoula S, Zis P, Reuber M. Psychogenic non-epileptic seizures (PNES) in the context of concurrent epilepsy – making the right diagnosis. *Acta Epileptologica.* 2021;3(1):23.
6. Abi-Nahed R, Li J, Carlier J, Birca V, Bérubé AA, Nguyen DK. Outcome of psychogenic nonepileptic seizures following diagnosis in the epilepsy monitoring unit. *Front Neurol.* 2024;15:1363459.

Interaction between bipolar affective disorder and street ketamine dependence: analysis of relapse risk factors and psychosocial determinants in a clinical case

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Introduction

Although ketamine is approved for anesthesia and treatment-resistant depression, its non-medical use is growing. A 2025 study reported that some users experienced positive effects, but most felt 'disconnected from the world' [1]. Self-medicating with street ketamine poses serious mental health risks and has caused accidental overdoses and suicides [2]. This trend raises questions about the widespread appeal of ketamine for self-treatment despite its dangers.

Case Presentation

A Caucasian male with a family history of mental illness, prior suicide attempt, grieving his mother's death from ovarian cancer, had started using non-medical ketamine. During usage, elevated mood and reports of sensing deceased mother's presence were present. Initial consumption lasted approx. 6 months (total 2-3 g). Patient was later diagnosed with bipolar disorder, treated with mood stabilisers. During a manic episode, he relapsed to ketamine use, whilst exhibiting anxiety and paranoid ideation to terrorist attacks. Over a 1 year relapse period, he used approx. 2 g of ketamine weekly, before psychiatric admission. Verbal, nonverbal communication were normal, with no signs of neurological pathology.

Discussion

Non-medical ketamine use is rising, especially among those under psychosocial stressors [3,4]. Here, use began after maternal bereavement, consistent with evidence that acute grief and stress increase vulnerability to substance misuse [5,6]. Prolonged exposure causes neuroadaptations in NMDA-glutamatergic pathways and synaptic plasticity, leading to tolerance and dependence [7]. These changes, along with escalating use and impaired control, met DSM-5 criteria for ketamine use disorder. The patient then developed bipolar symptoms, suggesting that ketamine misuse may have triggered or revealed an underlying mood disorder. Management focused on cessation, mood stabilization, psychotherapy, and follow-up.



Conclusions

This case shows rapid ketamine use disorder after grief and subsequent bipolar symptoms. Neurobiological and psychosocial factors may destabilize mood. Early recognition and integrated management, with follow-up, are essential to reduce ketamine use relapse and support recovery in comorbid substance use and mood disorders.

References

1. Smith G, Piatkowski T, Ferris J, Bonenti B, Davies E, Barratt MJ, Morgan C, Winstock A, Puljević C. Self-treatment of psychiatric conditions using ketamine: Patterns, characteristics, and retrospective insights. *J Psychopharmacol*. 2025
2. Darke S, Duflou J, Farrell M, Peacock A, Lappin J. Characteristics and circumstances of death related to the self-administration of ketamine. *Addiction*. 2021
3. Yang KH, et al. Trends and characteristics in ketamine use among US adults, 2015–2022. *J Affect Disord*. 2025.
4. Gandolfo P, et al. Patterns of ketamine use among people with substance use disorders: findings from OPPIDUM program. *FCP*. 2024.
5. Andrade ALM, et al. Substance Use Disorder Among Bereaved Individuals: a systematic review. *Paideia*. 2023.
6. Parisi A, Sharma A, Howard MO, Blank Wilson A. The relationship between substance misuse and complicated grief: A systematic review. *J Subst Abuse Treat*. 2019
7. Strous JFM, et al. Brain changes associated with long-term ketamine abuse: neuroanatomy, cognition, and dissociation. *Frontier Neuroanat*. 2022

The impact of psychiatric comorbidity on treatment adherence in epilepsy: a case report

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Introduction

Epilepsy is often associated with psychiatric comorbidities, particularly psychotic and affective disorders, which worsen outcomes [1,2]. Childhood-onset epilepsy increases risk of later psychiatric illness [2,3]. We report a case of long-standing epilepsy with chronic psychosis and recent affective deterioration, highlighting diagnostic and management challenges [4,5].

Case Presentation

A 56-year-old man with a maternal family history of epilepsy developed generalized tonic-clonic seizures at age 11, controlled with carbamazepine. At 29, he developed chronic psychotic symptoms and was diagnosed with paranoid schizophrenia (F20.00), with multiple psychiatric hospitalisations and no temporal seizure relationship. Long-term treatment included carbamazepine, haloperidol and trihexyphenidyl. He was admitted after a prolonged tonic-clonic seizure due to medication non-adherence. In the preceding week, he developed depressive symptoms and suicidal ideation, reported by his wife, and admitted episodic auditory hallucinations. Whether these were postictal or part of chronic psychosis remained unclear. His presentation involved seizure recurrence, persistent psychosis and new affective deterioration.

Discussion

The delayed onset of psychosis after childhood-onset epilepsy is consistent with epilepsy-associated psychosis, typically emerging after long-standing disease [2]. Early-life epilepsy is linked to higher risk of later psychiatric disorders, supporting a neurodevelopmental vulnerability model [3]. Depressive symptoms and suicidal ideation represent a significant shift, as suicide risk is elevated in epilepsy, particularly with psychiatric comorbidity and non-adherence [1]. Affective deterioration likely contributed to non-adherence and seizure recurrence, reflecting the bidirectional relationship between mood and treatment compliance [4]. Management required careful balancing of antiseizure and antipsychotic therapy, emphasizing coordinated neurological and psychiatric care [5].



Conclusions

This case highlights the challenges of managing epilepsy with chronic psychosis and emerging affective symptoms. Medication non-adherence contributed to clinical deterioration, emphasizing the importance of integrated care, individualized treatment and early detection of psychiatric symptoms.

References

1. Kwon CS, Rafati A, Ottman R, Christensen J, Kanner AM, Jetté N, et al. Psychiatric Comorbidities in Persons With Epilepsy Compared With Persons Without Epilepsy: A Systematic Review and Meta-Analysis. *JAMA Neurol* [Internet]. 2025 Jan 13 [cited 2025 Dec 26];82(1):72–84. Available from: <https://pubmed.ncbi.nlm.nih.gov/39585664/>
2. Keezer MR, Sisodiya SM, Sander JW. Comorbidities of epilepsy: Current concepts and future perspectives. *Lancet Neurol* [Internet]. 2016 Jan 1 [cited 2025 Dec 26];15(1):106–15. Available from: <https://pubmed.ncbi.nlm.nih.gov/26549780/>
3. Dreier JW, Pedersen CB, Cotsapas C, Christensen J. Childhood seizures and risk of psychiatric disorders in adolescence and early adulthood. A Danish nation-wide cohort study. *Lancet Child Adolesc Health* [Internet]. 2018 Feb 1 [cited 2025 Dec 26];3(2):99. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC6903917/>
4. Warriach ZI, Sanchez-Gonzalez MA, Ferrer GF. Suicidal Behavior and Medication Adherence in Schizophrenic Patients. *Cureus* [Internet]. 2021 Jan 4 [cited 2025 Dec 26];13(1):e12473. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC7854315/>
5. Kedare J, Baliga S. Management of Psychiatric Disorders in Patients of Epilepsy. *Indian J Psychiatry* [Internet]. 2022 Mar 1 [cited 2025 Dec 26];64(Suppl 2):S319. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC9122168/>

Limits of Nutritional Therapy in End-Stage Anorexia Nervosa

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Introduction

Severe malnutrition is associated with high morbidity and mortality in patients with long-standing anorexia nervosa, particularly in advanced stages of disease [2]. Although nutritional therapy is fundamental, in extreme malnutrition it may precipitate metabolic destabilization, including refeeding syndrome and multiorgan dysfunction [1,3]. Some patients with prolonged anorexia nervosa may progress to a terminal stage with limited potential for recovery despite appropriate medical care [4].

Case Presentation

A 60-year-old woman with a more than 40-year history of anorexia nervosa, diagnosed by psychiatrists but untreated for many years due to illness denial, with no history of other mental disorders, was admitted for treatment of extreme malnutrition. On admission, body weight was 24 kilograms, with a body mass index of approximately 9 kg/m². Physical examination revealed profound muscle wasting, severe weakness, and dehydration. Laboratory tests showed persistent hypoglycemia, electrolyte disturbances, hypoalbuminemia, anemia, and thrombocytopenia. Due to an extremely high risk of refeeding syndrome, enteral nutrition was initiated cautiously with gradual caloric advancement under strict biochemical monitoring, in accordance with current clinical recommendations for high-risk adult patients [3]. Continuous glucose infusion was required. During hospitalization, progressive liver dysfunction developed, and the clinical course was complicated by pneumonia, multiorgan failure, and death.

Discussion

Long-lasting anorexia nervosa leads to profound metabolic adaptations that limit tolerance to nutritional replenishment [1]. In such patients, effective problem solving requires early diagnosis, continuous psychiatric care, and timely nutritional intervention before irreversible organ damage occurs. In advanced disease, refeeding may induce metabolic stress and organ failure despite appropriate management [1,3]. Late nutritional intervention may be ineffective, supporting the concept of terminal anorexia nervosa in selected patients [4].



Conclusions

This case highlights that nutritional therapy in long-lasting anorexia nervosa may be insufficient when psychiatric and nutritional treatment is initiated only at an advanced, cachectic stage. Early multidisciplinary management remains essential [3,4].

References

1. Biolato M, et al. Starvation hepatitis and refeeding-induced hepatitis. *Gastroenterol Rep.* 2024;12:goae034. doi:10.1093/gastro/goae034
2. Redgrave GW, et al. Refeeding and weight restoration outcomes in anorexia nervosa. *Int J Eat Disord.* 2015;48:866–873. doi:10.1002/eat.22390
3. Weimann A, Bezmarevic M, Braga M, et al. ESPEN guideline on clinical nutrition in surgery - Update 2025. *Clin Nutr.* 2025;53:222-261. doi:10.1016/j.clnu.2025.08.029
4. Gaudiani JL, Bogetz A, Yager J. Terminal anorexia nervosa. *J Eat Disord.* 2022;10:23. doi:10.1186/s40337-022-00548-3

Neuromuscular Respiratory Failure in Generalized Myasthenia Gravis with Suspected Atypical Guillain–Barré Syndrome Overlap: Case Report

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Introduction

Myasthenia gravis (MG) is an autoimmune disorder causing muscle weakness due to impaired neuromuscular transmission [1]. Respiratory failure is a common complication of MG [2] and may rarely overlap with atypical Guillain–Barré syndrome (GBS), complicating diagnosis and management [3].

Case Presentation

A 70-year-old woman with seropositive generalized MG was admitted for urosepsis that triggered acute neuromuscular deterioration and respiratory failure, requiring neurointensive care, plasmapheresis and respiratory support. Although stabilized, patient was repeatedly readmitted to the NICU due to progressive respiratory failure caused by worsening MG and suspected atypical GBS. The suspicion of GBS arose from symmetric limb weakness, sensory changes, reduced deep tendon reflexes, limited response to plasmapheresis and progressive respiratory muscle involvement not fully explained by MG alone. The complicated course was compounded by multiple infectious foci (*C. difficile* enterocolitis, UTI, pneumonia), contributing to systemic inflammation and neuromuscular decompensation. Because plasmapheresis was ineffective, IVIG, systemic corticosteroids and optimized symptomatic MG therapy were chosen. Respiratory function was maintained by repeated NIV, high-flow oxygen and MV. With treatment, respiratory failure regressed, the patient was stabilized, transferred to the Neurology Department, where she remains conscious, stable, but with pronounced respiratory muscle weakness requiring NIV and rehabilitation.

Discussion

During a myasthenic crisis in MG, neuromuscular respiratory failure primarily stems from severe weakness in the diaphragm and intercostal muscles [4]. Neuromuscular respiratory failure in this case was multifactorial, driven by worsening MG, infectious foci and a suspected atypical GBS [5]. GBS could not be definitively confirmed due to the absence of electrophysiological studies and cerebrospinal fluid analysis [6], the atypical presentation and poor response to plasmapheresis supported its consideration as a contributing factor and prompted IVIG use, which proved more effective [7].



Conclusions

This case highlights that respiratory failure in MG can result from several interacting factors, therefore individualised and dynamically adjusted treatment is necessary.

References

1. Gilhus NE. Myasthenia gravis. *N Engl J Med*. 2016;375:2570–81. Available from: <https://www.nejm.org/doi/full/10.1056/NEJMra1602678> DOI:10.1056/NEJMra1602678
2. Wang F, Cheng J, Niu X, Li L. Respiratory failure as first presentation of myasthenia gravis: a case report. *J Int Med Res*. 2024;52(3):3000605241234585. Available from: <https://pubmed.ncbi.nlm.nih.gov/38443765/> DOI:10.1177/03000605241234585
3. Maria Saji A, Mathew Jose A. A Diagnostic dilemma: Overlapping features of Guillain–Barré syndrome and myasthenia gravis in an elderly patient. *J Clin Images Med Case Rep*. 2025;6(6):3645. Available from: <https://jcimcr.org/articles/JCIMCR-V6-3645.html> DOI:10.52768/2766-7820/3645
4. Gilhus NE. Myasthenia gravis, respiratory function, and respiratory tract disease. *J Neurol*. 2023;270(7):3329–40. Available from: <https://pubmed.ncbi.nlm.nih.gov/37101094/> DOI:10.1007/s00415-023-11733-y
5. Chen X, Ding J, Zhang J, Dai H, Yu L. Myasthenia gravis and community-acquired pneumonia: therapeutic challenges. *Front Pharmacol*. 2025;16:1695526
6. Van Doorn PA, Van den Bergh PYK, Hadden RDM, Avau B, Vankrunkelsven P, Attarian S, Blomkwist-Markens PH, Cornblath DR, Goedee HS, Harbo T, Jacobs BC, Kusunoki S, Lehmann HC, Lewis RA, Lunn MP, Nobile-Orazio E, Querol L, Rajabally YA, Umapathi T, Topaloglu HA, Willison HJ. European Academy of Neurology/Peripheral Nerve Society Guideline on diagnosis and treatment of Guillain–Barré syndrome. *J Peripher Nerv Syst*. 2023;28(4):535–563. Available from: <https://pubmed.ncbi.nlm.nih.gov/37814551/> DOI:10.1111/jns.12594
7. Tavee J, Brannagan TH 3rd, Lenihan MW, Muppidi S, Kellermeyer L, D’Donofrio P, AANEM. Updated consensus statement: Intravenous immunoglobulin in the treatment of neuromuscular disorders. *Muscle Nerve*. 2023;68(4):356–74. Available from: <https://onlinelibrary.wiley.com/doi/abs/10.1002/mus.27922> DOI:10.1002/mus.27922

Recurrent Postoperative Hemorrhage in Acute Subdural Hematoma: A Case Involving Chronic Alcohol Exposure

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Introduction

Acute subdural hematoma (aSDH) causes mass effect that acutely elevates intracranial pressure (ICP) and reduces cerebral perfusion pressure (CPP), requiring urgent neurosurgical and intensive care interventions. Recurrent hemorrhages pose major challenges and are associated with increased mortality [1, 2].

Case Presentation

A 55 year-old unconscious (GCS 8) male with a history of chronic alcohol abuse presented after a seizure with a large right frontotemporoparietal aSDH, causing ventricular compression and midline shift. He was stabilized, intubated, sedated and transferred to neuro-ICU. Admission labs showed prolonged APTT of 44.3 s, likely related to chronic alcohol exposure. Burr-hole evacuation of SDH was performed, but postoperative deterioration (bradycardia, anisocoria) and rebleeding signs in CT lead to emergency re-operation. Noradrenaline was administered to maintain CPP. After partial improvement (extubated, discontinuing sedation and vasopressors) profound left-sided hemiplegia persisted, agitation was managed with quetiapine and benzodiazepines. Decompressive craniotomy and subsequent emergency re-craniotomy were needed due to worsening neurological condition and recurrent bleedings into the surgical site. Following neurologic stabilization and imaging showing no new hemorrhages, he was transferred to rehabilitation conscious with a GCS 14 due to dysarthric speech, and with persistent left-sided hemiparesis.

Discussion

Managing recurrent hemorrhage after aSDH is a challenge associated with poorer outcomes and prolonged intensive care needs [1]. Although the causes of early rebleeding are often unclear, chronic alcohol exposure may have contributed in this patient through its potential effects on coagulation, platelet function and alcohol-related cerebral atrophy [3-5]. Evidence directly linking alcohol use to recurrent aSDH bleeding is limited, yet its pathophysiological impact makes it a plausible factor.

Conclusions

Management of recurrent aSDH in individuals with chronic alcohol exposure requires

vigilance and rapid intervention. Consistent monitoring, timely surgical management and comprehensive critical care support remain essential to achieving neurological stabilization and recovery.

References

1. Chrastina J, Silar C, Zeman T, Svoboda M, Krajsa J, Musilová B, et al. Reoperations after surgery for acute subdural hematoma: reasons, risk factors, and effects. *Eur J Trauma Emerg Surg*. 2020;46(2):347-55. PMID: 30671588.
2. Wettervik TS, Lenell S, Nyholm L, Howells T, Lewén A, Enblad P. Pre-injury chronic alcohol abuse predicts progression of intracranial hemorrhage and mortality in traumatic brain injury. *J Neurotrauma*. 2021;38(8):1057–1066. doi:10.1089/neu.2020.7268.
3. Jadhav GM, Choudhari S, Deopujari CE, Bhagwat S, Purohit D. Factors affecting outcome of traumatic brain injury in alcohol-dependent patients. *Indian J Neurotrauma*. 2024;21(2):125–132. doi:10.1055/s-0043-1768171.
4. Wang IJ, Hsu CW, Chen YC, et al. Effect of acute alcohol intoxication on mortality, coagulation, and fibrinolysis in trauma patients: a retrospective cohort study. *PLoS One*. 2021;16(7):e0254801. doi:10.1371/journal.pone.0254801.
5. Marshman LAG, Manickam A, Carter D. Risk factors for chronic subdural haematoma formation: a prospective study of 309 patients. *Br J Neurosurg*. 2015;29(5):678–684. doi:10.3109/02688697.2015.1011241.

Hyperglycaemia-Induced Hemichorea

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Introduction

Hyperglycaemia-induced hemichorea-hemiballism, or diabetic striatopathy (DS), is a rare neuro-metabolic complication of uncontrolled diabetes mellitus (DM), characterised by acute hemichorea, non-ketotic hyperglycaemia, and striatal abnormalities in neuroimaging [1]. Most cases occur in the setting of poorly controlled, longstanding type 2 DM. In addition to suboptimal glycaemic control, other risk factors include older age and female sex. Most patients present with acute hemichorea involving both the arm and the leg, while facial involvement and bilateral chorea are less common [2].

Case Presentation

An 81-year-old woman presented to the emergency department with a one-week history of involuntary movements of the left limbs, thirst, and intermittent palpitations. Neurological examination revealed choreiform, asynchronous movements of the left limbs, and episodic tongue dyskinesia. The patient had a history of hypertension, with no prior diagnosis of DM. Laboratory testing showed marked hyperglycaemia (22.20 mmol/L) and mild hyponatraemia (133 mmol/L). The HbA1c level was 14.1%. Brain CT revealed no acute abnormalities. Non-ketotic hyperglycaemic chorea was initially suspected, given the newly developed hemichorea in the setting of severe hyperglycaemia. The choreiform movements extended to the contralateral limbs, although the left side remained predominantly affected. Brain MRI showed only age-related atrophic and microangiopathic changes, with no striatal T1 hyperintensity. Treatment with antipsychotics and benzodiazepines was initiated. Following correction of hyperglycaemia (from 22.20 to 8.60-3.89 mmol/L), choreiform movements fully resolved over the course of three weeks.

Discussion

Hyperglycaemia-induced hemichorea may be the first sign of DM [3]. While characteristic

MRI findings occur in most DS cases, normal imaging may be seen in ~5% [4]. This has led to the proposal of a clinically isolated DS concept. In such cases, the diagnosis of hyperglycaemic chorea requires documented hyperglycaemia with a subacute onset of chorea [5].

Conclusions

Assessment of glycaemia and neuroimaging is essential in new-onset chorea. Hyperglycaemia-induced movement disorders should be recognised even when imaging is normal, as symptom resolution relies on adequate metabolic correction.

References

1. Wu X, Fu R, Yuan C et al. Case Series of 46 Patients with Nonketotic Hyperglycaemia-Associated Chorea: A Retrospective Follow-Up Study. *J Clin Endocrinol Metab*. 2025. doi:10.1210/clinem/dgaf394
2. Arecco A, Ottaviani S, Boschetti M, Renzetti P, Marinelli L. Diabetic striatopathy: an update overview of current knowledge and future perspectives. *J Endocrinol Invest*. 2024;47(1):1-15. doi:10.1007/s40618-023-02166-53
3. Chua CB, Sun CK, Hsu CW, Tai YC, Liang CY, Tsai IT. "Diabetic striatopathy": clinical presentations, controversy, pathogenesis, treatments, and outcomes. *Sci Rep*. 2020;10(1):1594. doi:10.1038/s41598-020-58555-w
4. Costa Hoffmeister M, Bonavides PSG, Maurer Wiercinski V, et al. Hyperglycaemia-induced hemichorea-hemiballismus syndrome - a systematic review. *Arch Endocrinol Metab*. 2024;68:e220413. doi:10.20945/2359-4292-2022-0413
5. Dubey S, Biswas P, Ghosh R, Chatterjee S, Kanti Ray B, Benito-León J. Neuroimaging of Diabetic Striatopathy: More Questions than Answers. *Eur Neurol*. 2022;85(5):371-376. doi:10.1159/000524936

Case report: From Cerebral Palsy to CTNNB1: A Genetic Diagnostic Revision

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Introduction

Cerebral palsy (CP) is the most common motor disability in children, affecting movement and posture, resulting from a non-progressive injury (infections, hypoxia, birth trauma) to the developing brain [1, 2, 4]. It is estimated that 11-40% of CP cases might be attributed to a genetic cause [2-4, 6]. We present a patient initially diagnosed with CP, whose diagnosis was revised to Neurodevelopmental Disorder with Spastic Diplegia and Visual Defects (NEDSDV) after a pathogenic variant in CTNNB1 was identified.

Case Presentation

The patient is the first child from the second pregnancy. She was born at 39 weeks, weighing 3000 grams, and Apgar score of 9-9. Developmental delay became evident in the first months of life, progressing to motor impairment. At the age of 2, she was diagnosed with spastic diplegia CP. By age 11, she was non-ambulatory, had severe speech impairment, and intermittent drooling. The brain MRI was normal, but due to the presence of progressive spasticity, she was referred to a clinical geneticist. Whole-exome sequencing revealed a pathogenic heterozygous variant in CTNNB1: NM_001904.4:c.999C>A, p.(Tyr333Ter), consistent with the diagnosis of NEDSDV.

Discussion

CTNNB1 loss-of-function variants, encoding β -catenin, cause NEDSDV, an autosomal dominant inherited disease, typically arising de novo. It affects approximately 1 in 30,000-40,000 children worldwide and is one of the most common causes of misdiagnosed cerebral palsy [1, 5]. It impacts development and daily functioning: mild-to-profound cognitive impairment, microcephaly, behavioral issues, and visual defects such as strabismus, refractive errors, or exudative vitreoretinopathy [1, 5-7]. Unlike classic CP, NEDSDV is characterized by progressive spasticity, with normal or minimally abnormal brain MRI or CT imaging, despite the patient's severe symptoms. Both disorders may appear similar in early infancy,



but the progressive nature of NEDSDV reduces long-term mobility, increases contractures or scoliosis, and limits functional independence over time, contrary to classic CP - underscoring the importance of genetic testing.

Conclusions

This case demonstrates the importance of including CTNNB1 testing for patients with a CP-like presentation. The genetic diagnosis enables more individualized treatment approaches and truly patient-centered management.

References

1. Ho SKL, Tsang MHY, Lee M, et al. CTNNB1 neurodevelopmental disorder. In: Adam MP, Mirzaa GM, Pagon RA, et al., editors. GeneReviews® [Internet]. Seattle (WA): University of Washington, Seattle; 1993–2025. 2022 May 19 [cited 2025 Dec 10]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK580527/>
2. Paul S, Nahar A, Bhagawati M, Kunwar AJ. A Review on Recent Advances of Cerebral Palsy. *Oxid Med Cell Longev*. 2022 Jul 30;2022:2622310. doi: 10.1155/2022/2622310. PMID: 35941906; PMCID: PMC9356840.
3. Jin SC, Lewis SA, Bakhtiari S, Zeng X, Sierant MC, Shetty S, Nordlie SM, Elie A, Corbett MA, Norton BY, van Eyk CL, Haider S, Guida BS, Magee H, Liu J, Pastore S, Vincent JB, Brunstrom-Hernandez J, Papavasileiou A, Fahey MC, Berry JG, Harper K, Zhou C, Zhang J, Li B, Zhao H, Heim J, Webber DL, Frank MSB, Xia L, Xu Y, Zhu D, Zhang B, Sheth AH, Knight JR, Castaldi C, Tikhonova IR, López-Giráldez F, Keren B, Whalen S, Buratti J, Doummar D, Cho M, Retterer K, Millan F, Wang Y, Waugh JL, Rodan L, Cohen JS, Fatemi A, Lin AE, Phillips JP, Feyma T, MacLennan SC, Vaughan S, Crompton KE, Reid SM, Reddihough DS, Shang Q, Gao C, Novak I, Badawi N, Wilson YA, McIntyre SJ, Mane SM, Wang X, Amor DJ, Zarnescu DC, Lu Q, Xing Q, Zhu C, Bilguvar K, Padilla-Lopez S, Lifton RP, Gecz J, MacLennan AH, Kruer MC. Mutations disrupting neuritogenesis genes confer risk for cerebral palsy. *Nat Genet*. 2020 Oct;52(10):1046-1056. doi: 10.1038/s41588-020-0695-1. Epub 2020 Sep 28. Erratum in: *Nat Genet*. 2021 Mar;53(3):412. doi: 10.1038/s41588-021-00780-8. PMID: 32989326; PMCID: PMC9148538.
4. Zouvelou V, Yubero D, Apostolakopoulou L, Kokkinou E, Bilanakis M, Dalivigka Z, Nikas I, Kollia E, Perez-Dueñas B, Macaya A, Marcé-Grau A, Voutetakis A, Anagnostopoulou K, Kekou K, Sofocleus C, Veltra D, Kokkinis X, Fryssira H, Torres RJ, Armstrong J, Santorelli FM, Artuch R, Pons R. The genetic etiology in cerebral palsy mimics: The results from a Greek tertiary care center. *Eur J Paediatr Neurol*. 2019 May;23(3):427-437. doi: 10.1016/j.ejpn.2019.02.001. Epub 2019 Feb 14. PMID: 30799092.
5. CTNNB1 Foundation. CTNNB1 syndrome [Internet]. 2024 [cited 2025 Dec 12]. Available from: <https://ctnnb1-foundation.org/ctnnb1-syndrome/>
6. Basu AP, Low K, Ratnaike T, Rowitch D. Genetic investigations in cerebral palsy. *Dev Med Child Neurol*. 2025 Feb;67(2):177-185. doi: 10.1111/dmcn.16080. Epub 2024 Aug 29. PMID: 39208295; PMCID: PMC11695794.
7. Lee J, Yoo J, Lee S, Jang DH. CTNNB1-related neurodevelopmental disorder mimics cerebral palsy: case report. *Front Pediatr*. 2023 Jun 16;11:1201080. doi: 10.3389/fped.2023.1201080. PMID: 37416820; PMCID: PMC10321129.

Recurrent cystic craniopharyngioma during pregnancy: a case report

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Introduction

Craniopharyngiomas are rare benign epithelial tumors of the sellar and suprasellar region, accounting for 1.2-4% of intracranial tumors [1]. Cystic forms frequently cause visual impairment due to optic chiasm compression and show high recurrence rates despite treatment [2]. Management during pregnancy is particularly challenging because of limited diagnostic and therapeutic options.

Case Presentation

A 34-year-old woman, pregnant at 15 weeks of gestation, presented with rapidly progressive visual loss. MRI revealed a large intra- and suprasellar cystic mass compressing the optic chiasm, consistent with craniopharyngioma. Given the rapid visual deterioration, urgent transsphenoidal cyst decompression was performed during the second trimester, resulting in significant visual improvement. Postoperative cerebrospinal fluid leakage was successfully treated with lumbar drainage. Several months later, at 36 weeks of gestation, visual impairment recurred with MRI-confirmed cyst re-expansion. Due to worsening visual function, the pregnancy was completed by cesarean section. Postpartum stereotactic cyst aspiration led to transient visual recovery; however, further cyst recurrence occurred. Repeat transsphenoidal cyst aspiration was performed without complications. Given the high risk of radical surgery, fractionated stereotactic Gamma Knife radiosurgery was administered, leading to cyst reduction and gradual improvement of visual fields.

Discussion

Craniopharyngiomas demonstrate aggressive local behavior and frequent cystic recurrence [2]. Although pregnancy-related hormonal changes have been proposed as a contributing factor, clinical evidence remains limited and inconclusive, suggesting an association with cyst enlargement rather than true tumor growth [3,4]. Repeated cyst decompression provides rapid symptom relief but carries a high risk of recurrence [5]. Fractionated stereotactic



radiosurgery offers effective tumor control while minimizing radiation-induced optic neuropathy in lesions near critical structures [6].

Conclusions

This case highlights the complexity of managing recurrent cystic craniopharyngioma during pregnancy. A multidisciplinary, multimodal approach combining minimally invasive surgery and fractionated radiosurgery can achieve symptom control with acceptable morbidity.

References

1. Karsonovich T, Shafiq I, Mesfin FB. Craniopharyngioma. StatPearls Publishing LLC [Internet]. 2025 Feb 15;12.
2. Müller HL. Craniopharyngioma: Long-term consequences of a chronic disease. Expert Rev Neurother [Internet]. 2015 Nov 2;15(11):1241–4.
3. Wai Wye NH, Naffi AA, Othman O, Bastion MLC. A Rare Occurrence of Craniopharyngioma Causing Visual Disturbance in Pregnancy. Cureus [Internet]. 2021 Oct 12;13(10).
4. Graillon T, Cuny T, Castinetti F, Courbière B, Cousin M, Albarel F, et al. Surgical indications for pituitary tumors during pregnancy: a literature review. Pituitary [Internet]. 2020 Apr 1;23(2):189–99.
5. Silva D, Sharma M, Rahmathulla G, Barnett GH. Craniopharyngiomas. Textbook of Uncommon Cancer: Fifth Edition [Internet]. 2022 Feb 26;949–63.
6. Lin Y, Luo N, An W, Lin H, Lin Z. Stereotactic Radiosurgery for Craniopharyngioma Management: A Comprehensive Review of Treatment Outcomes, Dose Optimization, and Future Directions [Internet]. 2025 Sep 30 ;1(3):136–43.

Ruptured Intracranial Dermoid Cyst Presenting with New - Onset Seizures: A Case Report

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Introduction

Intracranial dermoid cysts are rare and slow-growing benign lesions derived from ectopic epithelial tissues [1]. Often asymptomatic, upon rupture, they can produce headaches, seizures, and aseptic meningitis [2]. We present a case of a ruptured frontobasal dermoid cyst manifesting with new-onset seizures and characteristic neuroimaging.

Case Presentation

A 45-year-old male with no prior neurological history presented after a sudden loss of consciousness and generalized clonic seizures at work. On admission, neurological examination was normal. Initial head CT revealed a calcified cystic lesion in the left frontobasal region in contact with the paranasal sinus, initially raising suspicion of pneumocephalus. To clarify the preliminary assessment, an MRI was performed, demonstrating a well-defined intra-axial lesion with hyperintense fat components on T1-weighted images and a calcified capsule, consistent with a ruptured dermoid cyst with fat dissemination into subarachnoid spaces. The patient was started on carbamazepine with good seizure control. After elective admission, an osteoplastic craniotomy with complete excision of the dermoid cyst was performed without intraoperative complications. Postoperative CT confirmed total removal with expected early postoperative changes. The patient was discharged in stable condition on prolonged-release carbamazepine, with planned follow-up MRI.

Discussion

Rupture of an intracranial dermoid cyst leads to spillage of lipid material into the subarachnoid space, causing cortical irritation and aseptic inflammatory response, which can provoke seizures despite minimal or absent focal neurological findings [3]. This case highlights the distinction between different neuroimaging methods in the diagnosis of dermoid cysts. On non-contrast head CT, intracranial fat can mimic air due to its similar hypodensity,

potentially leading to an initial misinterpretation as pneumocephalus, particularly when the lesion is adjacent to the sinuses. MRI remains the diagnostic modality of choice due to its sensitivity to fat-containing lesions [4].

Conclusions

This case emphasizes the importance of diagnostic evaluation of intracranial dermoid cysts, which, although typically benign in origin, may rupture and precipitate significant CNS complications.

References

1. Alam Y, Mugge LA, Purdy J, Mrak RE, Schroeder J. Long-term Seizure Disorder Caused by a Dermoid Cyst with Catastrophic Developments. *Cureus [Internet]*. 2018 Sep 11[cited 2025 Dec 16];10(9):e3272.
2. Orakcioglu B, Halatsch ME, Fortunati M, Unterberg A, Yonekawa Y. Intracranial dermoid cysts: variations of radiological and clinical features. *Acta Neurochir (Wien) [Internet]*. 2008 Dec [cited 2025 Dec 16];150(12):1227–34.
3. Shashidhar A, Sadashiva N, Prabhuraj AR, Narasingha Rao K, Tiwari S, Saini J, et al. Ruptured intracranial dermoid cysts: A retrospective institutional review. *Journal of Clinical Neuroscience [Internet]*. 2019 Sep 1 [cited 2025 Dec 17];67:172–7.
4. Verzemnieks K, Tumelkants R, Strautmane S, Kalejs VR, Valeinis E, Dolgoplova J, et al. Ruptured Intracranial Dermoid Cyst with Fat Dissemination: A Clinical Case Mimicking an Epidermoid Cyst and Review of the Literature. *Diagnostics* 2025, Vol 15, [Internet]. 2025 Mar 12 [cited 2025 Dec 17];15(6).

**Intensive therapy,
anaesthesiology &
radiology | Case
Report | Oral**

Abstracts

Persistent Pain After Abdominal Surgery Successfully Treated With PENS Therapy

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Introduction

Chronic postoperative pain (CPSP) can persist for months [1,2]. Neuropathic characteristics often emerge due to peripheral and central sensitization after tissue or nerve trauma [3]. Standard analgesics frequently fail to control neuropathic components [3,4]. This case report describes persistent incision-related pain successfully treated with peripheral nerve electrical stimulation (PENS).

Case Presentation

A 66-year-old male developed persistent pain after surgery. Postoperative recovery was uneventful, and no complications were observed. Patient continued to experience severe, daily pain at the abdominal incision site, radiating to the chest wall. Multiple consultations—including surgical, psychiatric, and imaging workup—did not reveal structural or psychiatric causes. Conventional analgesics yielded inadequate relief. Neuropathic pain was suspected, and after insufficient pain relief from regional n. ilioinguinalis blockade, a PENS procedure was performed. The patient reported >70% pain relief after the first session.

Discussion

Persistent postoperative pain following abdominal surgery is frequently neuropathic, particularly when dermatomal hyperalgesia is present [1,2]. In this case, conventional

analgesics targeting nociceptive pathways were ineffective, supporting the likelihood of neuropathic sensitization. PENS has been evaluated as a treatment option for persistent postoperative pain in randomized and placebo-controlled trials, with reported improvements in pain intensity and proposed neuromodulatory effects on peripheral input and segmental spinal excitability [3,4]. Randomized trials in persistent postoperative orthopedic pain have demonstrated >50% pain reduction and functional improvement after short-term percutaneous stimulation [3]. The effects observed in this patient (70–75% improvement) align closely with published outcomes.

Conclusions

This case report illustrates the importance of recognizing neuropathic patterns in persistent postoperative pain. When standard treatments fail and no structural pathology is identified, PENS may provide substantial relief. Its minimally invasive nature and favorable safety profile support its consideration early in refractory CPSP management.

References

1. Thapa P, Eu B. Chronic postsurgical pain: current evidence for prevention and management. *Korean J Pain*. 2018 Jul;31(3):155-173.
2. Rosenberger DC, Pogatzki-Zahn EM. Chronic post-surgical pain: update on incidence, risk factors and preventive treatment options. *BJA Educ*. 2022 May;22(5):85-91.
3. Ilfeld BM, et al. Percutaneous peripheral nerve stimulation (Neuromodulation) for postoperative pain: A Randomized Sham - controlled Pilot study. *Anesthesiology*. 2021 Jul;135(1):95-110.
4. Goree JH, et al. Randomized Placebo-Controlled Trial of 60-Day Percutaneous Peripheral Nerve Stimulation Treatment Indicates Relief of Persistent Postoperative Pain, and Improved Function After Knee Replacement Neuromodulation. 2024 Jul;27(5):847-861.

Life-threatening but self-resolving postoperative subcutaneous emphysema with pneumomediastinum

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Introduction

The occurrence of subcutaneous emphysema and pneumomediastinum due to transient esophageal microperforation is rare and scarcely reported. Although usually benign, these conditions can present with rapid, life-threatening deterioration.(1,2,3,4)

Case Presentation

A 57-year-old male with a malignant thoracic esophageal tumor underwent diagnostic thoracoscopy under general anesthesia. The tumor was unresectable due to invasion into surrounding tissues. After extubation, the patient required high-flow oxygen, crepitus appeared around left clavicle, rapidly spreading to the neck and face within 20 minutes, leading to respiratory distress and hypotension. The patient was transferred to the ICU, reintubated and started on norepinephrine. Chest X-ray revealed pneumothorax, bronchoscopy showed no airway defect. In two hours, CT demonstrated extensive subcutaneous emphysema and mediastinal air but no tracheal injury, physical reevaluation noted spread until scrotum. By the next morning, both emphysema and hemodynamic instability improved. X-ray confirmed pleural air resolution, patient was extubated and two days later discharged with complete recovery.

Discussion

Determining the source of subcutaneous emphysema is crucial, as its treatment typically leads to resolution. Close monitoring is needed to assess whether intervention is required.(2,3) In this case, prior CT imaging revealed necrotic paratracheal lymph nodes near the tumor, suggesting a transient esophageal microperforation that sealed spontaneously, consistent with a similar report.(5)

Conclusions

We report a rare case of postoperative, extensive subcutaneous emphysema with pneumomediastinum, shock and respiratory insufficiency, spontaneously resolving within a day. This case highlights that subcutaneous emphysema can lead to life-threatening deterioration of vital signs and emphasizes how prompt recognition and active support measures can result in a good outcome.



References

1. Curtis S. Pneumomediastinum [Internet]. ClinicalKey Clinical Overview. Elsevier; 2024 [cited 2025 Nov 08]. Available from: https://www.clinicalkey.com/#!/content/clinical_overview/67-s2.0-V2752
2. Lodhia JV, Tenconi S. Postoperative subcutaneous emphysema: prevention and treatment. Shanghai Chest. 2021 [cited 2025 Nov 08];5:17. Available from: <https://shc.amegroups.org/article/view/6026/html> DOI:10.21037/shc.2020.03.08.
3. Kukuruza K, Aboeed A. Subcutaneous emphysema (Archived) [Internet]. StatPearls. Treasure Island (FL): StatPearls Publishing; 2023 [cited 2025 Nov 08]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK542192/>
4. Iteen AJ, Bianchi W, Sharman T. Pneumomediastinum [Internet]. StatPearls. Treasure Island (FL): StatPearls Publishing; 2023 May [cited 2025 Nov 08]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK557440/>
5. Bhagavath A, Gekle RL. Pneumomediastinum secondary to medication-induced esophageal microperforation [Internet]. EMResident; 2020 [cited 2025 Nov 08]. Available from: <https://www.emra.org/emresident/article/med-induced-esophageal-perforation>

Treatment – Resistant Hypoglycemia in the ICU: Navigating to the Underlying Etiology

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Introduction

Hypoglycemia is relatively common in the ICU, affecting about 13% of patients [1]. However, it is rare for people who do not use antihyperglycemic agents [2]. Hypoglycemia may result from antidiabetic or other medication, alcohol misuse, liver failure or systemic disease that lowers plasma glucose level [3]. When the etiology is unclear, a broad differential diagnosis is a must.

Case Presentation

A 42 year old woman was found unresponsive at home. Capillary glucose at the hospital 2.05 mmol/l. Patient developed seizures which were terminated with diazepam. Consciousness was fluctuating from 8 to 5 by GCS. Thus, intubation and mechanical ventilation were initiated. Head CT and CTA showed no acute changes. Despite repeated 40% glucose boluses and a continuous glucose infusion, hypoglycemia persisted with values from 1.1 to 1.4 mmol/l. EEG showed no epileptiform activity. Brain MRI demonstrated findings compatible with hypoglycemic encephalopathy. Work-up for insulinoma was advised, yet abdominal CT revealed no masses. C peptide level was low. To differentiate liver failure-related impairment of insulin inactivation, liver function tests were performed. However, there were no abnormalities and hepatic hypoglycemia was denied. Toxicologists found no evidence of poisoning. Continuous glucose therapy was maintained for 4 days, and she was weaned off mechanical ventilation as mental status improved. Subsequent history clarified exogenous insulin self administration with suicidal intent.

Discussion

In ICU patients with refractory hypoglycemia and coma, evaluation should explicitly include the possibility of concealed exogenous insulin, which is biochemically distinguishable from endogenous hyperinsulinism by discordant insulin and C-peptide patterns [4]. Because deliberate self administration is a recognized mechanism, psychosocial and suicide risk assessment should be initiated alongside



metabolic stabilization rather than deferred to convalescence.

Conclusions

This case underscores the importance of systematic evaluation of refractory hypoglycemia with unexplained coma, continuous bedside monitoring, and coordinated multidisciplinary assessment to enable early recognition and effective ICU management of dysmetabolic encephalopathy – particularly when etiology is unknown.

References

1. [1] Yeh HF, Chao WC, Wu CL, Chan MC. Hypoglycemia and hospital mortality in critically ill patients. *Sci Rep.* 2025 Jan 21;15(1):2642. doi: 10.1038/s41598-025-87163-9. PMID: 39838165; PMCID: PMC11751111.
2. [2] Palani G, Stortz E, Moheet A. Clinical presentation and diagnostic approach to hypoglycemia in adults without diabetes mellitus. *Endocr Pract.* 2023 Apr;29(4):286–294. doi: 10.1016/j.eprac.2022.11.010. Epub 2022 Dec 2. PMID: 36464132.
3. [3] Douillard C, Jannin A, Vantghem MC. Rare causes of hypoglycemia in adults. *Ann Endocrinol (Paris).* 2020 Jun;81(2–3):110–117. doi: 10.1016/j.ando.2020.04.003. Epub 2020 Apr 10. PMID: 32409005.
4. [4] Awad DH, Gokarakonda SB, Ilahi M. Factitious hypoglycemia [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan–. [Updated 2023 Sep 4; cited 2025 Nov 10]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK542310/>

Anesthetic challenges during thoracoscopic surgery for esophageal atresia: a case report

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Introduction

Esophageal atresia (EA) is a congenital malformation in which the continuity of the esophagus is interrupted, resulting in gastric and intestinal distension [1, 2]. Type C EA represents a critical neonatal emergency with a high risk of aspiration and respiratory compromise, leading to a difficult perioperative airway and hemodynamic management [3].

Case Presentation

An 8-hour-old, severe condition, premature male neonate was delivered with suspected EA. During investigations, chest radiography showed type C EA, neurosonography suspected II° intraventricular hemorrhage and laboratory tests revealed coagulopathy. Before surgery, fresh frozen plasma was administered. The patient was managed with general endotracheal anesthesia and conventional two-lung positive pressure ventilation with PIP 12-20 cmH₂O, PEEP 3-4 cmH₂O, RR 28-32 bpm. Intraoperative ventilation was associated with a progressive rise in end-tidal carbon dioxide (ETCO₂) from 39 mmHg to 70 mmHg, without associated hypoxia. Hemodynamic parameters and temperature remained stable. Despite adaptation of ventilator settings, ETCO₂ did not change. By the end of surgery and anesthesia, ETCO₂ decreased to normal upper values. Postoperative laboratory tests, including acid-base balance, were normal.

Discussion

This malformation occurs in about 1 in 2500–3000 live births, slightly more frequently in males [1]. Clinical manifestations include excessive salivation, choking episodes and inability to pass a nasogastric tube beyond the proximal esophageal pouch [2]. Intubation, for type C EA, remains one of the most technically demanding aspects due to the abnormal connection between the trachea and esophagus, requiring the tube tip to be located distal to the fistula but proximal to the carina [4]. During thoracoscopic surgery in neonates, CO₂ insufflation into the thoracic cavity reduces venous return and cardiac preload, impairs

lung compliance, lowers functional residual capacity, causes ventilation-perfusion mismatch and leads to hypercapnia [5, 6]. Excessive hypercapnia alone or with coagulopathy in neonates poses a risk of intracranial hemorrhage [7].

Conclusions

This case highlights the complex perioperative anesthetic challenges, which can only be overcome with timely recognition of the condition, careful anesthetic planning, and close intraoperative monitoring.

References

1. [1] – Igwe AO, Kannachamkandy L, Agwu EL, Lawal TA, Nwankpele TO, Mosanya AO, et al. Thoracoscopic Repair of Type C Oesophageal Atresia in a Nigerian Hospital: A Report of Two Cases. *African Journal of Paediatric Surgery* [Internet]. 2024 Mar 14 [cited 2025 Sep 13];21(2):129–33.
2. [2] – Baldwin D, Yadav D. Esophageal Atresia [Internet]. PubMed. Treasure Island (FL): StatPearls Publishing; 2021.
3. [3] – Kovesi T. Aspiration Risk and Respiratory Complications in Patients with Esophageal Atresia. *Frontiers in Pediatrics*. 2017 Apr 3;5.
4. [4] – Seong Min Hwang, Myeong Jin Kim, Kim S, Kim S. Accidental esophageal intubation via a large type C congenital tracheoesophageal fistula: A case report. *World Journal of Clinical Cases*. 2022 Oct 19;10(30):11198–203.
5. [5] - Liu H, Le C, Chen J, Xu H, Yu H, Chen L, et al. Anesthetic management of thoracoscopic procedures in neonates: a retrospective analysis of 45 cases. *Translational Pediatrics*. 2021 Aug 1;10(8):2035–43. 1.
6. [6] – Zani A, Lamas-Pinheiro R, Paraboschi I, King SK, Wolinska J, Zani-Ruttenstock E, et al. Intraoperative acidosis and hypercapnia during thoracoscopic repair of congenital diaphragmatic hernia and esophageal atresia/tracheoesophageal fistula. *Pediatric Anesthesia*. 2017 Jun 20;27(8):841–8.
7. [7] – Aly S, El-Dib M, Lu Z, El Tatawy S, Mohamed M, Aly H. Factors affecting cerebrovascular reactivity to CO₂ in premature infants. *Journal of Perinatal Medicine*. 2019 Nov 26;47(9):979–85.

Beyond Diabetes: The other Face of Ketoacidosis. A Case Report

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Introduction

Nondiabetic ketoacidosis (NDKA) is a condition in which ketosis occurs in the absence of diabetes. Due to physiological changes pregnant patients are more vulnerable to starvation, even over relatively short periods, which can lead to starvation ketoacidosis [1,2]. If mismanaged, this high anion gap metabolic acidosis can be life-threatening for both the mother and fetus [3].

Case Presentation

A 31-year-old patient presented at 34 weeks of gestation with abdominal pain accompanied by vomiting. On the third day of hospitalization cholecystectomy and Cesarean section were performed. During surgery metabolic acidosis was detected. Arterial blood gas results showed: pH 7.23, pCO₂ 26.7 mmHg, bicarbonate 11.1 mmol/L, base excess -16.9 mmol/L, lactate 0.9 mmol/L, and glucose 4.6 mmol/L. Bicarbonate therapy was started, however, due to persistent acidosis, patient was transferred to the intensive care unit. High anion gap metabolic acidosis was confirmed with an anion gap of 19 mmol/L. Urinalysis showed strongly positive ketones (15) and serum ketone measured 4.8. With no evidence of exogenous triggers such as toxins, renal failure, lactic acidosis, or any form of diabetes non-diabetic starvation ketoacidosis was diagnosed. A 10% dextrose infusion was initiated resulting in rapid improvement. By the next morning, pH increased to 7.50, HCO₃⁻ to 18.1 mmol/L, lactate 0.71 mmol/L, glucose 3.4 mmol/L and urinary ketones decreased significantly (2).

Discussion

Starvation ketoacidosis in pregnancy is a rare condition, with only small case series available. In presence of metabolic acidosis, evaluating the serum anion gap is essential for narrowing differential diagnosis [4]. Normoglycaemia, absence of glycosuria, no history of diabetes, normal lactate levels supported NDKA in this case.

Conclusions

Non-diabetic starvation ketoacidosis is a rare but life-threatening complication of pregnancy. Greater clinical awareness may help prevent severe maternal and fetal morbidity.

References

1. Abraham, L., Ning, X., & Whitlatch, H. B. (2024). Starvation ketoacidosis in pregnancy: An unusual presentation and brief literature review. *JCEM Case Reports*, 2(9), luae145. <https://doi.org/10.1210/jcemcr/luae145>
2. Adznan, N. U.-H., Singarayar, C. S., & Hui, F. S. (2023). A case series of euglycemic starvation ketoacidosis in pregnant women with COVID-19 infection: Atypical presentations. *Egyptian Journal of Medical Case Reports*, 7(5), 110–114. <https://doi.org/10.24911/ejmcr/173-1670397398>
3. Patel, N., Pethani, Y., Khan, M., Adisa, O., & Sequeira, A. P. (2023). Acute starvation ketoacidosis in pregnancy: Too fast, too furious (FR-PO859). *Journal of the American Society of Nephrology*, 34(11S), 643. <https://doi.org/10.1681/ASN.20233411S1643a>
4. Fenves, A. Z., & Emmett, M. (2021). Approach to patients with high anion gap metabolic acidosis: Core curriculum 2021. *American Journal of Kidney Diseases*, 78(4), 590–600. <https://doi.org/10.1053/j.ajkd.2021.02.341>

Navigating the Burned Airway: A Case Report of Acetic Acid Ingestion

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Introduction

High-concentration acetic acid ingestion causes serious corrosive injury of the upper airway and gastrointestinal tract due to coagulative necrosis. Reported complications include airway obstruction, esophageal necrosis, perforation and high mortality, up to 20-30% in severe adult cases (1,2). Airway involvement represents a major risk factor for death, as edema may make airway control impossible. The aim of this case report is to highlight the importance of early recognition and proactive airway management in patients with corrosive acetic acid ingestion.

Case Presentation

A 73-year-old male accidentally ingested 97% acetic acid and developed odynophagia, dysphonia, drooling and respiratory distress. ENT evaluation revealed severe oropharyngeal burns with supraglottic edema and a critically narrowed glottic opening. Due to imminent airway obstruction, early endotracheal intubation was performed. Endoscopy confirmed corrosive esophageal injury; perforation could not initially be excluded, therefore total parenteral nutrition and empirical antibiotics were started. After stabilization and improved endoscopic findings, the patient was extubated, enteral feeding established and he was discharged in stable condition.

Discussion

High-concentration acetic acid causes rapid coagulative necrosis with early supraglottic involvement and high risk of airway obstruction (1,2). Airway compromise is a stronger predictor of mortality than the extent of esophageal injury alone (2). Progressive edema may quickly render delayed intubation impossible, increasing the risk of



fatal outcomes (3,5). In this case, early ENT evaluation revealed critical airway narrowing, enabling well-timed airway protection. Endoscopy guided further management and nutritional support, consistent with current recommendations (3).

Conclusions

This case demonstrates that early recognition of airway involvement and right airway management are critical determinants of outcome in concentrated acetic acid ingestion (1,3). Proactive intubation, guided by endoscopic airway assessment, can prevent catastrophic airway loss. Early endoscopy and staged nutritional support complement airway management and contribute to favorable recovery (4). Continuous monitoring is essential to detect late complications such as strictures (5).

References

1. Chang J, Han SE, Paik SS, Kim YJ. Corrosive esophageal injury due to a commercial vinegar beverage in an adolescent. *Clin Endosc.* 2020;53(3):366–9.
2. Challine A, Maggiori L, Katsahian S, Corté H, Goere D, Lazzati A, et al. Outcomes Associated with Caustic Ingestion among Adults in a National Prospective Database in France. *JAMA Surg.* 2022 Feb 1;157(2):112–9.
3. Lusong MAA De, Timbol ABG, Tuazon DJS. Management of esophageal caustic injury. *World J Gastrointest Pharmacol Ther.* 2017;8(2):90.
4. Shields LBE, Rolf CM, Hunsaker JC. Sudden death due to forced ingestion of vinegar. *Forensic Sci Int.* 2016 Sep 1;266:e23–6.
4. Ratcliffe A, Baker A, Smith D. Successful management of 70% acetic acid ingestion on the intensive care unit: A case report. *J Intensive Care Soc.* 2018 Feb 1;19(1):56–60.

Anesthetic Management of a Patient with Cervical Syringomyelia and Syringobulbia: Case Report

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Introduction

Syringomyelia and syringobulbia related to medulla oblongata tumours present anesthetic challenges due to impaired bulbar function, risk of respiratory compromise and the need for intraoperative neuromonitoring [1]. In our patient, additional considerations included low body weight, pressure-injury risk, prolonged supine positioning and a surgical time of 480 minutes, all requiring strict hemodynamic control and anesthesia compatible with neuromonitoring.

Case Presentation

A 48-year-old man with progressive upper-limb weakness and paresthesia, dissociated loss of pain and temperature with previous burns and dysphagia underwent C1–C3 decompressive laminectomy, cyst perforation, and tumour resection surgery. Preoperative MRI revealed an intramedullary C1/C2 contrast-enhancing lesion measuring 17×12 mm (axial) with associated intramedullary cysts. The largest cyst measured 48×21 mm. Given the brainstem involvement, body mass index of 20,5 kg/m² and the need for neuromonitoring, a Total Intravenous Anesthesia (TIVA) using Target-Controlled Infusion (TCI) was selected. Anesthesia was induced with fentanyl 0,1 mg, propofol 180 mg, and rocuronium 50 mg, followed by endotracheal intubation. Maintenance was achieved with propofol–remifentanyl infusion avoiding long-acting neuromuscular blockers to preserve neuromonitoring signals. Mean arterial pressure was maintained ≥70 mmHg and increased when needed to optimize spinal cord perfusion. A total of 2,5 L of crystalloids was infused. The patient was awakened and extubated under intravenous lidocaine without early respiratory or neurological complications.

Discussion

TCI allows better control of anesthetic depth with minimal fluctuation, reducing interference with neuromonitoring. It reduces the need for additional medications,

optimizing anesthesia and improving hemodynamic control. TCI's consistency enhances spinal cord perfusion and reduces secondary neurological injury. Thus, TCI offers distinct advantages over TIVA in managing complex surgeries with brainstem pathology ensuring both safety and precision in anesthetic delivery [2,3].

Conclusions

his case highlights the importance of individualised anaesthetic planning in patients with brainstem pathology, where TCI enables optimal neuromonitoring, hemodynamic stability and safe emergence.

References

1. [1] Goetz LL, De Jesus O, Munakomi S, et al. Posttraumatic Syringomyelia. [Updated 2025 Feb 23]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK470405/>
2. [2] Niewiadomski S, Chwojnicky K, Owczuk R. Is target-controlled infusion better than manual controlled infusion during TIVA for elective neurosurgery? Results of a single-centre pilot study. *Neurol Neurochir Pol.* 2024;58(3):331–7. doi:10.5603/pjnns.99294.
3. [3] Bajwa SJ, et al. Recent advancements in total intravenous anaesthesia and anaesthetic pharmacology. *Indian J Anaesth.* 2023;67(1):56-62. doi:10.4103/ija.ija_1022_22.

Diphtheria-Induced Sepsis and Multiorgan Failure Leading to Fatal Outcome: A Clinical Case Report

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Introduction

Diphtheria is a potentially life-threatening infection of the upper respiratory tract (URT), characterized by pseudomembrane development, neck edema, and airway obstruction [1]. Once in the bloodstream, diphtheria toxin spreads and injures distant organs - mainly the heart, liver, and central nervous system [2].

Case Presentation

A 26-year-old male from Afghanistan presented with a 5-day history of sore throat, neck swelling, cough, left-sided chest pain, and dyspnea. Pharyngoscopy revealed swelling of the soft palate and uvula, symmetrical palatine tonsils, and the presence of whitish exudates. Neck CT showed signs of phlegmon in the URT. Due to clinical suspicion of diphtheria, blood and bronchial secretion cultures were taken. The patient was started on i/v piperacillin-tazobactam 4.5 g, to treat an unknown infection empirically. He was admitted to the intensive care unit and started on mechanical ventilation for acute respiratory distress syndrome. The patient developed acidosis and became hemodynamically unstable, requiring vasopressors. Condition worsened due to progressive shock with rising thrombocytopenia, uremic markers and procalcitonin. Due to decreasing heart activity and asystole, specialized resuscitation was performed, but the patient did not survive. The diagnosis of diphtheria was confirmed postmortem.

Discussion

In Europe 2022, there were a total of 359 diphtheria cases reported and 62% of them were imported [3]. It spreads via breathing and sometimes by touching infected skin [4]. Diphtheria is suspected when a patient has an URT infection along with pseudomembrane, and is confirmed when *Corynebacterium* spp. is grown in culture and shown to produce toxin [5]. It is treated with antibiotics based on susceptibility, antitoxin, and symptomatically [6]. However, vaccination remains the primary method of prevention [7].



Conclusions

The case demonstrates that diphtheria can lead to severe complications and death despite intensive care, emphasizing the critical role of vaccination and early recognition.

References

1. Badell E, Alharazi A, Criscuolo A, Almoayed KAA, Lefrancq N, Bouchez V, et al. Ongoing diphtheria outbreak in Yemen: a cross-sectional and genomic epidemiology study. *Lancet Microbe* [Internet]. 2021 Aug 1 [cited 2025 Dec 15];2(8):e386–96. Available from: <https://pubmed.ncbi.nlm.nih.gov/35544196/>
2. Prygiel M, Mosiej E, Polak M, Krysztopa-Grzybowska K, Wdowiak K, Formińska K, et al. Challenges of Diphtheria Toxin Detection. *Toxins (Basel)* [Internet]. 2024 Jun 1 [cited 2025 Dec 15];16(6):245. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11209151/>
3. Keder K, Kukulska MB, Latocha J, Sobieska A, Grzelak D. Diphtheria - Epidemiological situation, pathogenesis, diagnosis, treatment methods and prevention. *Przegl Epidemiol* [Internet]. 2025 Oct 3 [cited 2025 Dec 15];79(2):215–26. Available from: <https://pubmed.ncbi.nlm.nih.gov/41042958/>
4. Kamble BD, Singh SK, Chellaiyan VG, Jethani S, Gunjan M, Jenniferbritto J. Epidemiological and Clinical Characteristics of Patients with Diphtheria Attending the Infectious Disease Hospital in Delhi. *Arch Razi Inst* [Internet]. 2024 Mar 1 [cited 2025 Dec 15];79(2):355. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11512191/>
5. Abdulrasheed N, Lawal L, Mogaji AB, Abdulkareem AO, Shuaib AK, Adeoti SG, et al. Recurrent diphtheria outbreaks in Nigeria: A review of the underlying factors and remedies. *Immun Inflamm Dis* [Internet]. 2023 Nov 1 [cited 2025 Dec 15];11(11):e1096. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10683557/>
6. Aaqil SI, Ochani S, Hasibuzzaman Md Al. Recent outbreak of diphtheria in Pakistan; short communication. *Ann Med Surg (Lond)* [Internet]. 2023 Jun [cited 2025 Dec 15];85(6):3243–4. Available from: <https://pubmed.ncbi.nlm.nih.gov/37363467/>
7. Hien TT, White NJ. Diphtheria. *Manson's Tropical Diseases, Fourth Edition* [Internet]. 2024 Feb 26 [cited 2025 Dec 15];461–5. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK560911/>

Challenging diagnosis of toxic alcohol poisoning: A case report

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Introduction

Toxic alcohols such as methanol, ethylene glycol and isopropyl alcohol are found in high concentrations in automotive antifreeze and other industrial products, which are consumed as surrogate alcohols. Patients may ingest toxic alcohols to inflict self-harm, or by accident [1,2]. However, poisonings with toxic alcohols often present the emergency physician with a diagnostic challenge [1,3,4].

Case Presentation

A 60-year-old man presented to the Emergency Department with chest pain. Firstly, the patient was diagnosed with severe hyperkalemia and treatment was initiated. After 3 hours he began to complain of impaired vision and his consciousness began to deteriorate. As the patient's condition progressed, an arterial blood gas test was taken, which revealed metabolic acidosis. With no evidence of surrogate alcohol consumption, based solely on the patient's clinical symptoms, poisoning with methanol-containing surrogate alcohol was suspected. After consulting a toxicologist and considering that incorrect treatment would result in less damage than not prescribing it, it was decided to treat the patient with ethanol and to perform hemodialysis for detoxification. Therefore, the patient was intubated and transferred to the Intensive Care Unit (ICU). As the patient's condition improved, treatment with ethanol and thiamine was continued. After correcting metabolic acidosis, the patient's sedation was discontinued, but as he remained unconscious, brain computed tomography was performed. It revealed intracerebral hemorrhage with acute ischemia. Neurosurgical treatment was not indicated and symptomatic treatment was continued. The patient was transferred to a secondary health care facility for further treatment.

Discussion

The clinical symptoms of intoxication with surrogate alcohols substances are non-specific and may vary depending on toxic alcohol it contains. Emergency physicians should suspect this diagnosis in patients with unexplained metabolic acidosis, kidney



injury, neurological symptoms, or an increased osmolar gap. Treatment with ethanol and/or hemodialysis should be started early, even before the diagnosis is confirmed [1,2,3].

Conclusions

Toxic alcohol poisoning can cause severe damage to multiple organ systems, hence early recognition and treatment is important as intoxication may lead to fatal consequences.

References

1. Gallagher N, Edwards FJ. The Diagnosis and Management of Toxic Alcohol Poisoning in the Emergency Department: A Review Article. *Advanced Journal of Emergency Medicine* [Internet]. 2019 May 22;3(3). Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6683589/>
2. Wang C, Samaha D, Hiremath S, Sikora L, Sood MM, Kanji S, et al. Outcomes after toxic alcohol poisoning: a systematic review protocol. *Systematic Reviews*. 2018 Dec;7(1).
3. Beaulieu J, Pramod Chandru, Berling I, Úna Nic Ionmhain, Chan BS, Roberts DM. Management of toxic alcohol poisoning in New South Wales: a retrospective study. *Clinical Toxicology*. 2025 Oct 8;63(11):920–7.
4. Wittler M, O'Brien MC, Masneri D. Toxic Alcohol Ingestion/Methanol Ingestion. *MedEdPORTAL*. 2018;14.

Kounis syndrome: an uncommon cause of acute coronary syndrome. A case report

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Introduction

Kounis syndrome (KS) is defined as the occurrence of acute coronary syndrome in the setting of an immune reaction. [1] Despite increasing awareness, KS remains underrecognized in clinical practice. Early identification is essential, as acute coronary syndromes triggered by hypersensitivity reactions are associated with significant morbidity and mortality. [2]

Case Presentation

A 44-year-old woman was admitted to the Cardiac Intensive Care Unit (CICU) with typical anginal chest pain and ECG changes suggestive of an inferior STEMI. Urgent coronary angiography was performed, and revealed no significant coronary artery stenosis. Given the absence of obstructive coronary disease, alternative etiologies of myocardial injury were considered. A more detailed medical history revealed that the symptoms developed shortly after hair dye application. Additionally, the patient reported a similar episode two years earlier, also associated with hair dye. During both episodes, the patient also experienced itching of the palms. Given the clinical suspicion of an allergic etiology, serum tryptase was measured and found to be elevated at 55.22 ng/mL. In the presence of elevated tryptase levels and evidence of myocardial injury, most likely due to coronary artery spasm, a diagnosis of Kounis syndrome was established. After three days of conservative treatment, with no clinical signs of allergy or chest angina, the patient was transferred to the cardiology department.

Discussion

The pathophysiological mechanisms of Kounis syndrome include coronary vasospasm, plaque rupture, and thrombosis triggered by the rapid release of inflammatory mediators during a hypersensitivity reaction. As a result, patients typically present with symptoms of acute coronary syndrome and hypersensitivity reaction simultaneously. [3] Management aims to restore myocardial perfusion while treating the allergic reaction. However, this can be challenging because certain cardiac drugs may worsen the allergic component, while



anti-allergic medications may aggravate cardiac dysfunction. [1] Therefore, standardized management strategies integrating both cardiac and allergic treatments are needed to improve outcomes. [4]

Conclusions

This case report raises awareness of Kounis syndrome and highlights the importance of timely diagnosis and comprehensive management.

References

1. Alblaihed L, Huis In 't Veld MA. Allergic Acute Coronary Syndrome-Kounis Syndrome. *Immunol Allergy Clin North Am*. 2023 Aug;43(3):503-512. doi: 10.1016/j.iac.2022.10.010. PMID: 37394256.
2. Kounis NG. Kounis syndrome: an update on epidemiology, pathogenesis, diagnosis and therapeutic management. *Clin Chem Lab Med*. 2016 Oct 1;54(10):1545-59. doi: 10.1515/cclm-2016-0010. PMID: 26966931.
3. Douedi S, Odak M, Mararenko A, Ross J, Sealove B. Kounis Syndrome: A Review of an Uncommon Cause of Acute Coronary Syndrome. *Cardiol Rev*. 2023 Jul-Aug 01;31(4):230-232. doi: 10.1097/CRD.0000000000000436. Epub 2022 Jan 6. PMID: 37335982.
4. Benchea LC, Anghel L, Scripcariu DV, Diaconu A, Zanfirescu RL, Lucaci LV, Bîrgoan SG, Sascău RA, Stătescu C, Radu R. Kounis Syndrome in Clinical Practice: Insights from Clinical Case Series and Mechanistic Pathways. *J Clin Med*. 2025 Jan 24;14(3):768. doi: 10.3390/jcm14030768. PMID: 39941439; PMCID: PMC11818091.

Management of a Critically Difficult Airway in Acute Epiglottitis: A Case Report

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Introduction

Acute infectious epiglottitis is an inflammation of the supraglottic region of the larynx that may involve the epiglottis, vallecula, arytenoids, aryepiglottic folds [1]. This disease can be lethal due to its risk of airway obstruction [2].

Case Presentation

A 60-year-old woman was hospitalized due to progressive dyspnea, dysphagia, sore throat and fever. Initial examination showed inspiratory stridor, severe dysphagia, leukocytosis and elevated CRP. Based on clinical signs, otolaryngological examination and fiberoptic endoscopy findings, acute epiglottitis was diagnosed. CT scan showed massive edema of the supraglottic region, significantly narrowing the upper respiratory track (URT). Despite the administration of antibiotic therapy and corticosteroids, the patient's respiratory function progressively worsened and fluid accumulation began to form in the left epiglottic fold. Due to the impending URT obstruction, caused by the edema and fluid accumulation, surgical intervention under general anesthesia was indicated. An attempt was made to perform endotracheal intubation using videolaryngoscope and bronchoscope guidance, but it failed due to laryngeal edema. An emergency cricothyrotomy was performed, a lower tracheostomy was created and endolaryngeal drainage of the abscess was performed. After surgery, patient was treated in the intensive care unit for respiratory failure caused by epiglottitis. As the respiratory status gradually improved and the oxygen requirement decreased, the patient was successfully decannulated and, after stabilization, discharged for further outpatient observation.

Discussion

During epiglottitis, edema of the supraglottic structures may rapidly lead to airway obstruction [3]. In this case, progressive dyspnea and inspiratory stridor were clear indicators of impending URT. The primary goal of managing epiglottitis is timely airway protection combined with antibiotics and corticosteroids [4]. Determining the optimal



timing and method for securing the airway remains challenging, as airway manipulation itself may cause complete obstruction.

Conclusions

Acute epiglottitis is a rare condition that can rapidly progress to URT. Standard intubation may not be possible in the presence of progressive supraglottic edema and anaesthesiologists need to be ready for emergency surgical airway access.

References

1. Ringel B, Shilo S, Carmel-Neiderman NN, Livneh N, Oestreicher-Kedem Y, Abergel A, et al. Low rates of airway intervention in adult supraglottitis: a case series and meta-analysis. *Am J Otolaryngol*. 2020;41(4):102482. doi:10.1016/j.amjoto.2020.102482
2. Penella A, Mesalles-Ruiz M, Portillo A, Huguet Llull G, Bagudà E, Capelleras M, et al. Acute infectious supraglottitis in adult population: epidemiology, management, outcomes and predictors of airway intervention. *Eur Arch Otorhinolaryngol*. 2022;279(8):4033-4041. doi:10.1007/s00405-022-07365-z
3. Dowdy RAE, Cornelius BW. Medical management of epiglottitis. *Anesth Prog*. 2020;67(2):90-97. doi:10.2344/anpr-66-04-08
4. Bridwell RE, Koyfman A, Long B. High-risk and low-prevalence diseases: adult epiglottitis. *Am J Emerg Med*. 2022;57:14-20. doi:10.1016/j.ajem.2022.04.018

Reoccurring CNS Lymphoma versus COVID-19–Related Neuroinflammation: A Complex Diagnostic Course

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Introduction

Primary central nervous system lymphoma (PCNSL), most commonly diffuse large B-cell lymphoma (DLBCL), requires histopathological confirmation for diagnosis. It was reported that COVID-19 related neuroinflammation can mimic CNS malignancies. We present a case of CNS DLBCL with radiological worsening and conflicting histopathology, highlighting the diagnostic challenge.

Case Presentation

A 74-year-old man presented in 2021 with left-sided limb weakness. MRI revealed a right frontal mass, confirmed as CNS DLBCL by histopathologists. He completed R-MTX chemotherapy, which was delayed due to a COVID-19 infection. MRIs until Feb 2023 showed marked lesion regression. In 2024 March, new enhancing signal abnormalities appeared, suggesting progression, but biopsy showed only perivascular CD3+ T-cells infiltrates and strong COVID-19 antigen positivity, concluding COVID-related inflammation for which dexamethasone was recommended. In Aug 2024, the patient experienced acute neurological decline and pneumonia. MRI showed rapid worsening and new bilateral enhancing lesions. Final histological testing (Jan 2025) repeated prior findings, confirming inflammatory changes induced by COVID-19.

Discussion

While SARS-CoV-2 primarily targets the respiratory system, it is known to lead to severe complication such as including encephalitis (1). The mechanism of CNS entry remains debated (2). Diagnosis relies on clinical presentation, CSF, and imaging. However, diagnostic criteria for COVID-19 encephalitis are lacking, and CSF studies are often inconclusive (3,4). MRI lesions and contrast enhancement involving in the insular cortex or basal ganglia are insufficient to differentiate COVID-related neuroinflammation from PCNSL recurrence (5). Even tough, PET scans using [18F] FDG can show hypometabolism in multiple brain areas, they can only provide hints, but not the diagnosis of disease (6). This case confirms that histopathological verification is paramount to guide definitive treatment.



Conclusions

COVID-19 related neuroinflammation can mimic PCNSL recurrence with almost identical features seen on MRI and molecular imaging can only be used to confirm brain pathophysiological changes. Histopathological verification is essential to differentiate tumor progression from inflammatory pseudo progression in complex systemic cases.

References

1. Siow I, Lee KS, Zhang JJY, Saffari SE, Ng A. Encephalitis as a neurological complication of COVID-19: A systematic review and meta-analysis of incidence, outcomes, and predictors. *Eur J Neurol.* 2021 Oct 1;28(10):3491. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC8239820/> DOI: 10.1111/ene.14913
2. Ousseiran ZH, Fares Y, Chamoun WT. Neurological manifestations of COVID-19: a systematic review and detailed comprehension. *Int J Neurosci.* 2021 Sep 27; 1-16. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC8506813/> DOI: 10.1080/00207454.2021.1973000
3. Kakaletsis N, Alevroudis I, Kotoulas SC, Dourliou V, Stougianni M, Massa E, et al. COVID-19 Presenting as Encephalitis and Myopericarditis: A Report of a Rare Case. *Cureus.* 2024 Jun 10;16(6). Available from: <https://pubmed.ncbi.nlm.nih.gov/38989350/> DOI: 10.7759/cureus.62056
4. Marques LM, Marques SR, Costa O, Freitas E, Machado Á. COVID-19-Associated Encephalitis: Two Case Reports. *Cureus.* 2022 Mar 17;14(3). Available from: <https://pubmed.ncbi.nlm.nih.gov/35342667/> DOI: 10.7759/cureus.23243
5. Tanwar M, Singhal A, Alizadeh M, Sotoudeh H. Magnetic Resonance Imaging (MRI) Findings in COVID-19 Associated Encephalitis. *Neurol Int.* 2023 Mar 1;15(1):55. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC9844334/>
6. Fontana IC, Bongarzone S, Gee A, Souza DO, Zimmer ER. PET Imaging as a Tool for Assessing COVID-19 Brain Changes. *Trends Neurosci.* 2020 Dec 1;43(12):935–8. Available from: <https://pubmed.ncbi.nlm.nih.gov/33131922/>

Epilepsy: Postictal Brain MRI Changes

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Introduction

Seizures cause excessive excitatory neurotransmitter release and intense neuronal firing, which increases metabolic demand and blood flow. If this demand is unmet, cellular stress, edema, and transient postictal MRI changes may occur, potentially mimicking acute structural pathology [1,2]. Studies suggest that MRI signal abnormalities after a single seizure are rare but occur more frequently in status epilepticus [1,3,4].

Case Presentation

Patient A.B. was involved in a traffic accident. She showed disoriented behavior prior to the event. Emergency personnel observed leftward versive head turning with left-sided clonic movements, suggesting a seizure, and administered diazepam. In the Kaunas Clinics' emergency department, neurological examination and CT scan showed no acute abnormalities. During hospitalization, EEG monitoring recorded a possible subclinical seizure with right temporal focus (T4, F8) lasting up to 40 seconds. Carbamazepine therapy was started. Laboratory tests, including infectious and autoimmune panels, were normal. Brain MRI showed a T2-weighted FLAIR hyperintense signal with mild diffusion restriction in the right medial hippocampal region and adjacent white matter, suggestive of postictal changes. Lumbar puncture and sleep EEG, cardiology and rheumatology specialist evaluations were unremarkable. 1-month follow-up MRI showed regression of the hyperintense signal in the right hippocampus and the parahippocampal region. Follow-up MRI at 4.5 months revealed hippocampal atrophy, consistent with hippocampal sclerosis. Since the initial seizure, the patient has been seizure-free and all EEGs were normal.

Discussion

Postictal brain MRI changes are typically detected within the first day after a seizure,

most commonly involve the cortex and hippocampus [1,2,4,5]. They resolve within days or weeks without long-term consequences [5]. After regression of post-seizure changes (particularly after status epilepticus), in rare cases, hippocampal sclerosis, cortical atrophy or necrosis may develop; early seizure termination is associated with improved prognosis [2].

Conclusions

Postictal brain MRI changes are rare and often transient, posing diagnostic challenges. No specific treatment is required, the changes regress spontaneously. Good seizure control is essential to prevent long-term structural changes.

References

1. Chung Che Z, Mariajoseph FP, Saddik D, Amukotuwa S, Seneviratne U. Seizure-induced reversible magnetic resonance imaging abnormalities: a retrospective cohort study. *Epilepsy Behav.* 2023;147:109405. doi:10.1016/j.yebeh.2023.109405
2. Mariajoseph FP, Sagar P, Muthusamy S, Amukotuwa S, Seneviratne U. Seizure-induced reversible MRI abnormalities in status epilepticus: a systematic review. *Seizure.* 2021;92:166–173. doi:10.1016/j.seizure.2021.09.002
3. Korzeniowski O, Gola E, Gawlik-Kotelnicka O, Sobolewski A, Lipowski M, Jankowski R, et al. Investigating peri-ictal MRI abnormalities: a prospective neuroimaging study on status epilepticus, seizure clusters, and single seizures. *J Clin Med.* 2025;14(8):2711. doi:10.3390/jcm14082711
4. Huang TH, Lai MC, Chen YS, Huang CW. Brain imaging in epilepsy—focus on diffusion-weighted imaging. *Diagnostics (Basel).* 2022;12(11):2602. doi:10.3390/diagnostics12112602
5. Mariajoseph FP, Muthusamy S, Amukotuwa S, Seneviratne U. Seizure-induced reversible MRI abnormalities in patients with single seizures: a systematic review. *Epileptic Disord.* 2021;23(4):552–562. doi:10.1684/epd.2021.1300

Successful Multistage Picibanil Sclerotherapy for a Complex Cervicofacial Lymphatic Malformation

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Introduction

Lymphatic malformations are rare congenital vascular anomalies most commonly affecting the head and neck. Progressive enlargement may cause functional and cosmetic complications. Surgical management is challenging and associated with recurrence, lymphatic leakage, infection, nerve injury, and scarring. Sclerotherapy with Picibanil (OK-432) is a minimally invasive alternative.

Case Presentation

A 1-year-old child presented with a right-sided cervicofacial mass present since birth and gradually enlarging. Physical examination revealed a soft, non-tender lesion without airway compromise. MRI demonstrated a multiloculated cystic lesion involving supra- and infrahyoid neck spaces, measuring up to $6.7 \times 5.8 \times 4.7$ cm. Cytology of aspirated cyst fluid was negative for malignancy. Between 2022 and 2023, multiple ultrasound-guided procedures were performed with cyst aspiration and intralesional Picibanil injection. Transient post-procedural swelling resolved conservatively. The lesion regressed significantly over the following year. Follow-up ultrasound in 2024–2025 demonstrated two small, stable residual cysts.

Discussion

Cervicofacial lymphangiomas arise from abnormal lymphatic development and typically present in early childhood. Multicompartment involvement complicates surgical excision and increases recurrence risk. MRI and ultrasound are essential for diagnosis and treatment planning. Meta-analysis data show that OK-432 is an effective alternative to surgery, particularly in macrocystic and mixed lesions, with high response rates and fewer complications. Systematic reviews further support sclerotherapy as a first-line or adjunctive therapy for pediatric head and neck lymphangiomas. Long-term outcomes are generally favorable, although continued surveillance is required.

Conclusions

Staged Picibanil sclerotherapy achieved sustained regression of a complex cervicofacial lymphatic malformation, avoiding surgery. Long-term imaging follow-up remains essential.

References

1. Sun J, Wang C, Song D, Wu C, Guo L. Efficacy of OK-432 sclerotherapy for different types of lymphangiomas: a review and meta-analysis. *Braz J Otorhinolaryngol.* 2023;89(4):101270.
2. Fransén J, Frisk S, Ghaffarpour N. Lymphatic malformations revisited: genetics, clinics and future directions. *Presse Med.* 2025;54(3):104293.
3. Embrechts JLA, Hiddinga S, Bot JC, et al. Surgery vs sclerotherapy vs combined therapy in pediatric head and neck lymphatic malformations: systematic review and meta-analysis. *Eur Arch Otorhinolaryngol.* 2024;281(9):4529–39.
4. Fasching C, Bornemann R, Zorger N, Weber C, Held P. Treatment of lymphangiomas with OK-432 sclerotherapy: retrospective case series. *J Pediatr Surg.* 2022;57(12):710–714.

Right Renal Abscess Mimicking Renal Tumor on Computed Tomography: A Diagnostic Pitfall

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Introduction

Renal cortical and perinephric abscesses are uncommon but potentially life-threatening complications of UTI and bacteremia.[1] On CT it may appear as a solid or complex cystic mass and closely mimic renal cell carcinoma, making distinction between infection and malignancy crucial for choosing drainage, antibiotics rather than radical surgery.[1-3]

Case Presentation

A 58-year-old woman presented with fever and right flank pain. At initial contrast-enhanced CT, leukocytosis and high CRB were known and considered. CT showed a right renal mass with low-attenuation areas and perinephric fat stranding, suspicious for carcinoma. Because she was septic, only CT (including chest staging) was performed before surgery; renal MRI was deferred. Broad-spectrum IV antibiotics were begun, but fever and inflammatory markers worsened. Follow-up CT after several days revealed a fluid-filled lesion with enhancing walls, consistent with renal abscess. She underwent surgical drainage with partial resection of renal parenchyma. Histology confirmed suppurative inflammation without malignancy, and she recovered on antibiotics with preserved renal function.

Discussion

This case shows that a large inflammatory renal mass may be misinterpreted as tumor on CT, especially when solid and cystic components coexist.[1] Reports highlight that renal abscess and focal bacterial nephritis share many features with necrotic renal cell carcinoma, so CT alone is often insufficient, and MRI can assist in equivocal cases.[1,2] In our patient, the evolution from a predominantly solid heterogeneous mass to a well-formed fluid collection on repeat CT, together with rising inflammatory markers, was the key clue supporting infection rather than malignancy. Correlation with sepsis markers, temporal changes on imaging and early image-guided biopsy or drainage are crucial to avoid unnecessary invasive interventions (biopsy, surgery, etc.).[1-3]

Conclusions

CT alone may be insufficient to distinguish renal abscess from malignancy when marked inflammation is present. In patients with mass-like renal lesions and systemic

infection, diagnosis should be based on concordant clinical findings, laboratory markers and imaging, with repeat CT or MRI and, when required, invasive confirmation (biopsy or drainage) to secure the diagnosis and support organ-preserving treatment.

References

1. Wang S, Liang X, Pan D, Zhang J, Chen K, Jiang K, et al. Renal abscess that mimicked a renal tumor in an elderly woman: a case report and literature review. *Front Oncol* [Internet]. 2022 Oct 7[cited 2025 Dec 17];12:1027571. Available from: <https://doi.org/10.3389/fonc.2022.1027571>
2. Udare A, Abreu-Gomez J, Krishna S, McInnes MDF, Siegelman E, Schieda N. Imaging manifestations of acute and chronic renal infection that mimics malignancy: how to make the diagnosis using CT and MRI. *Can Assoc Radiol J* [Internet]. 2019 [cited 2025 Dec 17];70(1):74-82. Available from: <https://doi.org/10.1016/j.carj.2019.07.002>
3. Joshi S, Leslie SW, Desai D. Renal Abscess. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan– [cited 2025 Dec 17]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK614172/>

Incidental Detection of a Rare Pancreas Bifidum Variant: Case Report

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Introduction

Pancreas bifidum, also known as bifid or fish-tail pancreas, is a rare developmental anomaly characterized by duplication of the pancreatic duct. This differs from pancreas divisum, in which the dorsal and ventral ducts fail to fuse. Most cases are asymptomatic and found incidentally on CT, MRI, or MRCP [1]. Unlike pancreas divisum (4-14 % prevalence) [2], pancreas bifidum is extremely rare, with fewer than 30 cases reported [3].

Case Presentation

A 63-year-old male presented with jaundice, epigastric pain, nausea, and weakness. Laboratory tests revealed hyperbilirubinemia, elevated inflammatory markers, and renal impairment. The patient was diagnosed with acute cholangitis complicated by sepsis due to obstruction of a previously placed biliary stent. Contrast-enhanced CT showed biliary stent obstruction and duplication of the pancreatic body and tail with homogeneous enhancement; both ducts were dilated (3.0 mm and 5.1 mm). An indeterminate lesion in the pancreatic head was also detected. MRCP confirmed two pancreatic ducts converging normally into the duodenum. Biliary obstruction was treated with endoscopic stent replacement and antibiotics, with clinical improvement. The bifid pancreas was considered an incidental benign finding, while further evaluation was recommended for the pancreatic head lesion.

Discussion

The anatomical configuration of a bifid pancreas, with two ducts extending through the body and tail and merging near the head, may complicate imaging interpretation and

affect diagnosis by mimicking pathology, particularly in the presence of ductal dilatation or atypical lesions [2,4]. Most cases are incidental, although some present with acute pancreatitis [4]. MRCP plays the main role in evaluating congenital pancreatic duct anomalies, while CT helps assess parenchymal changes and exclude neoplastic processes [1,3,4]. These findings highlight the importance of accurate imaging interpretation in distinguishing rare pancreatic duct variants from pathological conditions.

Conclusions

Recognition of pancreas bifidum on imaging prevents misclassification and unnecessary treatment. Accurate imaging interpretation is essential. Asymptomatic patients can be managed conservatively, whereas ductal dilatation or atypical lesions, particularly in the pancreatic head, require further evaluation.

References

1. Shim JR, Park SJ, Park HM, Lee EC, Han SS. Are you prepared for pancreas bifidum? A case report. *Ann Surg Treat Res.* 2018 Jan;94(1):49-51. doi:10.4174/astr.2018.94.1.49.
2. Vassallo L, Fasciano M, Lingua G, et al. Pancreas bifidum: an extremely rare cause of acute pancreatitis. *Radiol Case Rep.* 2022 Jul;17(10):3490-3494. doi:10.1016/j.radcr.2022.06.089.
3. Deflandre C, Gillard R. Acute pancreatitis with pancreas bifidum mimicking duodenitis on computed tomography. *J Belg Soc Radiol.* 2023;107(1):10. doi:10.5334/jbsr.3016.
4. Krott L, De Wulf D, De Coninck S, Degroote H. Bifurcation of the main pancreatic duct in the body of the pancreas. Two case reports and literature study of a rare anatomical variant of the pancreatic duct. *Acta Gastroenterol Belg.* 2020 Oct-Dec;83(4):639-642

Delayed Posterior Interosseous Nerve Compressive Neuropathy Following Proximal Radial Fracture

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Introduction

Posterior interosseous nerve (PIN) compressive neuropathy is an uncommon cause of thumb and finger extension deficit and may mimic tendon pathology or carpal tunnel syndrome [1]. Delayed PIN may occur as a consequence of previous radial fractures due to post-traumatic anatomical changes [2]. Musculoskeletal ultrasound is a valuable tool for differentiating neurogenic muscle atrophy from tendon injury and for localising nerve compression [3].

Case Presentation

A 43-year-old woman presented for an ultrasound examination due to inability to actively extend the thumb. Her medical history revealed a proximal radial fracture sustained 15 years earlier, which had remained asymptomatic and was considered clinically irrelevant. The patient reported paresthesia of the first to third digits, leading to an initial suspicion of carpal tunnel syndrome. Electromyography had been performed prior to ultrasound referral. Ultrasound evaluation of the median nerve and extensor pollicis longus tendon showed no abnormalities. However, examination of the posterior forearm demonstrated severe atrophy of the abductor pollicis longus, extensor pollicis brevis, extensor pollicis longus, and extensor indicis muscle bellies, while the corresponding tendons were intact. At the level of the proximal forearm, focal compression and enlargement of the posterior interosseous nerve were identified, consistent with chronic compressive neuropathy related to prior trauma.

Discussion

PIN neuropathy is a rare condition, most commonly associated with trauma or chronic compression. Due to its purely motor involvement, diagnosis is often delayed or misattributed to tendon pathology or median nerve entrapment. Chronic nerve compression leads to denervation and selective muscle atrophy. In this case, ultrasound revealed selective atrophy of PIN-innervated muscles with preserved tendon integrity and focal compression of the posterior interosseous nerve in the proximal forearm, allowing accurate localisation of the pathology.



Conclusions

This case highlights delayed posterior interosseous nerve compressive neuropathy occurring years after proximal radial trauma. Ultrasound proved essential in identifying neurogenic muscle atrophy and excluding tendon pathology, emphasising its diagnostic value in patients with unexplained thumb extension deficits.

References

1. Wheeler R, DeCastro A. Posterior Interosseous Nerve Syndrome. 2023 May 1. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. PMID: 31082090.
2. Agarwal A, Chandra A, Jaipal U, Saini N. A panorama of radial nerve pathologies – an imaging diagnosis: a step ahead. Insights Imaging. 2018 Nov 5;9(6):1021–1034. PMID: 30397879; PMCID: PMC6269333.
3. Bäumer T, Grimm A, Schelle T. Diagnostische Nervensonographie [Diagnostic nerve ultrasonography]. Radiologe. 2017 Mar;57(3):157-165. German. doi: 10.1007/s00117-017-0218-y. PMID: 28188345

Timing matters: false-positive early post-radiotherapy PET/CT in Hodgkin lymphoma

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Introduction

Positron emission tomography/computed tomography (PET/CT) using [18F] fluorodeoxyglucose ([18F]FDG) is the standard imaging modality for response assessment in Hodgkin lymphoma (HL). However, post-radiotherapy (RT) interpretation may be challenging due to inflammation-related uptake.

Case Presentation

A 55-year-old woman was diagnosed with nodular lymphocyte-predominant HL. Initial PET/CT revealed metabolically active lymphadenopathy above and below the diaphragm, consistent with Lugano stage III disease. The patient received six cycles of BEACOPP chemotherapy. Post-chemotherapy PET/CT demonstrated partial metabolic response with persistent FDG uptake in a left common iliac lymph node (Deauville score 4). Following multidisciplinary discussion, consolidative RT was completed to this site. At 8 weeks post-RT PET/CT again showed persistent FDG uptake in the same lymph node (Deauville score 4), raising concern for residual disease. Biopsy was considered but was technically challenging. Considering the risk of false-positive findings in early post-RT imaging, the decision was made to repeat PET/CT 12 weeks later (approximately 20 weeks after RT). Follow-up imaging demonstrated complete metabolic response (Deauville 2), with slight FDG uptake below blood pool in the left common iliac lymph node.

Discussion

Current recommendations advise performing PET/CT at least 8–12 weeks after RT to reduce inflammation-related false-positive results [1–4]. This case illustrates that a rigid early-imaging approach is not always appropriate: 8 week post-RT PET/CT suggested possible

persistent disease, which could have led to unnecessary salvage therapy, including chemotherapy and autologous stem cell transplantation. By delaying treatment escalation and repeating PET/CT, complete metabolic response was confirmed, avoiding overtreatment.

Conclusions

This case highlights the importance of appropriate timing of PET/CT after RT in HL. Delayed metabolic assessment can prevent false-positive interpretation and unnecessary treatment escalation, highlighting the value of multidisciplinary decision-making.

References

1. Dejanovic D, Specht L, Czyzewska D, Kiil Berthelsen A, Loft A. Response Evaluation Following Radiation Therapy With 18F-FDG PET/CT: Common Variants of Radiation-Induced Changes and Potential Pitfalls. *Semin Nucl Med* [Internet]. 2022 Nov 1 [cited 2025 Dec 14];52(6):681–706. Available from: <https://www.sciencedirect.com/science/article/abs/pii/S0001299822000551>
2. Wiggins RH, Hoffman JM, Fine GC, Covington MF, Salem AE, Koppula BR, et al. PET-CT in Clinical Adult Oncology—V. Head and Neck and Neuro Oncology. *Cancers* 2022, Vol 14, [Internet]. 2022 May 31 [cited 2025 Dec 21];14(11). Available from: <https://www.mdpi.com/2072-6694/14/11/2726>
3. Urban RGTORWJBETEDKWDHSarah. FDG-PET/CT scan assessment of response 12 weeks post radical radiotherapy in oropharynx head and neck cancer: The impact of p16 status - ClinicalKey [Internet]. 2020 [cited 2025 Dec 21]. Available from: <https://www-clinicalkey-com.ezproxy.dbazes.lsmuni.lt/#!/content/journal/1-s2.0-S0167814020301663>
4. Milgrom SA, Rechner L, Berthelsen A. The optimal use of PET/CT in the management of lymphoma patients. *Br J Radiol* [Internet]. 2021 [cited 2025 Dec 21];94(1127):20210470. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC8553204/>

Radiologic Diagnostics of Uterus Didelphys: A Case Report

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Introduction

Congenital uterine malformations are the consequence of anomalous development of the uterine septum during the development of Mullerian ducts [1]. Diagnosis of these anomalies, while dependent on imaging and surgical findings, is often subjective. Nevertheless, MRI distinctly defines pelvic anatomy allowing for pinpointing other associated anomalies, particularly those of the reproductive system [2].

Case Presentation

A 31-year-old female patient with a known history of endometriosis, presented with pain in the left iliac region that began with the onset of menstruation and did not subside after menstruation. Based on the clinical history and imaging findings, endometriosis was considered the primary etiology of the pain. Abdominal ultrasound (US) findings exhibited the left ovary to be non-mobile with solid mass and several enlarged follicles. Transvaginal US showed a very thin endometrium, enlarged left ovary, containing a cyst filled with hemorrhagic content. In addition, the US revealed a dense solid mass in the projection of the left ovary with a similar mass right next to the first one. No uterine duplication or cervical anomaly was identified on US or during gynecological examination. The patient underwent magnetic resonance imaging (MRI) with routine sequences and intravenous contrast enhancement. The MRI revealed that the patient had a rare congenital anomaly – uterus didelphys, presenting as two separate uterine bodies and two cervices. The patient underwent a laparoscopic surgery without any further complications and for the post-operative treatment progestin was prescribed in continuous regimen.

Discussion

The rarity of this developmental uterine abnormality has limited the availability of robust data regarding long-term clinical outcomes. Diagnosis of uterine didelphys is



established through imaging-based evaluation, including US, MRI, and hysterosalpingography [3].

Conclusions

This case report highlights that some anatomical anomalies may present as secondary findings to the main complaint – pelvic pain caused by endometriosis. These findings emphasize the importance of a holistic approach to each patient and the ability to diagnose the pathology with comprehensive imaging, especially MRI, and surgical evaluation.

References

1. Kaur P, Panneerselvam D. Bicornuate Uterus. 2023 Jul 24. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. PMID: 32809694. <https://pubmed.ncbi.nlm.nih.gov/32809694/>
2. Al Najar MS, Al Ryalat NT, Sadaqah JS, Husami RY, Alzoubi KH. MRI Evaluation of Mullerian Duct Anomalies: Practical Classification by the New ASRM System. J Multidiscip Healthc. 2022 Nov 9;15:2579-2589. doi: 10.2147/JMDH.S386936. PMID: 36388626; PMCID: PMC9659481. <https://pubmed.ncbi.nlm.nih.gov/36388626/>
3. Jayaprakasan K, Ojha K. Diagnosis of Congenital Uterine Abnormalities: Practical Considerations. J Clin Med [Internet]. 2022 Mar 1 [cited 2026 Jan 20];11(5):1251. Available from:<https://pmc.ncbi.nlm.nih.gov/articles/PMC8911320/>

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Abstracts

Caesarean Delivery - What Has Changed in 50 Years

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Introduction

Caesarean section (CS) is a surgical procedure when a newborn is delivered through laparotomy and hysterotomy. In some medical conditions CS is a crucial procedure to ensure a safe delivery [1]. Over the years CS rates have increased significantly in the whole world. Lithuania follows this global trend, with CS rates increasing from 9.49% in 1995 to 26.01% in 2012 [2], and reaching 24.0% in 2024 [3]. Current risk factors contributing to CS include advanced maternal age, previous CS, and other obstetric factors [4].

Aim

To analyse and compare tendencies in caesarean section in the years 1970 and 2020.

Methods

Data about the course of labor, neonates and mothers was collected from the Hospital of the Lithuanian University of Health Sciences, Kaunas Clinics, birth records of July - September months of 1970 and 2020. The study included only singleton gestations: 307 births in 1970 and 285 in 2020. Newborns were grouped by weight: Group 1 < 2500 g, Group 2 2500 - 3999 g, Group 3 $\geq$ 4000 g. Chi-square test was used to identify differences, $\alpha=0.05$.

Results

The incidence of CS increased from 3.3% in 1970 to 26% in 2020 ($p<0.001$). This increase was particularly pronounced in preterm deliveries (from 9.1% to 43.3%, $p=0.04$) and term deliveries (from 3.1% to 23.9%,

$p < 0.001$). Among preterm deliveries, the youngest neonate in 1970 was 33 weeks of gestation, compared to 27 weeks in 2020. The proportion of preterm deliveries increased significantly over the study period, from 3.6% in 1970 to 10.5% in 2020 ($p < 0.001$). Differences in delivery type were also observed according to neonatal weight. The increased incidence of CS in term labours was mainly observed in the second weight category, rising from 3.1% to 24.8% ($p < 0.001$). In the third weight group, the increase was statistically significant but smaller, from 3.4% to 23.1% ($p = 0.003$). Among documented causes of CS in 1970, placental pathologies and transverse fetal presentation were the most common (5/10 cases). In 2020, the leading indications for CS were previous CS (20.3%), cephalopelvic disproportion (18.9%), breech presentation (13.5%), and maternal pathology (9.5%). In 1970, 14 cases of complete breech presentation were recorded, all delivered vaginally, compared to 12 cases in 2020, of which 9 (75%, $p < 0.001$) were delivered by CS. Three cases of footling breech presentation occurred in both years; in 1970 all were delivered vaginally, whereas in 2020 all were delivered by CS ($p = 0.014$).

Conclusions

The prevalence of caesarean deliveries has increased by more than 7 times between 1970 and 2020. This change is observed in pre-term and full-term deliveries. The rise in CS rates was particularly pronounced among preterm deliveries and in neonates of higher weight categories, suggesting that gestational age and fetal size remain important determinants for operative delivery.

References

1. Sung S, Mikes BA, Martingano DJ, et al. Cesarean Delivery. [Updated 2024 Dec 7]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK546707/>
2. Kacerauskiene, J., Minkauskiene, M., Mahmood, T. et al. Lithuania's experience in reducing caesarean sections among nulliparas: the impact of the quality improvement course. BMC Pregnancy Childbirth 20, 152 (2020). Available from: <https://doi.org/10.1186/s12884-020-2806-5>
3. Lietuvos Respublikos sveikatos apsaugos ministerija. Perinatologijos integruotos sveikatos priežiūros valdymo komiteto posedžio protokolas. Available from: <https://sam.lrv.lt/public/canonical/1764165116/28754/2025-03-25%20PK%20protokolas.pdf>
4. Elnakib S, Abdel-Tawab N, Orbay D, Hassanein N. Medical and non-medical reasons for cesarean section delivery in Egypt: a hospital-based retrospective study. BMC Pregnancy Childbirth. 2019 Nov 8;19(1):411. doi: 10.1186/s12884-019-2558-2. PMID: 31703638; PMCID: PMC6842224.

Impact of female obesity on fertility treatment outcomes

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Introduction

Growing evidence highlights the negative impact of obesity on assisted reproductive technology (ART) outcomes. Obesity has been associated with ovulatory dysfunction, reduced ovarian responsiveness requiring higher gonadotropin doses, decreased fertilization efficiency, and impaired implantation potential [1,2]. Increasing body mass index (BMI) has also been linked to lower clinical pregnancy, implantation, and live birth rates, alongside a higher miscarriage risk [3,4]. However, data regarding the influence of obesity on ART outcomes remain inconsistent, as several studies report no significant association [5,6].

Aim

To evaluate the effect of female obesity on the efficiency and clinical outcomes of in vitro fertilization (IVF) and intracytoplasmic sperm injection (ICSI) cycles.

Methods

This study included patients who underwent IVF/ICSI treatment with fresh embryo and/or blastocyst transfer at the Vilnius University Hospital Santaros Clinics Fertility Center between 1 January 2023 and 30 October 2024. Patients who received ovarian stimulation prior to oncologic treatment and couples using donor gametes were excluded. According to BMI, patients were categorized into five groups: <18.5; 18.5–24.9; 25–29.9; 30–34.9; and ≥35. The impact of BMI on IVF/ICSI cycle parameters and pregnancy outcomes was assessed. Binary logistic regression was used for categorical variables, while the Kruskal–Wallis test and Spearman correlation were applied for continuous variables. Analyses were performed using IBM® SPSS Statistics 31.1.



Results

A total of 576 patients were included: 4.9% were underweight, 60.8% had normal weight, 21.5% were overweight, 9.9% had class I obesity, and 3% had class II–III obesity. BMI was not associated with the duration of ovarian stimulation or total gonadotropin dose ($p > 0.05$). The number of retrieved and mature oocytes did not differ significantly between BMI groups ($p > 0.05$). Higher BMI was associated with a lower number of fertilized oocytes ($\rho = -0.094$; $p = 0.025$) and fewer developed blastocysts ($\rho = -0.131$; $p = 0.004$). Pairwise comparisons showed a significant difference in blastocyst development between the normal-weight and class II–III obesity groups ($p = 0.006$). Each one-unit increase in BMI reduced the probability of blastocyst transfer on day 5 by 4.4% (OR = 0.956; 95% CI: 0.917–0.996; $p = 0.029$). No significant association was found between BMI and biochemical pregnancy or ongoing pregnancy up to 10 weeks ($p > 0.05$).

Conclusions

Higher BMI did not affect ovarian stimulation intensity but was significantly associated with a reduced number of fertilized oocytes and developing blastocysts. These findings suggest that obesity may adversely influence early embryonic developmental stages, although it does not appear to directly affect clinical pregnancy outcomes in patients undergoing ART.

References

1. Penzias A, Azziz R, Bendikson K, Falcone T, Hansen K, Hill M, et al. Obesity and reproduction: a committee opinion. *Fertil Steril*. 2021 Nov 1;116(5):1266–85.
2. Elnashar AM. Update on obesity and assisted reproductive technology. *Middle East Fertil Soc J*. 2023 Jan 13;28(1):1.
3. Sermondade N, Huberlant S, Bourhis-Lefebvre V, Arbo E, Gallot V, Colombani M, et al. Female obesity is negatively associated with live birth rate following IVF: a systematic review and meta-analysis. *Hum Reprod Update*. 2019 July 1;25(4):439–51.
4. Supramaniam PR, Mittal M, McVeigh E, Lim LN. The correlation between raised body mass index and assisted reproductive treatment outcomes: a systematic review and meta-analysis of the evidence. *Reprod Health*. 2018 Feb 27;15:34.
5. Karen C. Schliep, Schliep KC, Kannan K, Sunni L. Mumford, Mumford SL, Sunni L. Mumford, et al. Effect of male and female body mass index on pregnancy and live birth success after in vitro fertilization. *Fertil Steril*. 2015 Feb 1;103(2):388–95.
6. Kidera N, Ishikawa T, Kawamura T, Miyasaka N. Maternal body mass index is not associated with assisted reproductive technology outcomes. *Sci Rep*. 2023 Sept 8;13(1):14817.

Influence of age and obstetric history on pelvic organ prolapse severity and surgical choice.

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Introduction

The pelvic organ prolapse (POP) is a condition estimated to be present in about 20-35% of women [1], although the true prevalence is unknown. Pregnancy-related factors, such as vaginal delivery and parity, are recognised as risk factors for POP [2]. Surgical treatment is generally indicated for symptomatic patients. Although prolapse treatment is individualized for each patient, age and obstetric history should be taken into consideration because of its potential influence on the complexity of repair [3].

Aim

To evaluate the influence of age, parity and mode of delivery on POP severity and surgical choice.

Methods

A retrospective study was conducted using medical records of women treated surgically for POP at the Department of Obstetrics and Gynaecology, Hospital of Lithuanian University of Health Sciences Kaunas Clinics, between 2017 and 2018. Collected variables included age, parity, mode of delivery, POP-Q stage, and surgical procedure. Data were analyzed using IBM Statistics SPSS. Frequencies were calculated, and associations were assessed using Spearman's correlation, chi-square, Kruskal-Wallis tests, ordinal and binary logistic regression models. Results with values of $p < 0.05$ considered



statistically significant. The study was approved by The Bioethics Centre of the Lithuanian University of Health Sciences.

Results

A total of 253 women were included (median age 69 years; median parity 2). Most had POP-Q stage III (73.5%) or IV (20.9%) prolapse. Parity was not correlated with prolapse severity (Spearman's $\rho = 0.044$, $p = 0.487$). Eight women had a history of Cesarean section. No statistically significant association was found between mode of delivery and prolapse stage. Increasing age was independently associated with higher POP-Q stage (OR 1.06 per year, $p < 0.001$). Five surgical groups were compared. Age differed significantly across groups (Kruskal-Wallis $H = 55.5$, $p < 0.001$), with older patients more likely to undergo obliterative procedures, while parity did not ($p = 0.598$). POP-Q stage was significantly associated with surgical choice (χ^2 $p < 0.001$). Among women with POP-Q stages III–IV, increasing age increased the likelihood of obliterative surgery (OR 1.12 per year, 95% CI 1.08–1.16, $p < 0.001$). Stage IV prolapse strongly increased the likelihood of obliterative surgery compared with stage III (OR 10.01, 95% CI 3.97–25.22, $p < 0.001$).

Conclusions

Age was the only factor consistently associated with both prolapse severity and surgical choice. Older women were more likely to present with advanced POP-Q stage and to undergo obliterative procedures. POP-Q stage strongly influenced surgical management, with stage IV prolapse increasing the likelihood of obliterative surgery. Parity and mode of delivery were not associated with prolapse severity or surgical choice.

References

1. Brown HW, Hegde A, Huebner M, et al. International urogynecology consultation chapter 1 committee 2: Epidemiology of pelvic organ prolapse: prevalence, incidence, natural history, and service needs. *Int Urogynecol J*. 2022;33:173–187.
2. Zumrutbas AE. Understanding pelvic organ prolapse: a comprehensive review of etiology, epidemiology, comorbidities, and evaluation. *Société Internationale d'Urologie J*. 2025;6(1):6.
3. Rogers RG, Fashokun TB. Pelvic organ prolapse in women: epidemiology, risk factors, clinical manifestations, and management. UpToDate. Updated January 21, 2025. Available from: <https://www.uptodate.com>

Impact of Age and Body Mass Index on POP-Q Stage

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Introduction

The Pelvic Organ Prolapse Quantification system (POP-Q) is an objective assessment tool used to evaluate the extent of pelvic organ prolapse, which results in the protrusion of the uterus, vagina, or both [1]. The descent of the pelvic structures occurs due to weakening of connective tissue and loss of support for pelvic organs [2]. Understanding the relationship between patient-related factors and the severity of the POP-Q stage may help to identify high-risk populations.

Aim

To evaluate whether age and body mass index (BMI) are associated with higher pelvic organ prolapse severity as measured by POP-Q stage.

Methods

A retrospective study was performed using medical records of women who underwent surgical treatment for pelvic organ prolapse at the Department of Obstetrics and Gynaecology, Hospital of the Lithuanian University of Health Sciences Kaunas Clinics, between 2015 and 2016. Age, body mass index, and POP-Q stage were extracted for analysis. Descriptive statistics were calculated for all variables. The association of age and BMI with POP-Q stage was evaluated using ordinal logistic regression models. Results with values of $p < 0.05$ considered statistically significant. Statistical analysis was performed using IBM SPSS Statistics. The study was approved by The Bioethics Centre of the Lithuanian University of Health Sciences.



Results

A total of 256 women were included. POP-Q stage distribution was: stage II 7.0%, stage III 73.4%, and stage IV 19.5%. Median age was 67 years, and mean BMI was 28.2 ± 4.2 kg/m². BMI distribution showed that 24.2% of women had normal weight, 44.9% were overweight, and 30.9% were obese. In ordinal logistic regression, older age was independently associated with higher POP-Q stage (OR 1.04 per year, 95% CI 1.01–1.07; $p = 0.003$), while BMI was not associated with POP-Q stage ($p = 0.181$). In the model using BMI categories (reference: normal) neither obesity nor overweight was associated with POP-Q stage ($p = 0.442$ and $p = 0.835$, respectively).

Conclusions

Increasing age is associated with more advanced POP-Q stage, whereas BMI is not. These findings suggest that age, but not body mass index, is related to pelvic organ prolapse severity.

References

1. Kim SR, et al. Current use of the pelvic organ prolapse quantification system in clinical practice among Korean obstetrician-gynecologists. *BMC Womens Health*. 2021;21(1):207. doi:10.1186/s12905-021-01354-w
2. Chi N, et al. Distinctive structure, composition and biomechanics of collagen fibrils in vaginal wall connective tissues associated with pelvic organ prolapse. *Acta Biomater*. 2022;152:335–344. doi:10.1016/j.actbio.2022.08.059

Identifiable Patterns of QT Prolongation in Paediatric Patients with Suspected Long QT Syndrome

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Introduction

Long QT syndrome (LQTS) is a potentially life-threatening cardiac disorder in childhood that often remains clinically silent until syncope or malignant ventricular arrhythmia[1–3]. Identifying subgroups at higher likelihood of true LQTS could help clinicians prioritise assessment and prevention strategies[4].

Aim

The aim of this study was to identify phenotypic and clinical patterns that may facilitate earlier recognition of LQTS in children with suspected prolonged QT interval.

Methods

Retrospective data review of 116 children (0-18y) who were sent to paediatric cardiologist due to suspected prolonged QT interval including patients from February 2017 to June 2025. QTc intervals were measured using Bazett's formula.

Results

Girls comprised 66% (n=76) of study population demonstrating significant female predominance ($p<0.001$). QTc prolongation was confirmed in 111 patients (95.7%) with mean QTc of 471ms (IQR 457-484 ms). Syncope was reported in 20 children (17%), while 48 patients (41%) were asymptomatic and referred only due to ECG findings. Genetic testing was performed in 52 patients (44.8%), of whom 29 (55.8%) were genotype-positive, most



frequently mutation in KCNQ1 gene (62%). Genotype positive children had significantly longer QTc intervals than genotype-negative patients (478 vs 467ms; $p=0.029$). Asthenic body habitus was associated with longer QTc than hypersthenic constitution (471 vs 453ms; $p=0.039$). Following comprehensive evaluation, LQTS was confirmed in 32 children (28%) and all of them started beta-blocker therapy.

Conclusions

Female sex, asthenic body habitus and positive genotype patients have significantly longer QTc despite lack of symptoms. Awareness of these risk factors may support earlier suspicion of LQTS, targeted genetic evaluation and timely preventive management such as beta-blocker therapy, reducing the risk of adverse outcomes.

References

1. Al-Akchar M, Siddique MS. Long QT Syndrome. StatPearls [Internet]. 2022 Dec 26; Available from: <https://www.ncbi.nlm.nih.gov/books/NBK441860/>
2. Balestra E, Bobbo M, Cittar M, Chicco D, D'Agata Mottolese B, Barbi E, et al. Congenital Long QT Syndrome in Children and Adolescents: A General Overview. *Children*. 2024 May 1;11(5):582.
3. Schwartz PJ, Ackerman MJ, Antzelevitch C, Bezzina CR, Borggrefe M, Cuneo BF, et al. Inherited cardiac arrhythmias. *Nat Rev Dis Primers*. 2020 Dec 1;6(1).
4. Buratti G, Shrestha S, Donne M, Katta P. Approach to prolonged QT interval in paediatric and neonatal patients. *Eur J Pediatr* [Internet]. 2025 Dec 1 [cited 2025 Dec 17];184(12). Available from: <https://pubmed.ncbi.nlm.nih.gov/41266879/>

Factors Influencing Pediatric Emergency Asthma Management

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Introduction

Asthma is a chronic inflammatory airway disease representing public health burden in pediatrics [1,2]. Acute asthma exacerbations account for a substantial proportion of pediatric emergency department (PED) visits, underscoring the need to identify factors influencing diagnostic and therapeutic decision-making [3].

Aim

To identify factors associated with diagnostic testing, treatment strategies, and clinical outcomes among children presenting to PED with acute asthma exacerbation.

Methods

A retrospective observational study was conducted at Kaunas Clinics PED between January 2022 and December 2023. Children aged 0-17 years presenting with acute asthma symptoms were included. Collected variables: demographics, presentation details, symptom profile, clinical history, lab findings, treatment, outcomes. Statistical analysis was performed with IBM SPSS Statistics 30.0 using descriptive analysis. P-value < 0.05 was considered significant.

Results

A total of 139 PED visits by 116 patients (37 % girls) were analyzed. Most patients were younger than 6 years (53.4%), followed by those aged 6-12 years (37.9%) and 12-17 years (8.6%). Regression revealed higher oxygenation was associated with lower odds of performing complete blood count (CBC) (OR = 0.893, 95 % CI 0.810-0.986, p = 0.025), CRP (OR = 0.885, 95% CI 0.802-0.978, p = 0.016),

COVID-19 test (OR = 0.865, 95 % CI 0.780-0.959, p = 0.006), chest X-ray (OR = 0.908, 95% CI 0.827-0.997, p = 0.044). Children with fever were more likely to receive CBC (OR = 7.202, 95% CI 2.269-22.857, p < 0.001), CRP (OR = 11.594, 95% CI 3.342-40.221, p < 0.001), and X-ray (OR = 3.211, 95% CI 1.101-9.370, p = 0.033). Interestingly, X-ray performance (OR = 0.407, 95% CI 0.180-0.919, p = 0.030) and administration of short-acting β_2 agonist (OR = 0.347, 95% CI 0.142-0.847, p = 0.020) were associated with the day of the week, with both interventions being less likely on weekends. Self-presenting patients were more likely to receive COVID-19 testing (OR = 2.283, 95% CI 1.021 - 5.104, p = 0.044), while arrival time was linked to the choice of steroid (OR = 5.958, 95% CI 1.332 - 26.662, p = 0.020). Our results regarding patients' outcomes were in line with clinical patterns, as those presenting with tachypnea (OR = 1.144, 95% CI 1.075-1.218, p < 0.001) had increased odds of hospitalization, and those with higher oxygenation (OR = 0.572, 95% CI 0.467-0.701, p<0.001) had a lower possibility of hospitalization.

Conclusions

Diagnostic and treatment decisions for children with acute asthma in the PED were influenced by clinical factors, such as oxygenation, respiratory rate, fever, symptom duration, as well as non-clinical factors (e.g., mode of arrival, arrival time). These findings highlight potential variability in care delivery and underscore the need for further evaluation to ensure consistent, evidence-based management of pediatric asthma exacerbations.

References

1. Global Initiative for Asthma. 2024 GINA Main Report. Global strategy for asthma management and prevention. Available from: <https://ginasthma.org/2024-report/>
2. Abulimiti K, Shoukeer K, Luo X. Controversies in Pediatric Asthma: A Bibliometric Evaluation. *Pediatr Pulmonol*. 2025 Apr;60(4):e71064. doi: 10.1002/ppul.71064. PMID: 40152094.
3. Baker JA. 2022 Year in Review: Pediatric Asthma. *Respir Care*. 2023 Oct;68(10):1430-1437. doi: 10.4187/respcare.10913. Epub 2023 May 9. PMID: 37160339; PMCID: PMC10506641.

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Dermatovenereology | Case Report | Oral

Abstracts

Eruptive Xanthomatosis: A Pathognomonic Dermatologic Manifestation of Severe Hypertriglyceridemia – A Case Report

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Introduction

Eruptive xanthomatosis are rare skin lesions caused by lipid-filled cells occurring in approximately 0.018% of the population; their morphology and distribution can help indicate the type of underlying primary or secondary hyperlipidemia [1,2]. We report a case of metabolic syndrome presenting with cutaneous manifestations.

Case Presentation

A 46 year old man presented with a 2 year history of painful, yellowish papules and nodules on the palms, elbows, and gluteal region. Previous topical glucocorticoids were ineffective. Dermoscopy showed homogenous yellow structureless areas, and histopathology confirmed xanthomatous macrophages with vacuolated cytoplasm and urate-like crystals. Laboratory tests revealed severe hyperlipidemia (TC: 12.16 mmol/L, TG: 22.76 mmol/L) and poorly controlled type 2 diabetes (HbA1c: 13.6%). Following a diagnosis of eruptive xanthomatosis, the patient was transferred to the endocrinology department for glycemic stabilization and plasmapheresis to reduce TG levels.

Discussion

Eruptive xanthomas result from dysregulated lipid transport, leading to macrophage-mediated lipid deposition (foam cells) in the skin [3]. They are associated with severe hypertriglyceridemia, chylomicronemia and may be primary (genetic) or secondary due to obesity, heavy alcohol use, poorly controlled diabetes [4,5]. In this case, the lipid profile was consistent with extreme hypertriglyceridemia, hypercholesterolemia, and uncontrolled diabetes mellitus. Extreme TG levels (>22 mmol/L) significantly



increased the risk of acute pancreatitis due to cytotoxic TG hydrolysis. Xanthomas management involves treating the primary disease through diet and lipid-lowering agents (fibrates, statins, omega-3) [6]. In critical cases, plasmapheresis is used to reduce TG levels below 5.6 mmol/L. If unavailable, intravenous insulin activates lipoprotein lipase, while requiring close glucose monitoring [7].

Conclusions

Eruptive xanthomas are clinical indicators of severe lipid metabolism disorders. Early diagnosis is essential not only for clearing the lesions but also for preventing serious systemic complications, such as acute pancreatitis. Long term therapeutic success requires not only lipid lowering medicine but also lifestyle modifications, and consistent monitoring of underlying systemic diseases.

References

1. Morka J, Morajko A, Otulak S, Zarańska K, Wąsik G. Cutaneous Manifestation of Eruptive Xanthoma as a Consequence of Severe Hypertriglyceridemia: A Case Report Highlighting Diagnostic and Therapeutic Challenges. *Cureus*. 2025 Feb;17(2):e78329.
2. Vangara S, Klingbeil K, Fertig R, Radick J. Severe hypertriglyceridemia presenting as eruptive xanthomatosis. *J Family Med Prim Care*. 2018;7(1):267.
3. Lugo-Somolinos A, Sánchez JE. Xanthomas: a marker for hyperlipidemias. *Bol Asoc Med P R*. 2003;95(4):12–6.
4. Zak A, Zeman M, Slaby A, Vecka M. Xanthomas: Clinical and pathophysiological relations. *Biomedical Papers*. 2014 Jun 23;158(2):181–8.
5. Vipperla K, Somerville C, Furlan A, Koutroumpakis E, Saul M, Chennat J, et al. Clinical Profile and Natural Course in a Large Cohort of Patients With Hypertriglyceridemia and Pancreatitis. *J Clin Gastroenterol*. 2017 Jan;51(1):77–85.
6. Petkevicius A, Cibulskaitė R, Janonyte U, Makstiene J, Zilaitiene B. Successful Resolution of Eruptive Xanthomas in Severe Hypertriglyceridemia With Plasmapheresis. *Cureus*. 2025 Feb 19;
7. Krauß LU, Brosig AM, Schlosser S, Pavel V, Mehrl A, Gülow K, et al. Therapeutic Plasma Exchange in ICU Patients with Acute Hypertriglyceridemia-Induced Pancreatitis Improves Patient Outcomes. *Dig Dis*. 2023;41(4):647–55.

Late Syphilis Presenting as Syphilitic Aortitis with Thoracic Aortic Arch Aneurysm: A Case Report

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Introduction

Syphilitic aortitis is a rare manifestation of tertiary syphilis that may develop decades after the primary infection. Delayed recognition can lead to life-threatening cardiovascular complications, underscoring the importance of early suspicion [1].

Case Presentation

A 53-year-old man with arterial hypertension, working as a long-distance truck driver, was admitted with two months of reduced exercise tolerance and progressive exertional dyspnea, without chest pain. The patient denied casual sexual contacts, and has no prior history of sexually transmitted infections. Dermatovenereologic examination revealed no skin or mucosal lesions, and no scars or ulcers in the genital area. Contrast-enhanced chest CT revealed a mildly dilated ascending aorta, severe aortic calcification, and a saccular aortic arch aneurysm causing tracheal compression. Inflammatory changes suggested aortitis. Echocardiography showed grade II–III aortic regurgitation. Autoimmune causes were excluded. Serologic testing confirmed syphilis (TPHA 4+, ELISA IgM/IgG positive, RPR 1:64), whereas neurosyphilis and other infections, including HIV, HBV, Chlamydia trachomatis, Neisseria gonorrhoeae, Trichomonas vaginalis, were ruled out. The patient was diagnosed with late syphilis with syphilitic aortitis and treated with benzathine penicillin G. Surgical repair was planned due to aneurysm size and airway compression.

Discussion

Diagnosis of syphilitic aortitis remains challenging due to nonspecific clinical presentation and radiologic overlap with

other inflammatory forms of aortitis. Cardiovascular syphilis may involve aortitis, aortic regurgitation, coronary stenosis, and aneurysm formation [2, 3]. Early recognition is crucial, as antimicrobial therapy can limit disease progression, while advanced aneurysms require surgical intervention due to high untreated mortality [4].

Conclusions

This case illustrates the diagnostic difficulty of syphilitic aortitis as a rare cause of aortic aneurysm and highlights the importance of early suspicion to enable timely and appropriate management. As syphilis is a sexually transmitted infection, partner notification and testing are essential to ensure successful treatment.

References

1. Czulada E, et al. Syphilitic aortitis with concomitant neurosyphilis in an asymptomatic patient. *Emerg Infect Dis*. 2025 Jul;31(7):1486–1489.
2. Wang R, et al. Cardiovascular syphilis: a rare case report and literature review of severe aortic regurgitation and bilateral coronary ostial stenosis. *Frontiers in Cardiovascular Medicine*. 2025 Aug 25;12.
3. Bai L, Wang M, Peng Y. Syphilitic Aortitis Causing Severe Bilateral Coronary Ostial Stenosis. 2021 Apr 1;14(7):e65–7.
4. Chaudhary F, et al. Syphilitic Aortic Aneurysm: A Rare Entity in the Era of Antibiotics. *Cureus*. 2021 Mar 1

Ulcerated BRAF-Mutant Melanoma: Rapid Functional Recovery with Combined Targeted Therapy and Radiotherapy

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Introduction

Cutaneous melanoma (CM) is an aggressive malignancy with a high potential for metastatic dissemination. BRAF mutations are detected in approximately half of advanced cases and are frequently associated with ulcerated primary tumours and poor clinical performance status. Identification of these mutations is essential for guiding targeted therapeutic strategies, which form a key component of standard systemic treatment in advanced disease, while radiotherapy is mainly used for palliative symptom control and local disease management [1].

Case Presentation

A 46-year-old woman presented with fever, profound weakness, and rapidly progressive ulcerated cutaneous tumours involving the right axilla (13 × 10 cm) with necrosis, irregular margins, and active bleeding, and the back (10 cm) as an ulcerated, irregularly pigmented nodular lesion. She was wheelchair-bound with an ECOG performance status of 3–4. Histopathological analysis confirmed cutaneous melanoma, and molecular testing identified a BRAF V600 mutation in approximately 40% of tumour cells. Contrast-enhanced computed tomography revealed axillary lymph node involvement and pulmonary metastases, consistent with stage IV disease (T4N1M1). Following multidisciplinary evaluation, targeted therapy with dabrafenib and trametinib was initiated and continued for eight months, with rapid overall clinical improvement. Due to pain, bleeding, and exudation, palliative radiotherapy was administered to both tumour sites. Marked tumour regression was observed, accompanied by improvement in ECOG performance status to 0–1.

Discussion

BRAF/MEK inhibition enables rapid tumour regression and early clinical improvement in

advanced BRAF-mutant melanoma [2]. In patients presenting with large ulcerated and bleeding skin tumours, palliative radiotherapy provides effective local disease control and symptom relief, complementing systemic therapy [3]. Improvement in performance status represents a clinically meaningful outcome, reflecting restoration of functional independence.

Conclusions

Combined BRAF/MEK inhibition and palliative radiotherapy can achieve effective tumour control and substantial functional recovery in advanced ulcerated BRAF-mutant melanoma. Marked improvement in ECOG performance status highlights the value of a multidisciplinary treatment approach.

References

1. Michielin O, van Akkooi ACJ, Ascierto PA, et al. Cutaneous melanoma: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up. *Ann Oncol.* 2025;36(1):10–30.
2. Robert C, Grob JJ, Stroyakovskiy D, et al. Five-year outcomes with dabrafenib plus trametinib in metastatic melanoma. *N Engl J Med.* 2019;381:626–636.
3. Vuong W, Lin J, Wei RL. Palliative radiotherapy for skin malignancies. *Ann Palliat Med.* 2017;6(2):165–172.

Recurrent generalized pyoderma gangrenosum: A case report

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Introduction

Pyoderma gangrenosum (PG) is a rare, challenging neutrophilic dermatosis. This report details a complex case, illustrating PG's systemic nature and the extensive diagnostic work-up needed to exclude other inflammatory or malignant conditions.

Case Presentation

A 28-year-old female presented to gastroenterology with progressive, reddened lower extremity skin lesions and elevated infection parameters. Suspected pyoderma gangrenosum in October 2024 was confirmed January 2025 by skin biopsies showing characteristic suppurative and abscessing inflammation. Ciclosporin and prednisolone pulse therapy led to significant clinical improvement. Crohn's disease, initially considered a PG trigger, was ruled out by colonoscopy and gastrointestinal biopsies, excluding inflammatory bowel disease or microscopic colitis. Further investigations identified spleen and liver lesions, and mesenteric/retroperitoneal lymphadenopathy. Crucially, biopsies from skin, liver, lymph nodes, and bone marrow consistently revealed inflammatory processes, thoroughly excluding malignancy. Large vessel vasculitis was investigated via angiography and dismissed. The patient was discharged on continued ciclosporin and prednisolone, with scheduled dermatology and rheumatology follow-up.

Discussion

Pyoderma gangrenosum is a rare disease occurring in approximately 1 in 17000 cases [1]. The diagnosis of PG is challenging due to its rarity, its diverse clinical presentation, and lack of specific diagnostic tests [2][3]. Although PG is seen as a local ulcer, it affects a whole body with dysregulated neutrophil function and chronic inflammation [2][4]. About 60% of



patients with PG have underlying immune-mediated disorders [3][4]. Common diseases include inflammatory bowel disease (Chron's disease or ulcerative colitis), arthritis, hematological or solid malignancies [5]. For a successful treatment, all possible triggers of PG should be evaluated.

Conclusions

Pyoderma gangrenosum is a complex systemic inflammatory condition. In this clinical case, complex differential diagnosis and so far, unknown exact triggers of PG raise difficulties for medical professionals to prescribe the most effective treatment and require consistent patient care and follow-up appointments for further investigation.

References

1. Orphanet. Pyoderma gangrenosum [Internet]. 2024 Jun [cited 2025 Dec 4]. Available from: <https://www.orpha.net/>.
2. Schmieder SJ, Krishnamurthy K. Pyoderma Gangrenosum. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan–. 2023 Jul 4.
3. Barbe M, Batra A, Golding S, Hammond O, Higgins JC, O'Connor A, Vlahovic TC. Pyoderma Gangrenosum: A Literature Review. Clin Podiatr Med Surg. 2021 Oct;38(4):577-588.
4. Łyko M, Ryguła A, Kowalski M, Karska J, Jankowska-Konsur A. The Pathophysiology and Treatment of Pyoderma Gangrenosum-Current Options and New Perspectives. Int J Mol Sci. 2024 Feb 19;25(4):2440.
5. Kridin K, Cohen AD, Amber KT. Underlying Systemic Diseases in Pyoderma Gangrenosum: A Systematic Review and Meta-Analysis. Am J Clin Dermatol. 2018 Aug;19(4):479-487.

Case report: Recalcitrant Pemphigus Vulgaris

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Introduction

Pemphigus vulgaris (PV) is a rare autoimmune blistering disease, characterized by IgG autoantibodies targeting desmoglein-1 and desmoglein-3, leading to acantholysis [1]. We report a severe PV case with 60% of body-surface involvement, resistant to standard immunosuppressive therapy, and further complicated by secondary infection, leading to sepsis.

Case Presentation

A 62-year-old woman was hospitalized with rapidly progressing, widespread skin and mucosal blisters, complicated by fever and signs of secondary infection; previously treated with glucocorticoids (GCs), blisters recurred. PV was confirmed by skin biopsy, direct immunofluorescence, and elevated anti-Dsg1/Dsg3 antibodies. First-line therapy with 40mg/d systemic glucocorticoids (GCs) and 100mg/d azathioprine failed; GCs caused disease exacerbation on tapering, and azathioprine was discontinued due to severe transfusion-dependent anemia. Despite high-dose 250mg GCs pulse therapy, the disease remained refractory, necessitating rituximab (RTX). Following the first 1g of RTX infusion, the patient developed sepsis (fever 38 °C, CRP 225 mg/L) with *P. aeruginosa* and *E. cloacae* bacteremia; sepsis associated with immunosuppressive treatment and extensive skin barrier disruption involving 60% BSA. Major complications such as pulmonary embolism, antibiotic resistance, anxiety, and unbearable pain during wound dressing required the involvement of a multidisciplinary team. Following infection resolution and the second 1g RTX dose, clinical remission was achieved, allowing gradual GC tapering.

Discussion

This case highlights severe, refractory PV complicated by sepsis, requiring immunotherapy with rituximab. Early targeted therapy and a multidisciplinary approach to complication management were critical for improving patient prognosis. The patient remains in sustained clinical remission during follow-up.

Conclusions

In refractory PV, rituximab is highly effective for disease control and reduces reliance on long-term conventional immunosuppressants. Success depends on balancing advanced targeted therapy with proactive management of systemic complications.

References

1. Egu DT, Schmitt T, Waschke J. Mechanisms Causing Acantholysis in Pemphigus-Lessons from Human Skin. *Front Immunol.* 2022 May 20;13:884067. doi: 10.3389/fimmu.2022.884067. PMID: 35720332.

Acrodermatitis Continua of Hallopeau: A Rare Disease with Diagnostic Pitfalls

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Introduction

Acrodermatitis continua of Hallopeau (ACH) is an extremely rare, chronic, relapsing variant of localized pustular psoriasis, more common in middle-aged women [1,2]. Its rarity and clinical resemblance to paronychia, onychomycosis, and other nail disorders frequently lead to misdiagnosis [3,4]. Delayed recognition can lead to irreversible anonychia, osteolysis, or generalized pustular psoriasis [2]. We report a case of ACH in an uncommon demographic, emphasizing how an atypical presentation can complicate early diagnosis.

Case Presentation

A 76-year-old male presented with 7-month history of lesion on the distal phalanx of left third finger, showing periungual edema, erythema, fissures, scaling, and yellow nail discoloration. Despite initial treatment with topical naftifine and oral terbinafine, the lesion spread to the fourth finger, and biopsy findings - including acanthosis, subcorneal neutrophilic pustules, and dermal lymphocytic infiltrate - supported diagnosis of ACH. Treatment with oral acitretin (30 mg daily) and topical clobetasol for one month led to pustule resolution with residual post-inflammatory hyperpigmentation and mild scaling.

Discussion

ACH primarily affects women in their 40s and arises from immune dysregulation, often with genetic predisposition, leading to persistent inflammation and pustule formation [4-6]. Clinically, it is characterized by recurrent sterile pustules on distal phalanges and periungual areas, frequently causing nail dystrophy, anonychia, and functional impairment. Diagnosis is challenging, as ACH can mimic bacterial, viral, or fungal paronychia, nail discoloration, periungual inflammation, or the chronic course of onychomycosis and secondarily infected contact dermatitis [4]. Identification relies mainly on clinical evaluation,



supported by histopathology, while management remains difficult due to the rarity of condition and limited data [1,5].

Conclusions

This case highlights the diagnostic challenge of ACH, which mimics common nail diseases and may be overlooked when presenting in an atypical demographic.

References

1. Yuan L, Yu X, Shi Y, Yang B, Wang X. Acrodermatitis continua of Hallopeau: aggravating factors and treatment outcomes of 96 patients. *J Dermatolog Treat*. 2024 Dec;35(1):2434098.doi:10.1080/09546634.2024.2434098. PMID:39608017.
2. Chularojanamontri L, Seehawong T, Hansakul P, Rerknimitr P, Suchonwanit P, et al. Should they be the same or different entities? *Exp Dermatol*. 2023;32(11):14805. doi:10.1111/exd.14805. PMID:37057764.
3. Mitra D, Bhatnagar A, Kumar M. Acrodermatitis Continua of Hallopeau: A Diagnostic Challenge. *Indian Dermatol Online J*. 2022;14(1):91-93. Published 2022 Dec 14. doi:10.4103/idoj.idoj_312_22
4. Iorizzo M, Lipner SR, Piraccini BM, Richert B, Starace M, Tosti A. Acrodermatitis continua of Hallopeau-clinical review and proposed management algorithm. *J Am Acad Dermatol*. 2025;93(4):1049-1057. doi:10.1016/j.jaad.2025.05.1438
5. Sun Q, Han L, Lin Z, Wu Y, Li C, Ying Z, Zhao Z. Acrodermatitis continua of Hallopeau: a review and update on biological and small molecule targeted immunomodulatory therapies. *Front Immunol*. 2025 Aug 15;16:1525821. doi:10.3389/fimmu.2025.1525821. PMID:40895565 PMCID:PMC12394185.
6. Vasudevan B, Das P, Bhatt S. Pustular psoriasis: A distinct aetiopathogenic and clinical entity. *Indian J Dermatol Venereol Leprol*. 2024;90(1):19–29. doi:10.25259/IJDVL_542_2022.

Acrodermatitis Chronica Atrophicans with Distal Symmetric Sensory Neuropathy - A Case Report

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Introduction

Acrodermatitis chronica atrophicans (ACA) is a chronic late-stage cutaneous manifestation of Lyme borreliosis, most commonly affecting the extensor surfaces of the limbs. The disease progresses from inflammatory edema to skin atrophy and is often associated with neurological and/or joint involvement [1–3].

Case Presentation

A 77-year-old woman presented with a two-year history of skin lesions on both lower legs and feet, accompanied by progressive swelling, numbness, and intermittent pain in the toes. During this period, vascular and rheumatological evaluations were performed; however, no definitive diagnosis was established. Physical examination revealed large bluish-reddish patches and edema on both lower legs and the dorsal surfaces of the feet, raising suspicion of ACA. The diagnosis was confirmed by positive *Borrelia burgdorferi* serological tests (IgG 100; IgM 3.46) and skin biopsy findings demonstrating acanthotic epithelium and a lymphoplasmacytic infiltrate in the dermis. Neurological examination revealed decreased distal vibration sensation and diminished Achilles tendon reflexes. The patient was treated with doxycycline 100 mg twice daily for 30 days. At the follow-up visit, 40 days after initiation of treatment, a reduction in swelling and partial regression of skin lesions were observed.

Discussion

This case illustrates a condition that most commonly affects older individuals and is

characterized by a slowly progressive course. Due to nonspecific initial manifestations, the onset of the disease was misinterpreted as a vascular or rheumatological disorder. The clinical presentation of ACA alone is insufficient to establish the diagnosis, which serological and/or histological investigations must confirm. The peripheral neuropathy observed in this patient was most likely related to localized nerve involvement, which may occur in the absence of neuroborreliosis. Following antibiotic therapy, disease progression was halted; however, clinical improvement was only partial [1–3].

Conclusions

This clinical case highlights a delayed diagnosis of ACA, in which chronic skin changes of the lower extremities and sensory neuropathy were the sole manifestations of Lyme borreliosis. It underscores the importance of early recognition of ACA in older patients to prevent progressive skin atrophy and peripheral neuropathy.

References

1. Gade A, Matin T, Rubenstein R, et al. Acrodermatitis Chronica Atrophicans. StatPearls . 2023 Jan 2.
2. Hofmann H, Fingerle V, Hunfeld KP et al. Cutaneous Lyme borreliosis: Guideline of the German Dermatology Society. German Medical Science. 2017, Vol. 15, ISSN 1612 -3174.
3. Berglund J, Henningsson AJ. Acrodermatitis chronica atrophicans: Clinical and epidemiological characteristics. J Intern Med. 2022;292(5):739–52.

Tinea incognita mimicking allergic dermatitis: a case of prolonged misdiagnosis

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Introduction

Tinea incognita is an atypical dermatophytosis caused by inappropriate topical corticosteroid use and is frequently misdiagnosed as an inflammatory dermatosis. Masking of classic features such as erythema and scaling results in atypical clinical presentation and delayed diagnosis [1].

Case Presentation

A 68-year-old woman presented with a 30-year history of recurrent pruritic, erythematous, scaly papules and plaques with perifollicular distribution involving the face, forearms, chest, and back, with diffuse involvement and recent progression over the past year. She was previously diagnosed with allergic dermatitis and treated with topical mometasone without improvement. Patch testing was negative. Skin biopsy revealed follicular hyperkeratosis with PAS-positive fungal hyphae, confirming fungal folliculitis. The patient was treated with oral terbinafine 250 mg daily and topical naftifine. After 1 month, only mild erythema and scaling persisted, after 2 months, complete resolution was observed, leaving mild post-inflammatory hyperpigmentation.

Discussion

In this patient, prolonged topical corticosteroid use significantly altered the morphology of dermatophytosis, suppressing inflammation and eliminating sharply demarcated borders and prominent scaling [2]. As a result, the eruption presented as diffuse, pruritic, eczematous lesions and was repeatedly misdiagnosed as allergic dermatitis for decades. The long disease duration highlights a key diagnostic pitfall: partial symptomatic improvement with corticosteroids may falsely support an inflammatory diagnosis while allowing fungal



proliferation to persist. This case underscores the importance of reconsidering the diagnosis in chronic, steroid-refractory eruptions and performing mycological or histopathological examination to avoid delayed recognition of tinea incognita [3].

Conclusions

This case highlights the importance of considering dermatophytosis in chronic or steroid-refractory rashes. Early mycological or histopathological examination is essential to avoid delayed diagnosis and inappropriate treatment.

References

1. [1] Zacharopoulou A, Tsiogka A, Tsimpidakis A, Lamia A, Koumaki D, Gregoriou S. Tinea incognito: challenges in diagnosis and management. *Journal of Clinical Medicine*. 2024 May 31;13(11):3267.
2. [2] Gallegos Espadas D, Martínez-Ortega JI, Garcia Hernandez D, Sánchez Mendieta CP, Fernández-Reyna I. Unmasking Tinea Incognito: Case Study, Insights Into the Pathogenesis, and Recommendations. *Cureus*. 2024 Oct 21;16(10):e72042.
3. [3] Chanyachailert P, Leeyaphan C, Bunyaratavej S. Cutaneous fungal infections caused by dermatophytes and non-dermatophytes: an updated comprehensive review of epidemiology, clinical presentations, and diagnostic testing. *Journal of Fungi*. 2023 Jun 14;9(6):669.

A Relentless Scalp Melanoma: Recurrent Disease Despite Modern Therapies

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Introduction

Melanoma is a highly aggressive skin cancer associated with significant mortality, especially among middle-aged and older adults [1]. These tumors may contain BRAF V600E mutations, representing a critical target for systemic therapy in advanced disease [2]. This case highlights the aggressive nature and early recurrence of melanoma, despite surgical management and systemic therapy.

Case Presentation

A 50 year-old male presented with a significantly enlarging left retroauricular scalp mass. Neck CT revealed a 44x25x33 mm well-defined, highly vascular mass. The patient underwent excision with fasciocutaneous flap reconstruction and sentinel lymph node biopsy. Histopathological testing confirmed stage IIIB BRAF V600E-positive malignant melanoma. At 2 month follow-up a recurrence was observed and PET/CT showed a metabolically active lesion. Targeted therapy with dabrafenib and trametinib was initiated prior to undergoing second surgery. Unfortunately, even after a second surgery, a few months later CT imaging confirmed another recurrence. CT of the chest, abdomen and pelvis (CT CAP) ruled out metastatic disease, and the patient underwent his third surgery. A 9x8 cm tumour was removed along with regional lymph nodes that were unremarkable. The patient was discharged for outpatient management pending surveillance CT CAP results confirming pulmonary metastases. Following these results, immunotherapy was initiated, however the patient experienced a fatal outcome.

Discussion

Scalp melanoma displays higher recurrence rates and poorer disease-specific survival than other sites, possibly due to dense lymphatic drainage and vascularity [3]. BRAF V600 mutations activate MAPK pathway to induce tumor proliferation, and while BRAF/MEK inhibitors significantly improve recurrence-free survival, treatment resistance and disease relapse remain clinically relevant challenges [4]. Prognosis is strongly stage-dependent:



early disease has high long-term survival, whereas stage IIIB disease carries a significant recurrence risk, emphasizing the need for close surveillance and further research in adjuvant therapy options [5].

Conclusions

Scalp melanoma can behave aggressively with early recurrence despite surgery and systemic therapy, highlighting the need for close follow-up and multidisciplinary care in advanced-stage disease.

References

1. Arnold M, Singh D, Laversanne M, Vignat J, Vaccarella S, Meheus F, et al. Global Burden of Cutaneous Melanoma in 2020 and Projections to 2040. *JAMA Dermatology*. 2022 Mar 30;158(5):495–503.
2. Zito PM, Scharf R. Melanoma of the Head and Neck. Nih.gov. StatPearls Publishing; 2023 [cited 2025 Dec 22].
3. Lachiewicz AM, Berwick M, Wiggins CL, Thomas NE. Survival Differences Between Patients With Scalp or Neck Melanoma and Those With Melanoma of Other Sites in the Surveillance, Epidemiology, and End Results (SEER) Program. *Archives of Dermatology*. 2008 Apr 1;144(4).
4. Long GV, Hauschild A, Santinami M, Atkinson V, Mandalà M, Chiarion-Sileni V, et al. Adjuvant Dabrafenib plus Trametinib in Stage IIIBRAF-Mutated Melanoma. *New England Journal of Medicine*. 2017 Nov 9;377(19):1813–23.
5. Caraviello C, Nazzaro G, Tavoletti G, Boggio F, Denaro N, Murgia G, et al. Melanoma Skin Cancer: A Comprehensive Review of Current Knowledge. *Cancers*. 2025 May;17(17):2920.

The Overlap Phenomenon: Pemphigus Foliaceus Coexisting with Psoriasis Vulgaris

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Introduction

Pemphigus foliaceus (PF) is a rare acantholytic autoimmune blistering disorder mediated by IgG autoantibodies against desmoglein-1 (Dsg1) [1,2]. Its clinical expression may overlap and coexist with other immune-mediated inflammatory dermatoses. We report a diagnostically challenging case illustrating overlap between PF and psoriasis vulgaris.

Case Presentation

An 81-year-old woman was hospitalized for prolonged, therapy-resistant pruritic erythematous plaques, erosions, and flaccid blisters with a positive Nikolsky sign on the neck, trunk, and extremities, accompanied by infiltrated scaling plaques with a positive Auspitz sign, and complicated by secondary skin infection. Prior biopsies showed pustular dermatitis with focal acantholysis, and treatment with tapering methylprednisolone and azathioprine (100 mg/day) was ineffective. During hospitalization, cefazolin was administered for secondary skin infection, prednisolone (40–45 mg/day) was initiated, and azathioprine increased to 150 mg/day. Serological testing revealed elevated anti-Dsg1 antibodies by indirect immunofluorescence (1:100) and ELISA (9.75), supporting an autoimmune blistering process. Given psoriasiform morphology, additional biopsy was performed. Histopathology showed intraepidermal clefting with acantholysis (PF) plus parakeratosis and acanthosis (psoriasis), supporting coexistence of psoriasis and PF. Methotrexate (10 mg s.c weekly) was started with tapering of prednisolone and azathioprine, resulting in skin improvement.

Discussion

Psoriasis is associated with a more than threefold increased risk of pemphigus, reflecting shared autoimmune mechanisms [3]. Chronic psoriatic inflammation may



promote epitope spreading, exposing epidermal antigens such as Dsg-1 and triggering secondary humoral autoimmunity characteristic of PF [3]. As both psoriasis and autoimmune bullous diseases primarily target the epidermis, immune-mediated disruption of keratinocyte adhesion, proliferation, and differentiation - together with genetic susceptibility - may facilitate pathogenic autoantibody activity and disease coexistence [3,4].

Conclusions

This case highlights the importance of considering overlapping skin diseases in patients with recalcitrant rashes, as such recognition may prompt timely treatment modification.

References

1. [1] James KA, Culton DA, Diaz LA. Diagnosis & Clinical Features of Pemphigus Foliaceus. *Dermatol Clin* 2011;29:405. <https://doi.org/10.1016/J.DET.2011.03.012>.
2. [2] Malik AM, Tupchong S, Huang S, Are A, Hsu S, Motaparthy K. An Updated Review of Pemphigus Diseases. *Medicina (B Aires)* 2021;57:1080. <https://doi.org/10.3390/MEDICINA57101080>.
3. [3] Kridin K, Ludwig RJ, Damiani G, Cohen AD. Increased Risk of Pemphigus among Patients with Psoriasis: A Large-scale Cohort Study. *Acta Derm Venereol* 2020;100:5856. <https://doi.org/10.2340/00015555-3607>.
4. [4] Dainichi T, Kabashima K. Interaction of psoriasis and bullous diseases. *Front Med (Lausanne)* 2018;5:400935. <https://doi.org/10.3389/FMED.2018.00222/FULL>.

Atypical Size Granuloma Annulare: A Case Report

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Introduction

Granuloma annulare (GA) is a benign granulomatous dermatosis most commonly presenting as annular papules and plaques, typically measuring less than 5 cm in diameter [1]. Larger plaques are uncommon and may clinically resemble necrobiosis lipoidica or cutaneous sarcoidosis, complicating diagnosis and management [2].

Case Presentation

A 71-year-old man presented with a 2-year history of progressively enlarging annular plaques on both arms. The largest lesion on the left forearm measured 7 × 5.5 cm and showed central atrophy, while additional 1-2 cm plaques were present on the elbows and the right upper arm. Laboratory evaluation excluded diabetes mellitus and thyroid pathology. Histopathological examination revealed palisading histiocytes surrounding areas of mucinously degenerated collagen, accompanied by a lymphocytic infiltrate and occasional multinucleated giant cells, consistent with GA. Previous treatment included fusidic acid 20 mg/g–betamethasone 1 mg/g cream daily for two weeks and CO₂ laser therapy, without clinical improvement. Treatment was subsequently modified in a stepwise manner: first with mometasone furoate 0.1% daily for 4 weeks and then with clobetasol 0.05% daily for 2 weeks, both yielding insufficient response. Clinical improvement was achieved only after introducing clobetasol 0.05% applied daily under occlusion for two weeks, followed by a two-week treatment break, with this cycle repeated over a total period of 2 months, resulting in plaque regression.



Discussion

GA lesions exceeding 5 cm are atypical and require histopathological confirmation to distinguish them from clinically similar dermatoses [2]. Topical corticosteroids remain first-line therapy. However, larger or persistent lesions may demonstrate limited response to standard topical regimens, necessitating treatment modification or escalation [3].

Conclusions

This case illustrates a rare manifestation of GA characterized by a large annular plaque, expanding the clinical spectrum of the disease. Given the atypical clinical presentation, histopathological examination was necessary to establish the diagnosis, and high-potency topical corticosteroids under occlusion were effective in the management of persistent disease.

References

1.
Schmieder SJ, Harper CD, Schmieder GJ. Granuloma annulare. In: StatPearls. Treasure Island (FL): StatPearls Publishing; 2020.
2.
Piette EW, Rosenbach M. Granuloma annulare: pathogenesis, disease associations and triggers . J Am Acad Dermatol. 2015;73(5):939–948.
3.
Tang J, Cline A, Zirwas MJ. Treatment of granuloma annulare: an updated review. Dermatol Ther. 2023;36(2):e16256.

**Ophthalmology,
Otorhinolaryngology &
Neurology | Original
Research | Oral**

Abstracts

Haplotype profiling of MEG3 gene polymorphisms in optic neuritis and multiple sclerosis

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Introduction

Optic neuritis (ON) is often the first sign of multiple sclerosis (MS) which is causing optic nerve demyelination due to T-cell activity [1]. It typically presents as acute or subacute unilateral visual field loss, pain, blurring and colour changes [2]. Diagnosis includes visual acuity testing, perimetry, colour vision assessment, magnetic resonance imaging, visual evoked potentials, and optical coherence tomography [3]. Acute ON is treated with glucocorticoids, intravenous immunoglobulin, plasmapheresis, while long-term MS treatment includes IFN-beta, monoclonal antibodies, immunosuppressants [4]. The role of long non-coding RNAs (lncRNAs) in ON and MS is not yet clear, it is known that they regulate immune response, inflammation, and degeneration. MALAT1, NEAT1, and other lncRNAs are associated with neuroinflammatory diseases and the potential development of ON [5]. MEG3, a lncRNA involved in gene expression regulation, apoptosis, and tumour suppression, is also associated with various degenerative and immune-related diseases [6].

Aim

Evaluate the association between MEG3 gene haplotypes, formed by the rs7158663 and rs4081134 polymorphisms, and the development of optic neuritis and optic neuritis associated with multiple sclerosis.

Methods

MEG3 haplotype association analysis was performed separately for all patients with ON (n = 85), for the subgroup with ON and MS (n

= 30), and for the control group (n = 150). Haplotype analysis was conducted using the online SNPStats platform (<https://www.snpstats.net/snpstats/>). Associations between haplotypes and ON were evaluated using logistic regression and are reported as odds ratios (ORs) with 95% confidence intervals (CI) and significance level (p-value). The number of participants was limited by RNA sample count.

Results

We performed a haplotype association analysis of the MEG3 variants rs7158663 and rs4081134. First, all patients with ON were compared with the control group. Then we compared the patients with ON and MS together, with controls. A haplotype association analysis of MEG3 rs7158663 and rs4081134 in all patients with ON and controls showed no statistically significant associations. The SNPs showed complete linkage disequilibrium (LD) by D' ($D' = 0.999$) but only moderate correlation by r^2 ($r^2 = 0.526$). A haplotype association analysis of MEG3 rs7158663 and rs4081134 in patients with ON and MS and controls showed no statistically significant associations. The SNPs demonstrated complete LD based on D' ($D' = 0.999$), whereas the r^2 value indicated moderate correlation ($r^2 = 0.521$).

Conclusions

Although no statistically significant associations were identified between ON or ON with MS compared with control group, the high D' values indicate strong linkage disequilibrium between several of the rs7158663 and rs4081134. This suggests that these regions are genetically coherent and may still warrant further investigation using larger sample sizes.

References

1. Hoorbakht H. Optic Neuritis, its Differential Diagnosis and Management. *Open Ophthalmol J*. 2012;6(1):65–72.
2. Nakajima H, Hosokawa T, Sugino M, Kimura F, Sugasawa J, Hanafusa T, et al. Visual field defects of optic neuritis in neuromyelitis optica compared with multiple sclerosis. *BMC Neurol*. 2010;10.
3. Britze J, Frederiksen JL. Optical coherence tomography in multiple sclerosis. *Eye*. 2018;32(5):884.
4. Gajofatto A, Benedetti MD. Treatment strategies for multiple sclerosis: When to start, when to change, when to stop? *World J Clin Cases*. 2015;3(7):545.
5. Yang R, Yang B, Liu W, Tan C, Chen H, Wang X. Emerging role of non-coding RNAs in neuroinflammation mediated by microglia and astrocytes. *Journal of Neuroinflammation* 2023. 2023;20(1):1–20.
6. Zhang L, Zhao F, Li W, Song G, Kasim V, Wu S. The Biological Roles and Molecular Mechanisms of Long Non-Coding RNA MEG3 in the Hallmarks of Cancer. *Cancers* 2022. 2022;14(24):6032.

A Haplotype-Based Approach to Understanding PTTG1 Involvement in Optic Neuritis

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Introduction

A healthy optic nerve carries signals from retina to the brain. In optic neuritis (ON) , inflammation disrupts this transmission, causing acute vision loss [1]. ON usually occurs in young adults, is more frequent in women, and is associated with multiple sclerosis (MS) in about 50-80% of cases [2]. During ON, the immune system attacks the myelin coating surrounding the optic nerve, impairing nerve condition. The process involves immune cells and pro-inflammatory molecules, and genetic factors also influence the risk of ON [3]. Typical symptoms include vision loss, eye-movement pain, and reduced color vision [4]. ON remains a clinical diagnosis, with optical coherence tomography (OCT) and magnetic resonance imaging (MRI) greatly improving detection and follow-up [4,5]. Causes include infections, demyelinating disorders like MS or neuromyelitis optica spectrum disorder (NMOSD), inflammatory conditions and genetic factors [6]. The pituitary tumor-transforming gene 1 (PTTG1) regulates cell-cycle control and genomic stability and is included in tumor progression [7]. PTTG1 works together with a protein called Ranbp2 to help control movement of molecules between the nucleus and cytoplasm, protect cell's DNA, prevent apoptosis in retinal ganglion cells. When Ranbp2 is lost, PTTG1 becomes dysregulated, leading to optic nerve fiber damage, activated immune cells, and inflammation [8]. This suggests that PTTG1 dysfunction contributes to neuronal vulnerability, axonal injury and neuroinflammatory responses, so we sought to explore a potential link between ON and polymorphisms of the PTTG1.

Aim

The aim of the study was to evaluate the associations of PTTG1 gene haplotypes (rs1895320, rs2910200 and rs3811999) with the occurrence of ON.

Methods

DNA was isolated by the salting out method from the venous blood of patients with ON (n=87) and healthy individuals (n=159). Genotyping of PTTG1 rs1895320, rs2910200 and rs3811999 single nucleotide polymorphisms (SNPs) was performed by real-time polymerase chain reaction (RT-PCR). Haplotype analysis was conducted using the online calculator – “SNPStats”.

Results

PTTG1 rs1895320, rs2910200 and rs3811999 haplotype analysis was performed. Pairwise linkage disequilibrium (LD) between studied polymorphisms was observed. The deviation between the predicted haplotype frequency and the observed frequency (D') was calculated, and the square of the correlation coefficient (r²) was estimated. A high pairwise linkage disequilibrium (LD) was observed, but the correlation coefficient between polymorphisms was weak. A haplotype association analysis was performed of PTTG1 rs1895320, rs2910200 and rs3811999 in patients with ON compared with a control group. Statistical analysis showed no statistically significant associations.

Conclusions

We did not reveal a link between PTTG1 rs1895320, rs2910200, and rs3811999 haplotypes and optic neuritis.

References

1. Guier CP, Kaur K, Stokkermans TJ. Optic Neuritis. 2025.
2. Bennett JL, Costello F, Chen JJ, Petzold A, Biousse V, Newman NJ, et al. Optic neuritis and autoimmune optic neuropathies: advances in diagnosis and treatment. *Lancet Neurol*. 2023 Jan;22(1):89–100.
3. Del Negro I, Pauletto G, Verriello L, Spadea L, Salati C, Ius T, et al. Uncovering the Genetics and Physiology behind Optic Neuritis. *Genes (Basel)*. 2023 Dec 9;14(12).
4. Biousse V, Newman NJ. Diagnosis and clinical features of common optic neuropathies. *Lancet Neurol*. 2016 Dec;15(13):1355–67.
5. Jenkins TM, Toosy AT. Optic neuritis: the eye as a window to the brain. *Curr Opin Neurol*. 2017 Feb;30(1):61–6.
6. Kale N. Optic neuritis as an early sign of multiple sclerosis. *Eye Brain*. 2016;8:195–202.
7. Wei H, Ma Y, Chen S, Zou C, Wang L. Multi-omics analysis identifies PTTG1 as a prognostic biomarker associated with immunotherapy and chemotherapy resistance. *BMC Cancer*. 2024 Oct 25;24(1):1315.

8. Cho KI, Yoon D, Yu M, Peachey NS, Ferreira PA. Microglial activation in an amyotrophic lateral sclerosis-like model caused by Ranbp2 loss and nucleocytoplasmic transport impairment in retinal ganglion neurons. *Cell Mol Life Sci.* 2019 Sep;76(17):3407–32.
9. Solé X, Guinó E, Valls J, Iniesta R, Moreno V. SNPStats: a web tool for the analysis of association studies. *Bioinformatics.* 2006;22(15):1928–1929.



Epidemiological Analysis of Retinal Detachment Management at a Tertiary Referral Center, Lithuania, 2020–2024

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Introduction

Retinal detachment (RD) is an ophthalmic emergency. Untreated peripheral detachments may progress to involve the central retina, potentially causing permanent vision loss [1–4].

Aim

To assess demographic and clinical characteristics and postoperative follow-up patterns in RD patients treated at the Hospital of the Lithuanian University of Health Sciences Kaunas Clinics (LSMUL KK) in 2020–2024, and compare data across regions.

Methods

This retrospective study reviewed medical records of 300 randomly selected patients diagnosed with RD (International Classification of Diseases ICD-10-AM codes H33.0, H33.1, H33.2, H33.4, H33.5) in 2020–2024 at the LSMUL KK. Variables assessed included age, sex, residence, dates of symptom onset, doctor visits (and findings), hospitalization, surgery, and postoperative visits. For continuous variables, median and range (minimum – maximum values) were calculated; $p \leq 0.05$ was considered statistically significant.

Results

A total of 300 patients, 166 (55.3%) men, 134 (44.7%) women ($\chi^2 = 3.413$, $p = 0.065$); median age 62 (34–79) years; 211 urban, 89 rural were enrolled. Symptoms were

documented in 262 cases: decreased vision 163 (62.2%), photopsia 71 (27.1%), curtain-like shadow 63 (24.0%), and floaters 52 (19.8%). The median time from symptom onset to ophthalmologist visit was 7 (0–210) days, with no statistically significant difference by sex ($U = 8042$, $Z = -0.766$, $p = 0.444$) or place of residence ($U = 6918$, $Z = -0.462$, $p = 0.644$). County-specific medians (ranges) were: Alytus – 7 (1–60), Kaunas – 7 (0–210), Klaipeda – 11 (0–92), Marijampole – 14 (2–180), Panevezys – 12 (1–122), Siauliai – 6 (1–183), Taurage – 4 (1–60), Telsiai – 8 (2–152), Utena – 9 (3–150), Vilnius – 7 (1–40). There was no statistically significant difference between counties ($H = 8.649$, $df = 9$, $p = 0.470$). Rhegmatogenous RD was diagnosed in 272 (90.7%), serous 4 (1.3%), tractional 5 (1.7%), other RD 19 (6.3%) patients. Pars plana vitrectomy was performed in 278 cases, 22 (7.3%) were managed conservatively due to poor expected outcomes or patient refusal. After surgery, patients were advised to follow up with secondary-level ophthalmologists; however, 153 (56.3%) returned to LSMUL KK. Follow-up rates by region were: Alytus – 11 (61.1%), Kaunas – 39 (60.9%), Klaipeda – 14 (46.7%), Marijampole – 11 (52.4%), Panevezys – 20 (64.5%), Siauliai – 14 (45.2%), Taurage – 5 (50.0%), Telsiai – 9 (69.2%), Utena – 7 (50.0%), and Vilnius – 23 (50.0%) ($\chi^2 = 6.201$, $df = 9$, $p = 0.720$).

Conclusions

Most patients reported decreased vision, photopsia, or a curtain-like shadow, with tendencies for substantial delays in seeking care and notable regional differences but no statistical significance. Postoperative visits at the hospital occurred in most cases, with highest return rate from Telsiai and lowest from Siauliai and Klaipeda but with no statistical significance.

References

1. Dahrouj M, Gong DA. Retinal detachment. UpToDate; 2024 [cited 2025 Dec 14]. Available from: <https://www-uptodate-com.ezproxy.dbazes.lsmuni.lt/contents/retinal-detachment>
2. Lin JB, Narayanan R, Philippakis E, Yonekawa Y, Apte RS. Retinal detachment. Nat Rev Dis Primers. 2024 Mar 14;10(1):18. doi:10.1038/s41572-024-00501-5.
3. Sothivannan A, Eshtiaghi A, Dhoot AS, Popovic MM, Garg SJ, Kertes PJ, et al. Impact of the time to surgery on visual outcomes for rhegmatogenous retinal detachment repair: a meta-analysis. Am J Ophthalmol. 2022 Dec 1;244:19-29. doi:10.1016/j.ajo.2022.07.022.
4. Chereji G, Samoilă O, Nicoară SD. Prognostic factors for visual postsurgical outcome in rhegmatogenous retinal detachment - A systematic review. J Clin Med. 2025 Mar 16;14(6):2016. doi:10.3390/jcm14062016.

Early and Late Cytokine Responses in Community-Acquired Pneumonia

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Introduction

Community-acquired pneumonia (CAP) remains a leading cause of illness and death worldwide. The host's inflammatory response, driven by cytokines, is crucial in determining disease severity, progression, and outcomes (1). However, cytokine profiles can vary based on patient-related risk factors, disease severity, and causative agents.

Aim

To evaluate serum concentrations of IFN- γ , IL-1 α , IL-1 β , IL-2, IL-6, IL-8, IL-10, IL-12p70, IL-17A, and TNF- α in CAP patients with different risk factors.

Methods

A total of 79 patients diagnosed with CAP were included. Peripheral blood samples were collected on days 1 and 7 of the illness. Cytokine concentrations were measured using the ProcartaPlex multiplex immunoassay and analyzed with a Luminex analyzer (2). Patients were grouped by age (<65 vs $\geq$ 65 years), treatment setting (outpatient vs inpatient), presence of comorbidities, smoking status, and pneumonia cause. The bioethics permission was obtained from Kaunas Regional Biomedical Research Ethics Committee of the Lithuanian University of Health Sciences on 28 March 2024, registration number BE-2-1.

Results

In hospitalized patients, IL-2 levels were significantly lower on day 1 than on day 7 ($p < 0.05$), while IL-6 concentrations were higher on day 1 than on day 7 in both

inpatient and outpatient groups ($p < 0.05$). Outpatients exhibited higher IL-2 levels than inpatients ($p < 0.05$). IL-10 concentrations were lower in inpatients than in outpatients on both study days ($p < 0.05$). IL-6 and IL-1 β levels were significantly higher on day 1 than day 7 in both younger and older patients ($p < 0.05$). IL-6 was elevated on day 1 compared to day 7 regardless of comorbidity status, while IL-1 β levels were higher in patients with comorbidities compared to those without ($p < 0.05$). Patients with bacterial and unknown etiology demonstrated higher IL-6 concentrations on day 1 than day 7 ($p < 0.05$). IFN- γ levels were higher in unknown etiology compared to bacterial CAP on day 1 ($p < 0.05$), whereas IL-1 α levels were higher in bacterial CAP on both days ($p < 0.05$). IL-12p70 concentrations were higher in unknown etiology CAP on day 7 ($p < 0.05$). Among smokers, IL-6 and IL-17A levels were higher on day 1 than day 7, while IL-12p70, TNF- α , and IFN- γ levels were lower on day 1 ($p < 0.05$). IL-1 α concentrations were higher in smokers compared to non-smokers, whereas TNF- α levels were higher in non-smokers on day 1 ($p < 0.05$).

Conclusions

CAP is associated with dynamic and heterogeneous cytokine responses influenced by disease severity, etiology, as well as smoking status. Elevated early proinflammatory cytokines, particularly IL-6 and IL-1 family members, reflect acute disease activity and may serve as potential biomarkers for risk stratification and disease monitoring.

References

1. Martínez R, Menéndez R, Reyes S, Polverino E, Cillóniz C, Martínez A, Esquinas C, Filella X, Ramírez P, Torres A. Factors associated with inflammatory cytokine patterns in community-acquired pneumonia. *Eur Respir J*. 2011;37(2):393–399.
2. Haugen J, Chandyo RK, Brokstad KA, Mathisen M, Ulak M, Basnet S, Valentiner-Branth P, Strand TA. Cytokine concentrations in plasma from children with severe and non-severe community acquired pneumonia. *PLoS One*. 2015;10(9):4-5

Association between occupational characteristics and chronic migraine frequency

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Introduction

Migraine is a prevalent neurological disorder that substantially impairs occupational functioning. While physical activity may reduce migraine frequency and severity, the influence of work type and daily working hours on migraine frequency remains insufficiently studied.

Aim

This study investigated the relationship between type of work (sedentary versus physically active), the number of hours worked per day, and the frequency of migraine episodes over a three-month period.

Methods

Patients treated in a neurology outpatient clinic with a physician-confirmed diagnosis of chronic migraine and a minimum headache duration of six months were included. Migraine-related disability was assessed using the MIDAS questionnaire, while sociodemographic and work-related data (type of work, daily working hours, and working days per week) were collected via a baseline self-administered survey. Migraine frequency was obtained from an electronic headache diary completed for at least 3 months. The presence of common comorbidities (psychiatric and sleep disorders, cardiovascular, allergic, respiratory, and gastrointestinal diseases) did not constitute an exclusion criterion. Patients with other primary headache disorders, secondary headaches, major neurological diseases, or incomplete questionnaire data were excluded from the analysis. All participants were receiving preventive migraine treatment. Patients were categorized according to work type (sedentary vs. physical) and stratified by daily working hours (<7 vs. ≥7 hours). The study was approved by the LUHS Bioethics Committee, and all participants provided written informed consent. Statistical analyses were performed using IBM SPSS Statistics 30.0, with $p < 0.05$ considered statistically significant.

Results

Data from 60 patients (53 females; median age 41.5 years, range 23–70) were analyzed. Patients engaged in sedentary work had a higher median number of migraine days per month than those performing physically active work (7.8 [IQR 5.7–12.0] vs. 4.7 [IQR 2.3–8.0]; Mann–Whitney U = 581.5, $p = 0.048$, $r = 0.26$). Occupational physical activity level showed a modest negative correlation with migraine frequency over three months ($r = -0.272$, $p = 0.035$). Median MIDAS scores were also higher in the sedentary group (23.0 [IQR 18.0–30.5] vs. 18.5 [IQR 10.8–30.3]). Working hours were not significantly associated with migraine frequency: patients working <7 hours/day ($n = 23$) reported 5.3 (IQR 2.9–8.7) migraine days per month compared with 7.7 (IQR 4.5–10.0) among those working ≥ 7 hours/day ($n = 37$; $p = 0.274$, $r = 0.14$). Corresponding median MIDAS scores were 19.0 (IQR 14.0–27.3) and 22.0 (IQR 16.8–32.0), respectively.

Conclusions

Sedentary work was associated with a higher frequency of migraine attacks compared with physically active work, whereas daily working hours were not significantly related to migraine frequency. These findings indicate a possible relationship between sedentary work and chronic migraine burden.

References

1. World Health Organization. Division of Mental Health and Substance Abuse. Headache disorders. 2023.
2. Wong LP, et al. Disability, quality of life, productivity impairment and employer costs of migraine in the workplace. *J Headache Pain*. 2021;22(1): Article 89. doi:10.1186/s10194-021-01243-5.
3. Song TJ, Chu MK. Exercise in Treatment of Migraine Including Chronic Migraine. *Curr Pain Headache Rep*. 2021;25(3):14. doi:10.1007/s11916-020-00929-w.
4. de Oliveira AB, et al. Physical inactivity and headache disorders: associations with migraine occurrence and headache frequency. *Cephalalgia*. 2021. doi:10.1177/03331024211029217.
5. Reina-Varona Á, et al. Efficacy of various exercise interventions for migraine treatment: a systematic review and network meta-analysis. *Headache*. 2024;64(7):873–900. doi:10.1111/head.14696.

Retrospective Study of Pituitary Neuroendocrine Tumors Diagnosed in Surgical Material in the Department of Pathology of the Lithuanian University of Health Sciences Hospital Kaunas Clinics

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Introduction

Neuroendocrine tumors of the pituitary gland (PitNETs) are usually benign tumors [1,3,4]. They account for about 18% of all primary intracranial tumors [1]. PitNETs most commonly occur at the age between 40 and 60 [2,6]. PitNETs are classified according to transcription factors, secreted hormones, size (micro (<10 mm), macro (≥10 mm), giant adenomas (> 40 mm)) [1,3,5,7,8,9]. The recurrence rate of PitNETs varies from 10.9 to 42% [5,7]. However, the results discussed in the studies are usually presented by categorising PitNETs according to the hormones activity, and summary data is not provided. Therefore, the aim of this study is to discuss the general characteristics of PitNETs, regardless of hormonal secretion.

Aim

To compare PitNETs based on patient age, sex and tumor size, to evaluate associations between demographic factors, tumor characteristics, and the likelihood of recurrence.

Methods

A retrospective analysis was performed on 104 cases of patients (46 men, 58 women) who were diagnosed with PitNET during histological examination of surgical material at the LSMU KK Pathology Department between 2007 and 2023. The subjects were selected from the iLab SymPathy PCM database by the international TLK-10-AM codes D35.2, C75.1. The data collected for the study included patient age, sex, and the dimensions of the removed tumor. Tumor volume was calculated based on surgical

material data. The data was analysed using Microsoft Excel. Data variability was assessed using the coefficient of variation (CV). Fisher's exact, Student's t-test, Mann-Whitney tests were applied. The statistically significant difference was considered when $p < 0.05$.

Results

In total, 104 cases (46 men, 58 women) were analysed in this study. The average age of the patients was 54.34 ± 14.30 years ($CV = 26.31\%$): there was no statistically significant difference between men (55.48 ± 13.42 years ($CV = 24.19\%$)) and women (52.83 ± 15.34 years ($CV = 29.03\%$)) (t-test, $p = 0,35$). Of all men ($n = 46$), 9% had micro, 87% - macro, and 4% - giant adenomas, and of all women ($n = 58$) results were as follows: 12%, 84%, 3%. Macroadenomas predominate over microadenomas (Mann-Whitney test, $p < 0.01$). The average volume of primary PitNET in men (3.08 ± 4.17 cm³ ($CV = 135.18\%$)) was not larger than in women (2.14 ± 4.26 cm³ ($CV = 198.62\%$)) (Mann-Whitney test, $p = 0,15$). PitNET recurred in 20 patients (19.23%). Age at recurrence was similar between sexes: men 52.64 ± 13.46 years ($CV = 25.58\%$), women 47.22 ± 12.50 years ($CV = 25.52\%$) (t-test, $p = 0,36$). The mean volume of recurrent PitNETs in men (1.38 ± 1.62 cm³ ($CV = 118.04\%$)) was no larger than in women (0.66 ± 0.47 cm³ ($CV = 70.36\%$)) (Mann-Whitney test, $p = 0,48$). An increase of tumor size at recurrence was observed in 6 men and 1 women patient, however, this difference was not statistically significant (Fisher's exact test, $p = 0,4$).

Conclusions

The study found that PitNETs occur at a similar age in both sexes. The predominant tumor size was macroadenoma. No statistically significant associations were found between patient sex and tumor size, volume, or recurrence, despite observed sex-related tendencies in recurrent tumor size.

References

1. Villa C, Birtolo MF, Perez-Rivas LG, Righi A, Assie G, Baussart B, Asioli S. Grading and staging for pituitary neuroendocrine tumors. *Brain Pathol.* 2025 Jan;35(1):e13299. doi:10.1111/bpa.13299. Epub 2024 Aug 25. PMID:39182993; PMCID:PMC11669418.
2. Cho HJ, Kim H, Kwak YJ, Seo JW, Paek SH, Sohn CH, Yun JM, Kim DS, Kang P, Park P, Park SH. Clinicopathologic Analysis of Pituitary Adenoma: A Single Institute Experience. *J Korean Med Sci.* 2014 Mar;29(3):405-410. doi: <https://doi.org/10.3346/jkms.2014.29.3.405>
3. Tsukamoto T, Miki Y. Imaging of pituitary tumors: an update with the 5th WHO Classifications—part 1. Pituitary neuroendocrine tumor (PitNET)/pituitary adenoma. *Jpn J Radiol.* 2023;41:789-806. doi:<https://doi.org/10.1007/s11604-023-01400-7>.

4. Snyder PJ, Cooper DS, Martin KA. Causes, presentation, and evaluation of sellar masses [Internet]. UpToDate; 2024 [cited 2025 Nov 19]. Available from: <https://www.uptodate.com/contents/causes-presentation-and-evaluation-of-sellar-masses>.
5. Guaraldi F, Zoli M, Righi A, Gibertoni D, Marino Picciola V, Faustini-Fustini M, Morandi L, Bacci A, Pasquini E, Mazzatenta D, Asioli S. A practical algorithm to predict postsurgical recurrence and progression of pituitary neuroendocrine tumours (PitNET)s. *Clin Endocrinol (Oxf)*. 2020 Jul;93(1):36-43. doi:10.1111/cen.14197. Epub 2020 May 5. PMID:32306401.
6. Kim H, Kim EE, Kim YH, Park JW, Jung KC, Kim H, Won JK, Park SH. Comprehensive Classification of Surgically Resected Pituitary Neuroendocrine Tumors: Updates From a Single-Institution Experience Based on the WHO 5th Edition. *J Korean Med Sci*. 2024 Dec;40(16):e56. doi: <https://doi.org/10.3346/jkms.2025.40.e56> .
7. Raverot G, Dantony E, Beauvy J, Vasiljevic A, Mikolasek S, Borson-Chazot F, Jouanneau E, Roy P, Trouillas J. Risk of Recurrence in Pituitary Neuroendocrine Tumors: A Prospective Study Using a Five-Tiered Classification. *J Clin Endocrinol Metab*. 2017 Sep;102(9):3368-3374. doi:<https://doi.org/10.1210/jc.2017-00773>
8. American Association of Neurological Surgeons (AANS). Pituitary Adenomas [Internet]. AANS; 2024 Apr 30 [cited 2025 Nov 19]. Available from: <https://www.aans.org/patients/conditions-treatments/pituitary-adenomas/>
9. Nasi-Kordhishti I, Hladik M, Kandilaris K, Behling F, Honegger J, Schittenhelm J. Transcription factor-based classification of pituitary adenomas / PitNETs: a comparative analysis and clinical implications across WHO 2004, 2017 and 2022 in 921 cases. *Acta Neuropathol Commun*. 2025 Jun 28;13(1):135. doi: 10.1186/s40478-025-02050-8

Comorbidity Profile and Independent Predictors of Periodic Limb Movement Disorder: a Retrospective Case-Control Study from a Single Sleep Centre

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Introduction

Periodic limb movement disorder (PLMD) is frequently underdiagnosed, partly due to its reliance on limited-availability polysomnography (PSG) for confirmation, the absence of specific symptoms, and frequent overshadowing by coexisting sleep disorders [1,2]. Limited awareness outside sleep medicine further contributes to under-recognition [3]. Identifying comorbidity profiles of PLMD may help to recognize high-risk patients and facilitate timely referral for PSG [4–6].

Aim

To characterize the comorbidity profile of PLMD and identify independent predictors.

Methods

This retrospective study analyzed clinical records from the Sleep Laboratory of the Neurology Department at the Hospital of the Lithuanian University of Health Sciences. Patients referred for PSG due to sleep complaints between 2018 and 2024 were included. Collected data included age, sex, body mass index (BMI), sleep-related, neurological, and somatic comorbidities. The PLMD group consisted of all consecutive patients with PSG-confirmed PLMD, whereas controls without PLMD were selected from the same cohort, and matched for age and sex to reduce potential confounding. Statistical analysis used IBM SPSS with Mann-Whitney U, Chi-square tests, and logistic regression ($p < 0.05$).

Results

A total of 140 patients were included; 70 (33 females) were diagnosed with PLMD, and 70 (33 females) served as controls. There were no significant differences between groups in age ($p = 0.380$), sex ($p = 1.00$), and BMI ($p = 0.109$).

PLMD was significantly associated with restless legs syndrome (RLS) ($\chi^2 = 25.14$ $p < 0.001$). No significant associations were

found with obstructive sleep apnea, REM-behavioral disorder, NREM parasomnias, insomnia, Parkinson's disease, peripheral neuropathy, spinal pathologies, primary arterial hypertension, diabetes, dyslipidemia, ischemic heart disease, hypothyroidism, or oncological diseases ($p > 0.05$). In univariate regression, RLS was strongly associated with PLMD (OR 8.50, $p < 0.001$). In multivariate regression including age and sex, RLS remained an independent predictor (OR 9.55, $p < 0.001$), while age and sex were not significant. The adjusted model demonstrated a higher Akaike Information Criterion (AIC) of 173.64 compared with the model without adjustment (AIC = 171.26), indicating no improvement of model fit.

Conclusions

PLMD showed a limited comorbidity profile. RLS was the only independent predictor of PLMD, while age and sex were not significant predictors. Other investigated sleep-related, neurological, and somatic comorbidities were not significantly associated with PLMD. However, the small number of cases for some comorbidities may have limited the ability to detect significant associations with PLMD.

References

1. Ferri R, Novelli L, Bruni O. Periodic limb movement disorder. In: Kryger M, Roth T, Dement WC, editors. *Encyclopedia of Sleep*. 2nd ed. Amsterdam: Elsevier; 2023. p. V4-43–V4-47. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK560727/>
2. Seifen C, Herrmann M, Pordzik J, Matthias C, Gouveris H. Periodic limb movements in patients with suspected obstructive sleep apnea without comorbid conditions. *Front Med (Lausanne)*. 2024 Apr 26;11:1378410.
3. Drakatos P, Olaithe M, Verma D, Ilic K, Cash D, Fatima Y, et al. Periodic limb movements during sleep: a narrative review. *J Thorac Dis*. 2021 Nov;13(11):6476–6487. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC8662505/>
4. Bikov A, Bailly S, Testelmans D, Fanfulla F, Pataka A, Bouloukaki I, et al. The relationship between periodic limb movement during sleep and dyslipidaemia in patients with obstructive sleep apnea. *J Sleep Res*. 2024 Apr;33(2):e14012. Available from: <https://doi.org/10.1111/jsr.14012>
5. Srivali N, Thongprayoon C, Tangpanithandee S, Krisanapan P, Mao MA, Zinchuk A, et al. Periodic limb movements during sleep and risk of hypertension: a systematic review. *Sleep Med*. 2023 Feb;102:173–181. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10388290/>
6. Sun S, Xu L, Zheng Y, Yu W, Jing T, Xu G, et al. Periodic leg movements and cognitive function in middle-aged and elderly adults: mediating role of REM duration and PLMS-related arousal. *Sci Rep*. 2025 Jun 3;15(1):19468. Available from: <https://www.nature.com/articles/s41598-025-04660-7>

Cardiology I:

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Report

Abstracts

Inferior STEMI with Stent Thrombosis Leading to ECMO, HeartMate 3, and Heart Transplant

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Introduction

Early stent thrombosis is a rare but potentially fatal complication following percutaneous coronary intervention, associated with mortality rates approaching 50% [1]. It often leads to critical outcomes such as myocardial infarction, cardiogenic shock, and sudden cardiac death [2].

Case Presentation

A 51-year-old male presented with an inferior STEMI complicated by cardiogenic shock during a car racing event in Estonia. Emergency management included the use of drug-eluting stents, an intra-aortic balloon pump, and extracorporeal membrane oxygenation. Despite initial improvement, early stent thrombosis occurred, resulting in recurrent MI and severe left ventricular dysfunction with an ejection fraction of 13%. The patient was transferred by intensive care unit ambulance from Tartu University Hospital to the LUHSH Kaunas Clinics with vasopressors, IABP, and ECMO, where a HeartMate 3 device was implanted. Following left ventricular assistance device implantation, the patient's clinical condition gradually improved, with resolution of respiratory and renal failure and stabilization at NYHA III. He remained LVAD-dependent and was listed for urgent heart transplantation. HTx was successfully performed. Postoperative infections and anemia were effectively managed. Antithrombotic therapy with fraxiparini was initiated and later transitioned to apixaban. At one-year follow-up, no signs of graft rejection or immunosuppressive therapy-related complications were observed.



Discussion

Left ventricular assistance devices are commonly used as a bridge to heart transplantation [3]. While improving cardiac function, they may cause complications such as bleeding, infection, pump thrombosis, right heart failure, device malfunction, or stroke. However, while LVAD-related complications may influence certain outcomes, overall post-HTx outcomes appear to be preserved [4].

Conclusions

This case illustrates how catastrophic stent thrombosis can lead to life-threatening complications requiring advanced support and multidisciplinary care. The safe ICU transport of the patient from Estonia to Lithuania during the COVID-19 pandemic highlights the challenges of providing complex care in a difficult epidemiological context.

References

1. Moukarbel GV. Coronary stent thrombosis and mortality: does the relationship stand the test of time? *J Am Heart Assoc.* 2022 Apr 5;11(7):e025341. doi: 10.1161/JAHA.122.025341.
2. Flowers A, Evenhuis B, Gabanic B, Weiss A, Eisenberg S, Siddiqui R, et al. Stent thrombosis: a contemporary guide to definitions, risk factors, and management. *Front Cardiovasc Med.* 2025;12:1622235. doi:10.3389/fcvm.2025.1622235.
3. Uriel MH, Clerkin KJ, Takeda K, Naka Y, Sayer GT, Uriel N, Topkara VK. Bridging to transplant with HeartMate 3 left ventricular assist devices in the new heart organ allocation system: an individualized approach. *J Heart Lung Transplant.* 2023 Jan;42(1):124–133. doi:10.1016/j.healun.2022.08.022.
4. Immohr MB, Riebandt J, Berchtold-Herz M, Müller M, Reichenspurner H, Rojas SV, et al. Complications of left ventricular assist devices causing high urgency status on waiting list: impact on outcome after heart transplantation. *ESC Heart Fail.* 2021;8(2):1253–62. doi:10.1002/ehf2.13188.

Aortic Dissection Mimicking Stroke and Presenting as Tetraplegia

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Introduction

This case presents a 65 year old man who arrived to the ED with acute tetraparesis and abdominal pain caused by Stanford type B aortic dissection. This atypical presentation rises diagnostic challenges in the ED and demonstrates importance of considering vascular causes in patients with acute neurologic deficits.

Case Presentation

Patient description: 65M, smoker, previous gastric surgery. History: Sudden tetraparesis at rest and abdominal pain. No trauma, headache or neck pain. Physical exam: BP 149/85mmHg, HR90, RR16, SpO2 97%. Lower limb plegia (0b), paresis upper limbs (5b), sensory loss Th5-6. Distended abdomen, RUQ tenderness. Imaging: Head/neck CTA: incidental descending aortic mass. Abd CTA: Stanford B aortic dissection from aortic arch to celiac trunk, infrarenal aortic aneurysm. Treatment: IV labetalol for BP control, antihypertensive medication p/os and analgesia. Urgent CV surgery consult. Expected: Stabilisation of vital functions, prevention of dissection progression and surgical repair. Actual outcome: While stenting a. Subclavia sin. the patient had MI, PTVAA failed to restore flow. Death due to perioperative complications.

Discussion

Aortic dissection has an incidence of 5-30 in 1 million and 3 in 1000 ER cases presenting with chest, back and abdominal pain. When the blood enters the space between intima and media due to a tear in the intimal layer a false lumen is formed resulting in aortic dissection. It presents with sudden, severe and tearing chest pain. The location may vary and it may present with neurological symptoms, as in this case. The disease may present differently, blood pressure discrepancy between upper limbs, pulse deficit or a diastolic murmur may be present. Diagnosis of aortic dissection is made by combining clinic and CTA as first line imaging followed by TEE in hemodynamically unstable patients. The patient has to be



stabilised and urgently consulted by cardiac surgeon due to definite surgical treatment. The prognosis varies, highly influenced by time of diagnosis and treatment.

Conclusions

Aortic dissection presenting with neurological symptoms is rare, rising a diagnostic challenge where time is critical. Therefore an early diagnosis is critical to prevent mortality in type B acute aortic dissection.

References

1. Levy D, Sharma S, Farci F. Aortic dissection [Internet]. U.S. National Library of Medicine; 2024 [cited 2026 Jan 23]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK441963/>
2. Memon W, Aijaz Z, Memon R. Paraplegia and acute aortic dissection: A diagnostic challenge for physicians in the emergency situation [Internet]. U.S. National Library of Medicine; 2019 [cited 2026 Jan 23]. Available from: <https://pubmed.ncbi.nlm.nih.gov/31289149/>

Pregnancy Management in a Patient with Hypertrophic Cardiomyopathy with Severe Left Outflow Tract Obstruction: a Case Report

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Introduction

Hypertrophic cardiomyopathy (HCM) is the most common inherited cardiomyopathy, commonly caused by a MYH7 mutation [2, 3]. While many patients tolerate pregnancy, risks rise with left ventricle outflow tract obstruction (LVOTO) [3]. Pregnancy with severe LVOTO (gradient ≥ 50 mmHg) is very high risk, requiring multidisciplinary (MD) management [1]

Case Presentation

A 30 y.o. pregnant woman with obstructive HCM due to MYH7 mutation and positive family history (maternal and sibling HCM with MYH7 mutation). Diagnosed in 2017, she received an implantable cardioverter defibrillator (ICD) in 2024 for primary prevention (SCD risk 7.9 %). Pre-pregnancy: asymmetric septal hypertrophy (25 mm septum, 9 mm posterior wall), left ventricle diastolic dysfunction, left atrial enlargement (52 mL/m²), and LVOTO (rest 40 mmHg, post-Valsalva (PV) 84 mmHg). BNP 247 ng/L, troponin I 55 ng/L. Surgical septal reduction was declined, patient managed with metoprolol 95 mg / d, mWHO IV. Pregnancy features. The course of pregnancy was normal with no cardiac events, routine fetal ultrasounds were unremarkable, but required close cardiology and obstetrics monitoring. At 34 weeks gestation a followup showed worsening dyspnea, progressing LVOTO (rest 74 mmHg, PV >100 mmHg), rising troponin I (111 ng/L), BNP 287 ng/L, MD team recommended a planned Cesarean section (CS) at 37 weeks with temporary ICD deactivation. CS under general anesthesia delivered a healthy female newborn (2885 g, Apgar 5, 10). Patient discharged on metoprolol with planned cardiology and gynecology followup.

Discussion

Although the 2025 ESC guidelines no longer classify mWHO IV as an absolute contraindication [1], this pregnancy remained very high-risk, with progressive LVOTO and elevated cardiac biomarkers. CS was considered the safest option, as labor stress could have precipitated severe adverse events. Pre-pregnancy septal reduction may improve outcomes [1,4], but carries procedural risks and was declined. This successful outcome illustrates that mWHO IV pregnancies can be managed in exceptional cases, providing data to refine future guidelines.

Conclusions

Managing severe obstructive HCM in pregnancy requires individualised, multidisciplinary care. C-section and general anesthesia are preferred to avoid labor risks and spinal-induced vasodilation, respectively.

References

1. De Backer J, Haugaa KH, Hasselberg NE, De Hosson M, Brida M, Castelletti S, et al. 2025 ESC Guidelines for the management of cardiovascular disease and pregnancy. *European Heart Journal* [Internet]. 2025 Aug 29;46(43):4462–568. Available from: <https://doi.org/10.1093/eurheartj/ehaf193>
2. Pieper PG, Walker F. Pregnancy in women with hypertrophic cardiomyopathy. *Netherlands Heart Journal* [Internet]. 2012 Dec 4;21(1):14–8. Available from: <https://doi.org/10.1007/s12471-012-0358-7>
3. Marian AJ, Braunwald E. Hypertrophic cardiomyopathy. *Circulation Research* [Internet]. 2017 Sep 14;121(7):749–70. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC5654557/>
4. Arbelo E, Protonotarios A, Gimeno JR, Arbustini E, Barriales-Villa R, Basso C, et al. 2023 ESC guidelines for the management of Cardiomyopathies. *European Heart Journal*. 2023 Aug 25;44(37):3503–626. doi:10.1093/eurheartj/ehad194

Prosthetic Mitral Valve Thrombosis Despite Therapeutic International Normalized Ratio: A Case Report

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Introduction

Prosthetic valve thrombosis (PVT) is a rare yet critical complication that frequently leads to obstructive valve dysfunction and significant acute heart failure [1]. The following case report describes a patient with mechanical mitral valve thrombosis despite therapeutic international normalized ratio levels.

Case Presentation

A 58-year-old man with a history of chronic rheumatism and mechanical valve replacement surgery (aortic and mitral valve replacement with tricuspid repair in 2016, thereafter on warfarin therapy) presented in July 2024 with new-onset shortness of breath, reduced exercise tolerance, a persistent nocturnal cough and minimal left leg swelling. Echocardiography revealed a bileaflet mechanical mitral valve prosthesis with a clearly reduced motion of one leaflet and increased transprosthetic gradients (V_{max} 2.74 m/s, G_{max} 20 mmHg). Compared with previous studies, the findings indicated a prosthetic obstruction. Laboratory testing showed an INR of 2.99 (previous outpatient measurements were >2), a BNP level of 347.3 ng/L, mildly elevated CRP (14.4 mg/L) and mildly increased troponin (36-40 ng/L). Fluoroscopy confirmed impaired leaflet mobility, the patient underwent surgery for confirmed mechanical mitral PVT: the thrombosed valve was successfully explanted and replaced with a new prosthesis.

Discussion

The risk of PVT remains higher with mechanical valves in the mitral position despite modern valves [2]. For patients with current generation mechanical heart valves, VKAs are dose-adjusted to maintain INR of 2.5-3 [2]. Subtherapeutic anticoagulation is one of the

most common triggers for PVT [3]. However, PVT is considered to be a complex multifactorial phenomenon and thrombus formation can occur even when the INR is within the target range [4]. Guidelines recommend urgent multimodality evaluation to assess valve hemodynamics, leaflet motion and thrombus burden.

Conclusions

The case highlights the possibility of clinical challenges in diagnosing and managing PVT in patients with therapeutic INR levels. In all cases, acute dyspnoea accompanied by a rapid increase in transvalvular gradients should prompt immediate imaging to detect PVT, followed by rapid decision-making [3, 6]. Surgery remains a key strategy for left-sided mechanical PVT, especially when definitive restoration of valve function is required [5, 6, 7].

References

1. Feger J, Campos A. Prosthetic valve thrombosis. Radiopaedia.org. 2021 Dec. Available from: <https://doi.org/10.53347/rID-95372>
2. Praz F, Borger MA, Lanz J, Marin-Cuartas M, Abreu A, Adamo M, et al. 2025 ESC/EACTS guidelines for the management of valvular heart disease. Eur Heart J. 2025 Aug 29. Available from: <https://doi.org/10.1093/eurheartj/ehaf194>
3. Ebrahimi P, Sattartabar B, Taheri H, Soltani P, Bahiraie P, Mousavinezhad SM, et al. Mechanical prosthetic valve thrombosis: a literature review of treatment strategies. Curr Probl Cardiol. 2024;49(7):102628. Available from: <https://doi.org/10.1016/j.cpcardiol.2024.102628>
4. Jeckelmann C, Djokic B, Duchatelle V, Girod G. Mechanical mitral prosthetic valve thrombosis in the context of COVID-19 despite effective anticoagulation: a case report. Eur Heart J Case Rep. 2022;6(2):ytac006. Available from: <https://doi.org/10.1093/ehjcr/ytac006>
5. Hedayati N, White RO. Mechanical prosthetic valve thrombosis with thromboembolism. PSNet. Rockville (MD): Agency for Healthcare Research and Quality; 2022. Available from: <https://psnet.ahrq.gov/web-mm/mechanical-prosthetic-valve-thrombosis-thromboembolism>
6. Khalikane S, Bencharfa B, Atmani N, Abdou A, Belhadj A, Aissaoui Y. Massive acute thrombosis of a mechanical mitral valve in a young patient on acenocoumarin: a case report comparing surgical and thrombolytic approaches. Clin Case Rep. 2025;13(6):e70561. Available from: <https://doi.org/10.1002/ccr3.70561>
7. Chopard R, Vidoni C, Besutti M, et al. Surgery versus thrombolytic therapy for the management of left-sided prosthetic valve thrombosis without hemodynamic compromise: a systematic review and meta-analysis. J Am Heart Assoc. 2024;13(19):e035143. Available from: <https://doi.org/10.1161/JAHA.124.035143>

Exercise-Related Sudden Cardiac Arrest Revealing Acute Coronary Syndrome: A Case Report

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Introduction

Sudden cardiac arrest (SCA) is a major global public health problem and one of the leading causes of death across Europe [1,2]. Although often perceived as unexpected, SCA usually results from an interaction between underlying cardiac disease and acute triggering factors. Sports-related SCA accounts for approximately 5-6% of cases and is uncommon in relatively young individuals [1], while acute coronary syndrome remains the leading cause of out-of-hospital cardiac arrest [3]. Early bystander cardiopulmonary resuscitation (CPR) significantly improves survival by facilitating effective defibrillation [4].

Case Presentation

A 50-year-old previously healthy man collapsed during a football match and was resuscitated by his wife using immediate bystander CPR and an on-site automated external defibrillator (AED) for documented ventricular fibrillation. Electrocardiography revealed an acute anterior ST-segment elevation myocardial infarction (STEMI). Urgent coronary angiography showed mid-left anterior descending artery occlusion, and primary percutaneous coronary intervention with three drug-eluting stents was performed. Laboratory testing demonstrated markedly elevated cardiac troponin I and previously unrecognised dyslipidemia. Transthoracic echocardiography revealed apical wall motion abnormalities with moderately reduced ejection fraction (35-40%). The hospital course was uncomplicated with preserved neurological status.

Discussion

The “sports paradox” describes exercise-related cardiac arrest in individuals with silent underlying cardiac disease. In older athletes, coronary artery disease is the leading cause of sports-related sudden cardiac death [5]. In this case, acute coronary occlusion triggered ventricular fibrillation [6]. Survival depended on immediate bystander CPR and early



defibrillation using an AED, underscoring the importance of its availability in sports facilities [4]. Prompt recognition of STEMI enabled timely invasive reperfusion therapy [3].

Conclusions

SCA during sports may reveal previously unrecognised coronary artery disease, with early bystander CPR, prompt defibrillation, and rapid reperfusion determining survival and a favourable neurological outcome.

References

1. Holmstrom L, Chugh HS, Uy-Evanado A, Sargsyan A, Sorenson C, Salmasi S, et al. Sudden Cardiac Arrest During Sports Activity in Older Adults. *JACC Clin Electrophysiol*. 2023 July;9(7 Pt 1):893–903.
2. Semeraro F, Schnaubelt S, Olasveengen TM, Bignami EG, Böttiger BW, Fijacko N, et al. European Resuscitation Council Guidelines 2025 System Saving Lives. *Resuscitation* [Internet]. 2025 Oct 1 [cited 2025 Dec 27];215.
3. Byrne RA, Rossello X, Coughlan JJ, Barbato E, Berry C, Chieffo A, et al. 2023 ESC Guidelines for the management of acute coronary syndromes: Developed by the task force on the management of acute coronary syndromes of the European Society of Cardiology (ESC). *Eur Heart J* [Internet]. 2023 Oct 7 [cited 2025 Dec 27];44(38):3720–826.
4. Malik A, Hanson J, Han J, Dolezal B, Bradfield JS, Boyle NG, et al. Sudden cardiac arrest in athletes and strategies to optimize preparedness. *Clin Cardiol* [Internet]. 2023 July 26 [cited 2025 Dec 27];46(9):1059–71.
5. Chugh SS, Weiss JB. Sudden Cardiac Death in the Older Athlete. *JACC* [Internet]. 2015 Feb 10 [cited 2025 Dec 27];65(5):493–502.
6. Bhar-Amato J, Davies W, Agarwal S. Ventricular Arrhythmia after Acute Myocardial Infarction: ‘The Perfect Storm.’ 2017 Aug 17 [cited 2025 Dec 27];

Beyond Pseudo-MI: True Thromboembolic STEMI Associated With Acute Pancreatitis

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Introduction

Myocardial infarction (MI) is an ischemic manifestation of coronary artery disease leading to myocardial injury or necrosis [1]. Although ST-segment elevation is typical of acute coronary syndrome (ACS), similar electrocardiographic changes may occur in intra-abdominal conditions such as acute pancreatitis (AP), complicating diagnosis [2]. We report a rare case of concurrent true MI and AP.

Case Presentation

A 48-year-old man was admitted with acute epigastric pain and ST-segment elevation in leads II, III, aVF, V5–V6, and V7–V9. Laboratory tests showed rising high-sensitivity troponin I, neutrophilic leukocytosis, normal C-reactive protein (CRP), and elevated pancreatic enzymes. Emergency coronary angiography demonstrated thrombotic occlusion of the circumflex artery branches without evidence of underlying atherosclerotic disease. A small thrombus was aspirated, and due to persistent distal embolization in segment 15, anticoagulation with heparin was recommended. The thrombus in segment 14 was successfully compressed with stent implantation. Echocardiography demonstrated eccentric left ventricular hypertrophy and regional wall motion abnormalities. Subsequently, CRP and leukocyte levels increased, and computed tomography confirmed acute pancreatitis with approximately 40% pancreatic necrosis. A febrile episode prompted empirical meropenem therapy. In the absence of clear angiographic evidence of coronary atherosclerosis, MI was considered thromboembolic, likely related to pancreatitis-induced systemic inflammation and hypercoagulability.

Discussion

Although rare, the coexistence of MI and AP may be explained by systemic inflammation, SIRS, and hypercoagulability, promoting intracoronary thrombus formation [3]. This overlap represents a diagnostic challenge, as angiographic findings may be inconclusive, alternative mechanisms may coexist, and misdiagnosis can result in inappropriate therapy and serious complications [4].



Conclusions

Although rare, acute pancreatitis can trigger true MI through systemic inflammation and hypercoagulability, even in the absence of clear angiographic evidence of coronary atherosclerosis. In such cases, ST-segment elevation requires prompt differentiation between pseudo-MI and true MI to guide appropriate management and prevent life-threatening complications.

References

1. Khan S, Chaudhry R, Mahmood A, Masmoum MohdD, Altaf SA, Mirza MSS. Myocardial Infarction: Causes, Symptoms, and Emergency Response. *Journal of Advances in Medicine and Medical Research* [Internet]. 2024 Jul 26 [cited 2024 Aug 23];36(8):72–83
2. Agrawal A, Sayyida N, Penalver JL, Ziccardi MR. Acute Pancreatitis Mimicking ST-Segment Elevation Myocardial Infarction. *Case Reports in Cardiology*. 2018 Oct 24;2018:1–3.
3. Pakeerathan A, Guruparan M, Lakshman P, Gobishangar S, Rajendra N. Acute inferior ST-segment elevation myocardial infarction as an initial presentation of acute pancreatitis leading to multiorgan dysfunction. *Asian Journal of Internal Medicine*. 2025 Aug 15
4. Khan U, Petrechko O, Sagheer S, Majeed H, Zaidi SH, Wasty N, et al. Acute Pancreatitis and Myocardial Infarction: A Narrative Review. *Cardiology* [Internet]. 2023 Feb 28;148(1)

Partial Anomalous Pulmonary Venous Drainage With Sinus Venosus Atrial Septal Defect and Persistent Left Superior Vena Cava

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Introduction

Partial Anomalous pulmonary venous drainage (PAPVD) can be clinically significant malformation leading to right-sided volume overload and pulmonary hypertension if left untreated. It often coexists with other congenital heart defects such as sinus venosus atrial septal defect (SVASD) [1]. We report a case of PAPVD of the right upper and middle lobe veins draining into the right superior vena cava accompanied by SVASD and a persistent left superior vena cava (PLSVC) draining into the coronary sinus.

Case Presentation

Previously asymptomatic 59-year-old male patient was admitted for diagnostic evaluation prior to planned surgical correction. Coronary computed tomographic angiography showed two anomalous venous connections from the right upper and middle lobes entering the right superior vena cava (SVC), a 14 mm SVASD and PLSVC draining into an enlarged coronary sinus. High drainage of the right upper lobe pulmonary veins into the right SVC, approximately 42 mm above the SVC-right atrial junction. Transesophageal echocardiography confirmed a left-to-right shunt and dilated right heart chambers with signs of pulmonary hypertension. Given his stable clinical condition and comprehensive imaging findings, the patient proceeded to planned surgical repair. A combination of three surgical procedures was performed: pulmonary veins reposition, SVASD closure and tricuspid valve annuloplasty.

Discussion

The combination of PAPVD, SVASD and PLSVC represents a complex anomaly that

may be silent until development of pulmonary hypertension, leading to right-sided overload, arrhythmias, hypoxemia, and paradoxical embolization [2]. Surgical correction is favorable despite stable clinical status and age [3], preventing right heart enlargement, pulmonary vascular remodeling and elevated pulmonary pressures, as these signs are present in this case of a relatively delayed surgical repair [4,5]. Monitoring cardiac geometric dynamics postoperatively can help assess the degree of reversibility and long-term prognosis.

Conclusions

This case highlights the importance of detailed anatomical assessment in venous malformations. Timely surgical reconstruction of PLSVC-associated PAPVD and SVASD can prevent right-sided heart failure, mitigate pulmonary hypertension progression, and lower the risk of arrhythmic or embolic complications.

References

1. Hatipoglu S, Almogheer B, Mahon C, Houshmand G, Uygur B, Giblin GT, et al. Clinical Significance of Partial Anomalous Pulmonary Venous Connections (Isolated and Atrial Septal Defect Associated) Determined by Cardiovascular Magnetic Resonance. *Circ Cardiovasc Imaging* [Internet]. 2021 Aug 1 [cited 2025 Dec 10];14(8):E012371. Available from: <https://www.ahajournals.org/doi/10.1161/CIRCIMAGING.120.012371>
2. Cárdenas-Marín PA, Zambrano-Franco JA, Reyes-Cardona MJ, Calderon-Miranda CA, Sanchez-Blanco J, Olaya P, et al. Postpartum ischemic stroke due to persistent left superior vena cava to left atrium after DORV repair: a case report and literature review. *BMC Cardiovasc Disord* [Internet]. 2025 Dec 1 [cited 2025 Dec 6];25(1):463. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC12232136/>
3. Results of repair of partial anomalous pulmonary venous connection and sinus venosus atrial septal defect in adults - PubMed [Internet]. [cited 2026 Jan 26]. Available from: <https://pubmed.ncbi.nlm.nih.gov/9697063/>
4. Moldovan H, Sibişan AM, Țigănaşu R, Popescu B Ştefan, Vasile G, Gheorghită D, et al. Superior Sinus Venosus Atrial Septal Defect with Partial Anomalous Pulmonary Venous Drainage—Minimally Invasive Approach—Case Report. *Medicina* 2021, Vol 57, Page 984 [Internet]. 2021 Sep 18 [cited 2025 Dec 9];57(9):984. Available from: <https://www.mdpi.com/1648-9144/57/9/984/htm>
5. Adnor S, Kourchi M EL, Wakrim S. Persistent left superior vena cava: An unusual radiographic discovery. *Annals of Vascular Surgery - Brief Reports and Innovations*. 2024 Dec 1;4(4):100344.

Complex Aortic Arch Hypoplasia Associated With Coarctation, Cervical Aortic Arch, and Persistent Left Superior Vena Cava: Case Report

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Introduction

Aortic arch hypoplasia with coarctation (prevalence 0.04%) and cervical aortic arch (prevalence 0.01%) represent an exceptionally rare congenital anomaly.[1–3] We report a complex case involving hypoplasia with coarctation, cervical aortic arch, localized aneurysmal expansions, abnormal branching, and persistent left superior vena cava.

Case Presentation

A 22-year-old male with aortic arch hypoplasia diagnosed at age 2 presented to our clinic with progressive secondary hypertension. Due to the patient's stable clinical condition, surgery was deferred in 2016. By 2018, blood pressure reached 190mmHg (right arm) with signs of left ventricular hypertrophy. In 2019, computed tomography angiography revealed hypoplasia of the T2 segment (~15 mm), localized outpouchings, and abnormal left subclavian and cerebral arteries. Invasive hemodynamic evaluation validated diffuse aortic arch narrowing, with a significant systolic pressure gradient. In 2025, further instrumental investigations indicated progressive aortic obstruction, accompanied by cervical aortic arch with atypical branching, multiple aneurysmal dilatations, and persistent left superior vena cava. The



multidisciplinary team recommended elective surgical reconstruction. At present, the patient remains clinically stable on antihypertensive therapy while awaiting surgery.

Discussion

Aortic arch hypoplasia is a rare condition often associated with complex vascular anomalies and functional aortopathy [4,5]. Delayed surgical correction, as in this case, is associated with a higher likelihood of persistent arterial hypertension despite anatomical repair. Although arteriography remains the diagnostic gold standard, magnetic resonance imaging and computed tomography play an increasingly important role in anatomical and functional assessment [6]. Surgical repair indications include significant arm-leg blood pressure differences and associated transverse arch hypoplasia [4,7], while arch size rather than shape is critical for hemodynamics [8].

Conclusions

This case highlights the clinical consequences of delayed intervention in complex aortic arch hypoplasia with coarctation, requiring surgical correction and long-term follow-up due to the high risk of persistent hypertension and cardiovascular morbidity.

References

1. Truba Y, Radchenko M, Golovenko O, Beridze M, Lazoryshynets V. [; SURGICAL TREATMENT OF TRANSPOSITION OF THE GREAT ARTERIES AND AORTIC ARCH HYPOPLASIA]. Georgian Med News [Internet]. 2020 Jul 1 [cited 2025 Dec 14];(304–305):85–90. Available from: <https://europepmc.org/article/med/32965255>
2. Bae S Bin, Kang EJ, Choo KS, Lee J, Kim SH, Lim KJ, et al. Aortic Arch Variants and Anomalies: Embryology, Imaging Findings, and Clinical Considerations. J Cardiovasc Imaging [Internet]. 2022 Oct 1 [cited 2025 Dec 14];30(4):231. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC9592245/>
3. Mahawar P. Aortic Arch Anomalies and Pulmonary Artery Anomalies: Echocardiographic Evaluation. Journal of the Indian Academy of Echocardiography and Cardiovascular Imaging [Internet]. 2020 [cited 2025 Dec 17];4(3):350–61. Available from: https://journals.lww.com/jiae/fulltext/2020/04030/aortic_arch_anomalies_and_pulmonary_artery.17.aspx
4. Sainathan S, Mulinari L. Coarctation of the aorta with aortic arch hypoplasia: Tackle from the front or the side? J Card Surg [Internet]. 2022 Jun 1 [cited 2025 Dec 17];37(6):1633–4. Available from: <https://pubmed.ncbi.nlm.nih.gov/35315138/>
5. Kim YY, Andrade L, Cook SC. Aortic Coarctation. Cardiol Clin [Internet]. 2020 Aug

- 1 [cited 2025 Dec 17];38(3):337–51. Available from: <https://pubmed.ncbi.nlm.nih.gov/32622489/>
6. Leezer S, Mehta R, Agarwal A, Saraf S, Messmer M, Phillippi R, et al. Patient-Reported Outcomes Among Adults With Congenital Heart Disease in the Congenital Heart Initiative Registry. JAMA Netw Open [Internet]. 2024 Oct 16 [cited 2025 Dec 17];7(10):e2439629. Available from: <https://pubmed.ncbi.nlm.nih.gov/39412804/>
7. Nagashima T, Taira M, Hasegawa M, Kugo Y, Watanabe T, Miyagawa S. The usefulness of staged extra-anatomic bypass for coarctation of the aorta with arch hypoplasia, from premature neonate to adult. Asian Cardiovasc Thorac Ann [Internet]. 2024 May 1 [cited 2025 Dec 17];32(4):215–8. Available from: <https://pubmed.ncbi.nlm.nih.gov/38483813/>
8. Chetan D, Mertens LL. Challenges in diagnosis and management of coarctation of the aorta. Curr Opin Cardiol [Internet]. 2022 Jan 1 [cited 2025 Dec 17];37(1):115–22. Available from: <https://pubmed.ncbi.nlm.nih.gov/34857719/>

Late manifestation of Mucopolysaccharidosis type VI with cardiac and osteoarticular involvement: A case report

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Introduction

Mucopolysaccharidosis type VI (MPS-VI) is an autosomal recessive lysosomal storage disorder caused by impaired degradation of glycosaminoglycans (GAGs) due to N-acetylgalactosamine-4-sulfatase deficiency. GAGs are structural components of connective tissue, and their accumulation, mainly dermatan sulphate in MPS-VI, leads to progressive skeletal, ocular, cardiovascular, and nervous system involvement [1]. The median age at diagnosis is 23.5 years [2]; disease severity can be assessed by clinical phenotype and urinary GAG levels, with > 200 µg/mg indicating rapid and < 100 µg/mg slow progression [3]. We present a rare case of complex multi-valve surgery in a patient with MPS-VI.

Case Presentation

A 56-year-old male was admitted with worsening heart failure (HF). He had been diagnosed 3 years earlier and treated with implantation of a dual-chamber pacemaker. Transthoracic echocardiography (TTE) showed severe aortic (AoV) stenosis and mitral (MV) stenosis with regurgitation, tricuspid (TV) regurgitation, a left ventricle (LV) ejection



fraction (EF) of 30%, and hypotension. The patient exhibited corneal clouding, coarse facial features, macrocephaly, short stature, skeletal deformities, scoliosis, and a 20-year history of progressive neurological symptoms. Genetic testing revealed homozygosity for the p.Arg152Trp mutation with elevated GAG levels (20.6 $\mu\text{g}/\mu\text{mol}$; normal $<10 \mu\text{g}/\mu\text{mol}$), confirming MPS-VI. Due to worsening HF symptoms, the patient underwent 21-mm AoV and 27-mm MV bioprosthetic replacement, 26-mm TV annuloplasty, and closure of an atrial septal defect (ASD). Aortic root dilation was performed using an autologous pericardial graft, and pericardial biopsy revealed fibrotic plaque suggesting lymphangioma. The European System for Cardiac Operative Risk Evaluation II was 11.84%; cardiopulmonary bypass and cross-clamping times were 131 and 101 minutes, respectively. Postoperative TTE showed normally functioning AoV and MV prostheses, no residual ASD, but severely reduced LV systolic function (EF 20%) and persistent dilation (LV 68 mm). The postoperative course was complicated by bleeding requiring two re-explorations, multi-organ complications, and a prolonged 35-day intensive care stay.

Discussion

Late-onset MPS-VI often presents with subtle features, and coexisting age-related valvular disease may delay diagnosis, resulting in advanced cardiac involvement. In this case, clinical phenotype and genetic testing confirmed MPS-VI, although histopathological confirmation of valve involvement was unavailable. Enzyme replacement therapy has limited effect on severe valvopathy due to poor vascularity [4], making surgery the definitive treatment [5]. Perioperative challenges included skeletal deformities complicating sternotomy and difficult airway management from limited mouth opening and macroglossia, which may be life-threatening [6,7].

Conclusions

This case illustrates that even in late-diagnosed MPS-VI with severe valvular disease, complex corrective cardiac surgery is feasible, though associated with high perioperative risk. Early recognition and individualized multidisciplinary planning remain essential to optimize outcomes.

References

1. Nagpal R, Goyal RB, Priyadarshini K, Kashyap S, Sharma M, Sinha R, Sharma N. Mucopolysaccharidosis: A broad review. *Indian J Ophthalmol*. 2022 Jul;70(7):2249-2261. doi: 10.4103/ijo.IJO_425_22. PMID: 35791104; PMCID: PMC9426054. Available from: <https://pubmed.ncbi.nlm.nih.gov/35791104/>
2. Vechkasova AO, Zakharova EY, Buchinskaya NV, Vashakmadze ND, Namazova-Baranova LS, Ivanov DO, Kutsev

SI, Kostik MM. Clinical and genetic characteristics of mucopolysaccharidosis type VI according to the Russian registry. *World J Clin Pediatr.* 2025 Dec 9;14(4):110003. doi: 10.5409/wjcp.v14.i4.110003. PMID: 41255673; PMCID: PMC12620840. Available from: <https://pubmed.ncbi.nlm.nih.gov/41255673/>

3. Lipiński P, Rózdżyńska-Świątkowska A, Wiśniewska K, Rusecka J, Ługowska A, Żuber Z, Jezela-Stanek A, Cyske Z, Gaffke L, Pierzynowska K, Wegrzyn G, Tylki-Szymańska A. Mucopolysaccharidoses-What Clinicians Need to Know: A Clinical, Biochemical, and Molecular Overview. *Biomolecules.* 2025 Oct 14;15(10):1448. doi: 10.3390/biom15101448. PMID: 41154677; PMCID: PMC12562998. Available from: <https://pubmed.ncbi.nlm.nih.gov/41154677/>

4. Leal AF, Prieto LE, Pachajoa H, Tomatsu S. Mucopolysaccharidosis VI: Therapeutic strategies and perspectives. *Mol Genet Metab.* 2025 Nov;146(3):109255. doi: 10.1016/j.ymgme.2025.109255. Epub 2025 Oct 7. PMID: 41066830. Available from: <https://pubmed.ncbi.nlm.nih.gov/41066830/>

5. Rosser BA, Chan C, Hoschtitzky A. Surgical Management of Valvular Heart Disease in Mucopolysaccharidoses: A Review of Literature. *Biomedicines.* 2022 Feb 4;10(2):375. doi: 10.3390/biomedicines10020375. PMID: 35203584; PMCID: PMC8962304. Available from: <https://pubmed.ncbi.nlm.nih.gov/35203584/>

6. Cross B, Stepień KM, Gadepalli C, Kharabish A, Woolfson P, Tol G, Jenkins P. Pre-operative Considerations in Adult Mucopolysaccharidosis Patients Planned for Cardiac Intervention. *Front Cardiovasc Med.* 2022 Apr 4;9:851016. doi: 10.3389/fcvm.2022.851016. PMID: 35445089; PMCID: PMC9013828. Available from: <https://pubmed.ncbi.nlm.nih.gov/35445089/>

7. Mayhew D, Palmer K, Wilson I, Watson S, Stepień KM, Jenkins P, Gadepalli C. Airway and Anaesthetic Management of Adult Patients with Mucopolysaccharidoses Undergoing Cardiac Surgery. *J Clin Med.* 2024 Feb 28;13(5):1366. doi: 10.3390/jcm13051366. PMID: 38592237; PMCID: PMC10932343. Available from: <https://pubmed.ncbi.nlm.nih.gov/38592237/>

Ultrasound-Guided Stellate Ganglion Block for Refractory Electrical Storm

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Introduction

Electrical storm (ES) is a life-threatening arrhythmic emergency that often determines immediate survival in patients with structural heart disease and carries an in-hospital mortality of 20–40% [1]. Beyond its high lethality, ES is associated with frequent hospitalizations, impaired quality of life, and accelerated progression of heart failure [1,2]. Despite guideline-directed antiarrhythmic therapy and device optimization, a subset of patients remains refractory to conventional management. Increasing evidence supports the use of stellate ganglion block (SGB) as a targeted intervention to mitigate sympathetic overactivity in these patients.

Case Presentation

A 75-year-old man with cardiovascular comorbidities was hospitalized multiple times in 2025 due to recurrent ventricular tachycardia (VT). Initial episodes were treated with antiarrhythmic therapy, implantable cardioverter-defibrillator (ICD) interventions. Ongoing arrhythmia recurrence prompted invasive electrophysiological evaluation - three-dimensional electroanatomic mapping. Pace mapping and radiofrequency ablation were performed. Despite optimized pharmacological therapy, device reprogramming, and catheter-based intervention, VT recurred. An autonomic modulation strategy was therefore pursued. An ultrasound-guided left stellate ganglion block (SGB) at the C6 level was performed using local anesthetic, resulting in immediate suppression of VT, confirmed by transient Horner's syndrome. No further ventricular arrhythmias were observed during hospitalization.

Discussion

This case illustrates the role of SGB as an adjunctive therapy in patients with recurrent VT. Previous studies have demonstrated that

SGB can rapidly suppress VT when conventional pharmacological and electrical therapies fail. The prompt arrhythmia termination observed in this patient is consistent with published experience and supports autonomic modulation as a targeted, mechanism-based intervention. Although SGB does not provide definitive long-term control, it may serve as an effective stabilizing measure.

Conclusions

Stellate ganglion block can provide effective short-term suppression of electrical storm by reducing sympathetic activity. This case highlights its usefulness as a temporary therapeutic option when conventional treatments fail.

References

1. Zeppenfeld K, Tfelt-Hansen J, de Riva M, et al. 2022 ESC Guidelines for the management of patients with ventricular arrhythmias and the prevention of sudden cardiac death. *Eur Heart J*. 2022;43(40):3997–4126. doi:10.1093/eurheartj/ehac262
2. Könemann H, Ellermann C, Zeppenfeld K, et al. Management of ventricular arrhythmias worldwide: comparison of the latest ESC, AHA/ACC/HRS, and CCS/CHRS guidelines. *J Am Coll Cardiol EP*. 2023;9(5):715–728. doi:10.1016/j.jacep.2022.12.008

Aggressive multisystem aortic and valvular disease in TGFBR2-Related Loeys-Dietz syndrome: a case report

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Introduction

Loeys-Dietz syndrome type 2 (LDS-2) is a rare genetic connective tissue disorder caused by mutations in the TGFBR2 gene, marked by widespread aortic/ arterial aneurysms, dissections, tortuosity and variable skeletal and skin manifestations, showing multisystem and phenotypic overlap of the disorders.

Case Presentation

The 26 year old female was diagnosed in childhood with various defects: mitral valve prolapse, atrial septal defect, and aneurysms of the aorta, complicated by ventricular tachycardia requiring ICD implantation in 2017. Rapid disease progression led to genetic testing, revealing LDS-2 (TGFBR2 mutation) in 2022 after initial Marfan syndrome suspicion. In early 2023, the patient underwent radiofrequency ablation for atrial fibrillation, followed by mitral valve repair including an Alfieri stitch (selected due to the fragility of connective tissues) and suture annuloplasty. Later that year, she required endovascular aortic repair (TEVAR) for a descending aortic pseudoaneurysm and subclavian artery dissection. By 2025, the descending aorta aneurysm rapidly enlarged to 55 mm, requiring restenting. A new distal



aneurysm then developed, growing from 39 mm to 59 mm in six months and requiring a second TEVAR. Despite treatment, the aneurysm reached 62 mm, posing a high risk of rupture. MR was assessed as severe; due to high surgical risk from an abdominal aortic aneurysm, percutaneous mitral valve edge-to-edge repair was performed as a bridge to definitive valve replacement.

Discussion

LDS-2 is marked by aggressive, early onset vascular pathology that progresses despite treatment [1]. The rapid disease course and genetic counselling supported an LDS-2 diagnosis, where smaller vessel diameters aneurysms/ dissections pose higher risk [2]. Clinical management was challenging due to ventricular arrhythmias, MR, aortopathy with aneurysm growth despite endovascular procedures. Consequently, ACC/AHA guidelines advise lower surgical thresholds of 4 cm for the ascending aorta and 5 cm for the descending aorta due to the high rupture risk for LDS patients [3].

Conclusions

This case highlights the aggressiveness of LDS-2 with early-onset valvular dysfunction, arrhythmias and accelerated aortic pathology, justifying lower clinical thresholds for intervention. Early diagnosis and lifelong monitoring are vital for patient survival.

References

1. Gouda P, et al. Clinical features and complications of Loeys-Dietz syndrome: a systematic review. *Int J Cardiol.* 2022;362:158-167. doi:10.1016/j.ijcard.2022.05.065.
2. Chmielewski P, et al. Cardiovascular involvement and prognosis in Loeys-Dietz syndrome. *Kardiologia Pol.* 2023;81(11):1096-1102. doi:10.33963/v.kp.97390.
3. Isselbacher EM, et al. 2022 ACC/AHA guideline for the diagnosis and management of aortic disease. *Circulation.* 2022;146(24):e223-e393. doi:10.1161/CIR.0000000000001106.

From Non-Response to Improvement: Sequential Renal Denervation in Resistant Hypertension

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Introduction

Renal denervation (RDN) is an emerging therapy for resistant hypertension. Although individual response varies; most patients exhibit modest reduction in blood pressure (BP) [1]. We present a patient with severe long-standing, treatment-resistant arterial hypertension who demonstrated clinical improvement after the second RDN procedure.

Case Presentation

A 57-year-old man with familiar hypertension, heart failure with preserved ejection fraction, obesity, pacemaker due to symptomatic bradycardia and dyslipidemia presented with uncontrollable BP up to 230/150 mmHg. Despite maximal antihypertensive therapy, including all recommended European Society of Cardiology guideline-based drug classes and combination regimens, adequate BP control could not be achieved [2]. In July 2024, the patient had RDN treatment, subsequently BP was reduced temporarily. However, hypertension and four hypertensive crises quickly recurred. Secondary causes of hypertension were also ruled out; medication adherence was confirmed. Imaging studies showed no renal



artery stenosis or dissection. After a multidisciplinary review, RDN was repeated and extended to additional renal arteries. The second RDN procedure was completed successfully without complications. Although no immediate long-term improvement was observed, gradual BP reduction occurred during follow-up, and the patient now maintains blood pressure around 160 mmHg, representing a clinically meaningful improvement with combined interventional and pharmacological management.

Discussion

Most studies show at least modest but statistically significant BP reduction after RDN in resistant hypertension; however, response is heterogeneous [3]. In this patient, the delayed but ultimately favorable response after the second RDN highlights the possibility that some individuals may exhibit a slower physiological adaptation following denervation. His strong family history and early-onset hypertension also point to a possible inherited autonomic dysregulation, for which genetic evaluation could be considered [3].

Conclusions

In summary, RDN can be performed successfully for patients with severe, resistant hypertension significantly reducing BP, illustrating the importance of individualized assessment and further research into the causes of non-response.

References

1. Gupta A, Prince M, Bob-Manuel T, Jenkins JS. Renal denervation: Alternative treatment options for hypertension? *Prog Cardiovasc Dis* [Internet]. 2020 Jan 1 [cited 2025 Dec 27];63(1):51–7. Available from: <https://pubmed.ncbi.nlm.nih.gov/31884099/>
2. McCarthy CP, Bruno RM, Brouwers S, Canavan MD, Ceconi C, Christodorescu RM, et al. 2024 ESC Guidelines for the management of elevated blood pressure and hypertension. *Eur Heart J*. 2024 Oct 7;45(38):3912–4018.
3. Cluett JL, Blazek O, Brown AL, East C, Ferdinand KC, Fisher NDL, et al. Renal Denervation for the Treatment of Hypertension: A Scientific Statement From the American Heart Association. *Hypertension* [Internet]. 2024 Oct 1 [cited 2025 Dec 27];81(10):e135–48. Available from: <https://pubmed.ncbi.nlm.nih.gov/39101202/>

Management of Antithrombin III Deficiency–Associated Heparin Resistance in Cardiac Surgery

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Introduction

Antithrombin III (ATIII) deficiency, either hereditary or acquired, may result in heparin resistance and inadequate anticoagulation [1]. During cardiac surgery requiring cardiopulmonary bypass, this may prevent achievement of target activated clotting time and increase thrombotic risk [2].

Case Presentation

A 59-year-old male patient was admitted to the intensive care unit with progressive heart failure and suspected dysfunction of a mechanical aortic valve prosthesis. Mechanical aortic valve replacement had been performed in 2007 due to aortic stenosis. Comorbidities: arterial hypertension, type 2 diabetes mellitus, and antithrombin III (AT III) deficiency. Transthoracic and transesophageal echocardiography with fluoroscopy revealed impaired mechanical valve function suggestive of thrombosis or pannus formation. A hematology consultation was requested, and AT III deficiency was identified. Etiology could not be assessed due to lack of information. After multidisciplinary heart team discussion, surgical intervention was postponed until AT III activity was corrected using antithrombin concentrate. The mechanical valve was subsequently replaced with a biological prosthesis. Postoperative anticoagulation with warfarin was administered according to institutional protocol and the patient was discharged home.

Discussion

Heparin resistance (HR) is defined as inadequate anticoagulation despite standard doses of unfractionated heparin and is most

commonly associated with antithrombin (AT) deficiency [1]. Antithrombin (AT III) deficiency may be hereditary or acquired and is associated with reduced functional antithrombin activity. If target activated clotting time cannot be achieved before cardiopulmonary bypass, antithrombin deficiency should be considered [2]. Antithrombin concentrate is the preferred method of correction [3]. Fresh frozen plasma should be used only when antithrombin concentrate is unavailable, given its limited efficacy and transfusion-related risks [4]. Antithrombin assessment should therefore be limited to patients with unexplained heparin resistance undergoing cardiac surgery.

Conclusions

Antithrombin III deficiency may complicate anticoagulation during cardiac surgery with cardiopulmonary bypass and should be considered in cases of unexplained heparin resistance.

References

1. Levy JH, Connors JM. Heparin resistance clinical perspectives and management strategies. *N Engl J Med*. 2021;385(9):826–832.
2. Despotis GJ, Avidan MS, Hogue CW Jr. Mechanisms and attenuation of heparin resistance during cardiopulmonary bypass. *Ann Thorac Surg*. 2001;72(3):S216–S220.
3. Ranucci M, Isgrò G, Soro G, et al. Antithrombin supplementation in cardiac surgery: clinical and economic issues. *Ann Thorac Surg*. 2009;87(5):1536–1543.
4. Levy JH, Szlam F, Tanaka KA, Sniecinski RM. Antithrombin: clinical applications and limitations of plasma supplementation. *Thromb Haemost*. 2016;115(4):712–728.

A Sudden Shift in Prognosis: Advanced Heart Failure and Loss of Transplant Eligibility After Acute Malignancy

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Introduction

Heart transplantation is the definitive treatment for selected patients with advanced heart failure (HF) [1]. This case highlights the challenges of managing heart transplant candidates when eligibility is lost due to newly diagnosed, life-threatening non-cardiac conditions.

Case Presentation

A 60-year-old male with non-ischemic dilated cardiomyopathy progressed to advanced HF (NYHA IV) despite optimal guideline-directed medical and device-based therapy, with severely reduced left ventricular ejection fraction (20%) and marked left ventricular dilatation. Following a comprehensive multidisciplinary assessment, he was listed for heart transplantation in late 2024. During follow-up, a duodenal tumor was diagnosed and confirmed by biopsy. Emergency surgery was required due to duodenal perforation and peritonitis. Histology revealed a well-differentiated duodenal neuroendocrine tumor (NET G1, $\geq$ pT1) with positive resection margins (R1). The postoperative course was complicated by abdominal sepsis, septic shock, and multiple organ dysfunction syndrome (MODS). Following this, the patient developed severe HF decompensation with recurrent hypotension (70/40 mmHg), limiting further medical therapy. Due to active malignancy with uncertain oncological radicality and recent severe sepsis, the patient was no longer eligible for heart transplantation.

Discussion

Heart transplantation eligibility requires continuous reassessment in patients with advanced HF [2]. Active malignancy and recent severe infection are recognized



contraindications due to increased perioperative risk and cancer recurrence under immunosuppression [1]. When transplantation is no longer feasible, management relies on guideline-directed medical therapy; however, treatment options may be limited due to hypotension or other comorbidities. In such scenarios, management shifts from algorithm-based treatment to individualized, multidisciplinary decision-making, highlighting limited therapeutic options in advanced HF care [2–4].

Conclusions

This case demonstrates how a newly diagnosed malignancy and severe infectious complications may rapidly eliminate heart transplantation as a treatment option, even in previously eligible candidates. In advanced HF, such situations may result in a therapeutic dead end with limited alternative options.

References

1. 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure | European Heart Journal | Oxford Academic n.d. <https://academic.oup.com/eurheartj/article/42/36/3599/6358045?login=false> (accessed July 15, 2025).
2. Heidenreich PA, Bozkurt B, Aguilar D, Allen LA, Byun JJ, Colvin MM, et al. 2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. *Circulation* 2022;145. <https://doi.org/10.1161/CIR.0000000000001063>.
3. Mudigonda P, Berardi C, Chetram V, Barac A, Cheng R. Implications of cancer prior to and after heart transplantation. *Heart* 2022;108:414–21. <https://doi.org/10.1136/heartjnl-2020-318139>.
4. Bloom MW, Vo JB, Rodgers JE, Ferrari AM, Nohria A, Deswal A, et al. Cardio-Oncology and Heart Failure: a Scientific Statement From the Heart Failure Society of America. *Journal of Cardiac Failure* 2025;31:415–55. <https://doi.org/10.1016/j.cardfail.2024.08.045>.

Open abdominal aortic aneurysm repair in a patient with horseshoe kidney

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Introduction

Abdominal aortic aneurysm (AAA) associated with a horseshoe kidney (HSK) is a rare clinical entity, reported in less than 0.12% of AAA cases, that presents significant technical challenges due to variable renal arterial anatomy and the presence of a renal isthmus overlying the aneurysm. Careful preoperative planning is essential to ensure adequate renal perfusion and to minimize perioperative complications, particularly renal dysfunction, which has been reported in complex AAA repairs involving HSK (1–3).

Case Presentation

A 66-year-old patient presented with abdominal pulsations lasting two months. CTA demonstrated a 74 × 73 mm fusiform pararenal AAA extending from below the superior mesenteric artery into both common iliac arteries, in association with a horseshoe kidney and atypical renal artery anatomy. Due to the short and tapered proximal neck and the complex renal arterial pattern, endovascular repair would have required a technically demanding fenestrated or hybrid approach, therefore, open surgical repair was selected. The aneurysm was repaired using a prosthetic bifurcated aorto-bi-iliac graft with suprarenal aortic cross clamping. Postoperative renal function remained preserved. The postoperative period was complicated by paralytic ileus, which was resolved with conservative management.

Discussion

Both open and endovascular techniques have been reported for the treatment of AAA in patients with HSK when detailed preoperative imaging is used to identify renal

and accessory arteries (1–3). Endovascular repair may be limited by unfavourable aneurysm morphology, short proximal necks, and aberrant renal arteries, frequently necessitating complex fenestrated or branched techniques (1,4). Open repair, although more invasive, allows direct exposure of the aneurysm and renal vasculature and remains a reliable option in anatomically complex cases. Therefore, treatment selection should be individualized based on aneurysm characteristics, renal anatomy, and technical feasibility.

Conclusions

The coexistence of AAA and HSK poses unique structural challenges that demand thorough understanding of renal anatomy, and flexible surgical planning. In this case, a short proximal neck and aberrant renal arteries precluded endovascular repair, so open surgery was performed, preserving renal function.

References

1. Morel E, Frontario SC, Rao N, Bernik T. Abdominal aortic aneurysm with horseshoe kidney with central renal artery: A vascular dilemma. *Journal of Vascular Surgery Cases, Innovations and Techniques* [Internet]. 2024 Oct 1 [cited 2025 Dec 26];10(5):101579. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11387324/>
2. Christoforou P, Kapoulas K, Bekos C. Open surgical repair of abdominal aortic aneurysm and horseshoe kidney: A strange relationship. *Int J Surg Case Rep* [Internet]. 2022 Apr 1 [cited 2025 Dec 26];93:106971. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC8976142/>
3. Sachsamanis G, Charisis N, Maltezos K, Galyfos G, Papapetrou A, Tsiliggiris V, et al. Management and therapeutic options for abdominal aortic aneurysm coexistent with horseshoe kidney. *J Vasc Surg* [Internet]. 2019 Apr 1 [cited 2025 Dec 27];69(4):1257–67. Available from: <https://www.jvascsurg.org/action/showFullText?pii=S0741521418323036>
4. Bowden S, Roche-Nagle G. Fenestrated endovascular abdominal aortic aneurysm repair with concomitant horseshoe kidney. *BMJ Case Rep* [Internet]. 2021 Jan 25 [cited 2025 Dec 27];14(1):e236755. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC7839873/>

Primary Venous Tumors: Two Rare Cases from a Vascular Surgery Perspective

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Introduction

Primary venous tumors are exceptionally rare vascular neoplasms arising from the venous wall and are often misdiagnosed as venous thrombosis or inflammatory venous disease. Fewer than a few hundred cases have been reported worldwide. Their deep anatomical location and overlapping imaging features contribute to delayed diagnosis and treatment. We present two venous tumors of differing biological behavior to highlight diagnostic pitfalls and surgical management challenges.

Case Presentation

Two female patients with venous tumors were surgically treated at a tertiary hospital. The first case involved a high-grade venous leiomyosarcoma of the femoral–iliac venous system, initially misdiagnosed as deep vein thrombosis. Following neoadjuvant chemoradiotherapy, radical tumor resection was performed without venous reconstruction but with iliofemoral arterial bypass using a PTFE graft; a postoperative seroma at the incision site was identified at one-month follow-up. The second case described intravascular leiomyomatosis arising from the inferior vena cava with venous obstruction. Complete en bloc tumor resection with caval replacement using a PTFE graft was performed. The patient reported no early postoperative complaints; however, intermittent abdominal pain was noted at two-year follow-up and was considered possibly related to postoperative scar formation. Histopathological examination confirmed the diagnoses.

Discussion

These cases emphasize the diagnostic challenges of venous tumors, particularly their frequent misinterpretation as thrombotic disease. Progressive symptoms despite adequate conservative or anticoagulant therapy and atypical imaging findings should raise suspicion for venous neoplasia. Although multimodal imaging is essential, definitive diagnosis



relies on histopathology. Surgical management is often complex due to vessel wall infiltration and proximity to major vascular structures.

Conclusions

Venous tumors should be considered in cases of atypical or treatment-resistant venous disease. Early recognition, multidisciplinary evaluation, and complete surgical resection when feasible remain crucial for optimal outcomes. Reporting rare cases contributes to improved awareness and may help refine future diagnostic and therapeutic strategies.

References

1. Phillips, I., Chen, J., Milhem, M., DiCamillo, P., & Pollard, J. (2025). Vascular leiomyosarcoma masquerading as chronic deep venous thrombosis. *Clinical Nuclear Medicine*. doi: 10.1097/RLU.00000000000006240
2. Di Pilla, M. A., Capuano, M. A., Rossi, M., Di Pilla, G., Minelli, R., Pizzicato, P., Rossi, A., Paviglianiti, G., Irace, D., Vallone, G., Salvia, A. A. H., Smaldone, M. C., Cariello, V., Zeccolini, R., & Rossi, E. (2023). Leiomyosarcoma of the inferior vena cava. *Radiology Case Reports*, 19(1), 382–386. <https://doi.org/10.1016/j.radcr.2023.09.069>
3. Pini, A., Pantaleo, M. A., Astolfi, A., et al. (2025). Multidisciplinary management and molecular characterization of inferior vena cava leiomyosarcoma: A case report. *World Journal of Surgical Oncology*, 23, Article 112. <https://doi.org/10.1186/s12957-025-04112-6>
4. Ramos Pascua, L. R., Ramos García, E., Robustillo Rego, M., Méndez, V. G., Enguita Valls, A. B., Mora Fernández, M. I., Rubio Valladolid, G., & Vilá y Rico, J. E. (2025). Leiomyosarcomas of the great saphenous vein: Diagnostic and therapeutic strategies to prevent unplanned excisions and improve oncologic, functional, and psychological outcomes. *Diseases*, 13(10), 330. <https://doi.org/10.3390/diseases13100330>
5. Ayyad, M. S., Elbellasy, M. F., Hassan, A., et al. (2024). Leiomyosarcoma of vascular origin: Lessons learned from misdiagnosis. *Egyptian Journal of Radiology and Nuclear Medicine*, 55, 166. <https://doi.org/10.1186/s43055-024-01336-6>
6. Zhang, H. X., Wang, K., Hong, P., et al. (2021). Clinical experience with the treatment of retroperitoneal vascular leiomyosarcoma originating from large veins. *BMC Surgery*, 21, 326. <https://doi.org/10.1186/s12893-021-01322-z>
7. Zhou, X., Qi, X., Zhao, X., & Yang, F. (2024). Update on clinical characteristics and molecular insights for uterine intravenous leiomyomatosis (review). *Oncology Letters*, 27, 31. <https://doi.org/10.3892/ol.2023.14165>
8. Wei, J., Ji, X., Zhang, P., Chen, W., Zhao, Y., & Liu, M. (2021). Complete intravenous leiomyomatosis: A case report and literature

review. *Annals of Palliative Medicine*, 10(11), 12039–12045. doi:10.21037/apm-21-3093

9. Han, Y., Chung, Y.-J., Shin, I., Park, J. Y., Shim, S., Hijazi, A., Song, J.-Y., Cho, H. H., & Kim, M.-R. (2021). Intravenous leiomyomatosis misdiagnosed as large thrombosis in the inferior vena cava. *Taiwanese Journal of Obstetrics and Gynecology*, 60(2), 370–373. <https://doi.org/10.1016/j.tjog.2021.01.019>.



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Abstracts

Uncovering the Role of PTTG1 in Tumor Differentiation of Laryngeal Squamous Cell Carcinoma

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Introduction

Laryngeal squamous cell carcinoma (LSCC) is the most common malignant tumor of the larynx, accounting for up to 95% of cases [1]. Histological tumor differentiation, ranging from well-differentiated (G1) to poorly differentiated (G3) carcinomas, is a key determinant of LSCC aggressiveness and metastatic potential [2]. LSCC etiology is multifactorial, involving environmental and individual host-related factors, with growing evidence supporting the role of genetic variability, particularly single nucleotide polymorphisms, in carcinogenesis [3, 4]. The pituitary tumor-transforming gene 1 (PTTG1) regulates cell proliferation, differentiation and apoptosis. Although PTTG1 dysregulation has been implicated in tumor growth and metastasis, its role to LSCC differentiation remains poorly defined [5]. Investigating this relationship could reveal insights into tumor biology and identify molecular markers of aggressiveness. In this study, we examined LSCC tumors, including well-differentiated (G1) and higher-grade (G2–G3), to assess the association with PTTG1 expression.

Aim

To evaluate the role of PTTG1 genetic polymorphisms (rs2910200 and rs1895320) in LSCC differentiation.

Methods

The study involved 200 LSCC patients with tumors ranging from well-differentiated tumors (n = 66) and poorly differentiated (n = 134) and 200 healthy controls. DNA samples from peripheral blood leukocytes were purified by the DNA salting-out method. Genotypes of

PTTG1 rs1895320, rs2910200 were determined using real-time polymerase chain reaction (RT-PCR). Statistical analysis was performed using the "IBM SPSS Statistics 30.0" program.

Results

We performed a binomial logistic regression analysis to evaluate the influence of PTTG1 genetic polymorphisms on the differentiation of the LSCC cells. Results showed that the PTTG1 rs2910200 CC genotype, compared to the TT genotype, was associated with a 2.4-fold decreased odds of developing poorly differentiated LSCC, under the codominant genetic model (OR = 0.416, 95% CI: 0.178-0.972, $p = 0.043$). Under the recessive model, the CC genotype, compared to the combined CT and TT genotypes, is likely to be associated with 2.5-fold decreased odds of poorly differentiated LSCC occurrence (OR = 0.407, 95% CI: 0.179 – 0.925, $p = 0.032$). However, binary logistic regression analysis of rs1895320 did not yield statistically significant results.

Conclusions

This study demonstrates that the PTTG1 rs2910200 polymorphism, specifically its CC genotype, is associated with a reduced occurrence of poorly differentiated LSCC. Our study suggests that PTTG1 rs2910200 may play a protective role in LSCC pathogenesis and utility as a molecular marker, warranting further functional studies.

References

1. Liberale C, Soloperto D, Marchioni A, Monzani D, Sacchetto L. Updates on larynx cancer: risk factors and oncogenesis. *Int. J. Mol. Sci.* 2023; 24(16):12913.
2. Verro B, Saraniti C, Carlisi D, Chiesa-Estomba C, Maniaci A, Lechien JR, et al. Biomarkers in laryngeal squamous cell carcinoma: the literature review. *Cancers (Basel)*. 2023;15(20):5096.
3. Huang J, Chan SC, Ko S, Lok V, Zhang L, Lin X, et al. Updated disease distributions, risk factors, and trends of laryngeal cancer: a global analysis of cancer registries. *Int J Surg.* 2024;110(2):810-819
4. Nocini R, Molteni G, Mattiuzzi C, Lippi G. Updates on larynx cancer epidemiology. *Chin J Cancer Res.* 2020;32(1):18-25.
5. Wei H, Ma Y, Chen S, Zou C, Wang L. Multi-omics analysis identifies PTTG1 as a prognostic biomarker associated with immunotherapy and chemotherapy resistance. *BMC Cancer.* 2024 Oct 25;24(1):1315.

Searching for Stemness-Associated mRNAs in Glioma Tumor Tissue

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Introduction

Glioblastoma (GB) is the most common and the most aggressive form of brain cancer. Although these days the treatment for glioblastoma is improving, the median survival of patients still remains 12-15 months. Glioma stem cells contribute to such a short survival rate. These cells are responsible for glioblastoma initiation, tumor development, and resistance to treatment.

Aim

The aim of this study was to identify mRNAs that are related to glioma stem cells to find new molecular biomarkers for gliomas.

Methods

Glioblastoma and glioma stem cell lines were used to find potentially related mRNA to glioma stem cells. Differential gene expression analysis (DESeq2) of total 7903 genes, identified 121 significantly stemness-associated target genes according to Nanopore sequencing data. The top three candidates were subsequently selected for validation in glioma tumor tissues. Total RNA was isolated from 100 mg of snap-frozen patients' tumor tissue using TRIzol according to the manufacturers' instructions. The quality, quantity, and purity were measured on a 1.5% agarose gel and Nanodrop 2000 spectrophotometer. After, cDNA was synthesized. mRNA expression levels were detected using RT-qPCR using glioblastoma (n= 31), II (n=12), and III (n=5) grade glioma patients' samples.

Results

After dRNA Nanopore sequencing data analysis, we identified top 3 the most significant stemness-

related mRNAs (SERPINE1, ITGA3, and PMP2). mRNA expression levels significantly differed in glioma tumor samples ($p < 0.05$) according to their pathology, which is proposing suitability of target mRNAs for glioma stratification. High expression of the analyzed target genes was associated with poorer prognosis in glioma patients.

Conclusions

In this study, we identified glioma stem cells specific mRNA target genes: SERPINE1, ITGA3, and PMP2 that have an impact on gliomagenesis. Although SERPINE1 and ITGA3 genes have been confirmed to be associated with stemness, validation in tumor tissues is still lacking. And to our knowledge, validation of the PMP2 gene in different glioma tumor grades has not been performed at all. Finding new clinical biomarkers can help to reflect patient prognosis and better predict therapeutic response.

References

1. Lu C, Kang T, Zhang J, Yang K, Liu Y, Song K, Lin Q, et al. Combined targeting of glioblastoma stem cells of different cellular states disrupts malignant progression. *Nat Commun.* 2025;16(1):2974.
2. Ludwig K, Kornblum HI. Molecular markers in glioma. *J Neurooncol.* 2017;134(3):505-12.

Morphological Characteristics of Medullary Thyroid Carcinoma Using a Contemporary Two-Tier Grading System

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Introduction

Medullary thyroid carcinoma (MTC) is an uncommon thyroid tumour arising from parafollicular C cells. This entity only comprises approximately 2-5% of thyroid malignancies and may be sporadic or hereditary. Histologically, MTC exhibits marked heterogeneity in its cytoarchitectural features, resulting in a wide spectrum of morphological presentations, thus, making the distinction from other primary thyroid neoplasms difficult. Consequently, immunohistochemical techniques are frequently required to establish an accurate diagnosis, particularly in cases with atypical or overlapping morphological features [1, 2, 3].

Aim

To analyse the histopathological features of medullary thyroid carcinoma cases diagnosed in a local pathology department, applying the contemporary two-tier grading system (GS).

Methods

88 cases of medullary thyroid carcinoma that were sent for morphological examination after full or partial thyroidectomy to the local department of pathological anatomy in 2007-2025 were selected for the study. Formalin-fixed formalin-embedded thyroid tissue was stained by haematoxylin-eosin method and re-examined by light microscopy, evaluating the presence of mitoses, necrosis, vascular invasion and neoplasm architecture (solid, trabecular, insular, nests or no specific pattern). Cases were graded using the latest two-tier system: low-grade (<5 mitoses/2 mm² and no necrosis) or high-grade (>5 mitoses/2 mm² or necrosis). Age, sex, tumour size, and anatomic location were analysed. Statistical analysis was performed (p<0.05).

Results

30.7% males (n=27; median– 53, interquartile range– 27 years old (y.o.)) and 69.3% females (n=6; median– 56,

interquartile range– 18 y.o.; $U = 737.5$, $p = 0.43$) were selected for the study. Most patients were observed in the 60–70-year age group (30.7%, $n = 27$), of whom 77.8% were female ($n = 21$). In females, the most frequent tumour size was ≤ 2 cm (23.8%, $n = 27$), while in males < 1 cm and 2–4 cm tumours were most common (both 8.8%, $n = 10$). Tumour size distribution did not differ by sex ($\chi^2 = 5.9$, $p = 0.7$). Left lobe localisation was the most common (35.2%, $n = 31$). Tumour size distribution did not differ between thyroid lobes. Most neoplasms measured < 1 cm (29.9%, $n = 34$) or ≤ 2 cm (30.8%, $n = 35$). No specific pattern was observed in most cases (79.5%, $n = 70$) followed by solid pattern (8%, $n = 7$, $\chi^2 = 195.97$, $df = 4$, $p < 0.001$). Cases were graded by two-tier GS: 89.9% ($n = 79$) were low-grade and 9.1% ($n = 8$) were classified as high-grade. There were no cases with mitoses being > 5 per 2 mm² but necrosis was observed in 9.1% ($n = 8$). Vascular invasion was identified in 25% ($n = 22$) of the histological slides. Fisher's exact test showed a significant association between tumour grade and vascular invasion ($p = 0.003$).

Conclusions

In this cohort, medullary thyroid carcinomas were more frequent in older age groups and among females. Most MTCs were classified as low-grade. Vascular invasion was significantly correlated with tumour grade.

References

1. Podany P, Meiklejohn K, Garritano J, Holt EH, Barbieri A, Prasad M, Gilani SM. Grading system for medullary thyroid carcinoma: an institutional experience. *Ann Diagn Pathol*. 2023 Jun;64:152112.
2. Giusca SE, Andriescu EC, Caruntu ID, Ciobanu D. Clinicopathological profile of medullary thyroid carcinoma: could we predict aggressive behavior? *Biomedicines*. 2023 Jan;11(1):116.
3. Torricelli F, Santandrea G, Botti C, Ragazzi M, Vezzani S, Frasoldati A, Ghidini A, Giordano D, Zanetti E, Rossi T, Nicoli D, Ciarrocchi A, Piana S. Medullary thyroid carcinomas classified according to the international medullary carcinoma grading system and a surveillance, epidemiology, and end results-based metastatic risk score: a correlation with genetic profile and angioinvasion. *Mod Pathol*. 2023 Sep;36(9):100244.

The impact of CRS and HIPEC treatment on gastric cancer patients at the molecular level

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Introduction

Gastric cancer is an aggressive malignancy and in 2023 was the third leading cause of cancer-related death in Lithuania. Among gastrointestinal tumors, it most frequently leads to peritoneal dissemination. Tumor cells spread within the peritoneal cavity through direct contact, and surgical manipulation may further contribute to their dissemination. Moreover, gastric cancer often shows limited sensitivity to systemic chemotherapy due to poor drug penetration [1]. Hyperthermic intraperitoneal chemotherapy (HIPEC) is a localized treatment based on circulatory perfusion of a heated chemotherapy solution in the abdominal cavity. HIPEC is usually combined with cytoreductive surgery (CRS), which enhances drug absorption and elimination of metastasized cancer cells [2]. Some studies report improved survival rate among patients with metastatic gastric cancer who received HIPEC [3].

Aim

To evaluate the effects of CRS and HIPEC on gene expression and protein levels in peripheral blood of gastric cancer patients.

Methods

Peripheral blood mononuclear cells (PBMCs) were obtained from 6 patients with confirmed gastric cancer undergoing CRS and HIPEC, as well as from 23 healthy controls without any surgery and cancer history. PBMCs were isolated from venous blood using Ficoll–Paque density gradient centrifugation. Blood samples were collected at three points: before surgery, on postoperative days 2–3, and on days 4–8 after surgery. Gene expression levels were evaluated by qRT-PCR. Soluble cytokines concentrations in serum were measured using a multiplex ELISA.



Results

Gene expression analysis revealed that AHR (77%), ELAVL1 (49%), IL12A (18%), IL12B (23%) and PD1 (30%) were downregulated in patients a few days after surgery compared to healthy controls. IL12A and IL12B expression remained low before HIPEC and during the early post-treatment period. Analysis of cytokine concentrations in serum, IL-6 levels were elevated in patients before (48,5 pg/ml) compared to healthy controls (35,5 pg/ml), reflecting tumour-associated and perioperative inflammatory activation [4]. After HIPEC, IL-6 concentrations gradually decreased over time, approaching control levels. IL-12/IL-23 p40 subunit concentration increased four days after HIPEC (140,5 pg/ml while before surgery was 98 pg/ml), which reflects total p40 secretion. The rise in p40 could be a non-specific inflammatory response rather than a specific activation of IL-12 signaling.

Conclusions

The findings indicate that CRS and HIPEC modulate immune-related pathways at both gene and protein levels in gastric cancer patients. Further studies incorporating comparison between CRS with HIPEC and CRS-only groups are needed to clarify the independent immunomodulatory impact of HIPEC and its relevance to postoperative recovery and therapeutic outcomes.

References

1. Khan H, Johnston FM. Current role for cytoreduction and HIPEC for gastric cancer with peritoneal disease. *Journal of Surgical Oncology* [Internet]. 2022 Apr 28;125(7):1176–82. Available from: <https://doi.org/10.1002/jso.26894>
2. Zhu W, Pan S, Zhang J, Xu J, Zhang R, Zhang Y, et al. The role of hyperthermia in the treatment of tumor. *Critical Reviews in Oncology/Hematology* [Internet]. 2024 Oct 24;204:104541. Available from: <https://doi.org/10.1016/j.critrevonc.2024.104541>
3. Bhutiani N, Seo YD, Robinson KA, White MG, Ikoma N, Mansfield PF, et al. HIPEC for metastatic gastric cancer: Moving the needle towards 3-year survival. *European Journal of Surgical Oncology* [Internet]. 2024 Oct 25;51(1):108790. Available from: <https://doi.org/10.1016/j.ejso.2024.108790>
4. Aliyu M, Zohora FT, Anka AU, Ali K, Maleknia S, Saffarioun M, et al. Interleukin-6 cytokine: An overview of the immune regulation, immune dysregulation, and therapeutic approach. *International Immunopharmacology* [Internet]. 2022 Aug 12;111:109130. Available from: <https://doi.org/10.1016/j.intimp.2022.109130>

Associations of MYG1 expression in colorectal cancer tissue with the EMT profile and patients' histopathological and survival data

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Introduction

Colorectal cancer (CRC) remains one of the most prevalent and lethal malignancies worldwide. Metastasis and tumour progression are strongly influenced by epithelial–mesenchymal transition (EMT), a process in which epithelial cells lose their characteristics and gain mesenchymal traits. [1] EMT markers are being investigated as potential prognostic biomarkers that could offer valuable insights into disease progression. [2] MYG1 (Melanocyte Proliferating Gene 1) is associated with processes such as mitochondrial function, RNA processing, and cell stress responses. [3] Its role in CRC progression and the potential link to EMT remain poorly characterized. Understanding the relationship between MYG1 expression, EMT markers, and histopathological variables may provide new insights into tumour biology and prognostic significance in CRC. [3]

Aim

The aim of this study is to evaluate the association between MYG1 expression and EMT, histopathological features, and patient survival indicators, including TNM system and cancer grade, in colorectal cancer tissues.



Methods

RNA was extracted from randomly selected CRC and adjacent normal tissues using a silica-column kit and then converted to cDNA (complementary DNA). Total of 24 samples were tested (12 CRC and 12 normal). MYG1 mRNA levels were analysed by real-time PCR, along with EMT markers CDH1 (E-cadherin) and VIM (Vimentin). Housekeeping gene GAPDH was used. Normalization was performed using the $\Delta\Delta C_t$ method. Histopathological parameters were determined by pathologists. The consent and ethics approval were obtained. Associations between MYG1 expression, EMT markers, and histopathological variables were assessed using Spearman's rank correlation analysis in GraphPad Prism program. Results were considered statistically significant if $p \leq 0.05$.

Results

The results show that MYG1 expression in CRC tissues positively correlated with CDH1 ($r=0.804$; $p=0.003$) and VIM ($r=0.6$; $p=0.043$). A statistically significant positive association was also observed between MYG1 expression and lymph node metastasis (N) ($r=0.662$; $p=0.023$). In contrast, no significant associations were observed between MYG1 and tumour grade (G) ($r=-0.54$; $p=0.09$), primary tumour stage (T) ($r=-0.042$; $p=0.91$), or distant metastasis (M) ($r=-0.130$; $p=0.712$). TNM stage and tumor grade are recognized prognostic indicators, so the observed associations may have implications for patient survival.

Conclusions

MYG1 expression in colorectal cancer tissue is associated with EMT-related markers and may relate to lymph node metastasis. This suggests a potential role in tumour aggressiveness and epithelial-mesenchymal plasticity in CRC. These findings indicate that MYG1 may serve as a potential biomarker for CRC progression and prognosis and as a target for future therapeutic strategies; however, due to its correlation with both CDH1 and VIM, the exact role of MYG1 requires further investigation.

References

1. Vu T, Datta P. Regulation of EMT in colorectal cancer: A culprit in metastasis. *Cancers (Basel)* [Internet]. 2017;9(12):171. Available from: <http://dx.doi.org/10.3390/cancers9120171>
2. Emile MH, Emile SH, El-Karef AA, Ebrahim MA, Mohammed IE, Ibrahim DA. Association between the expression of epithelial-mesenchymal transition (EMT)-related markers and oncologic outcomes of colorectal cancer. *Updates Surg* [Internet]. 2024;76(6):2181–91. Available from: <http://dx.doi.org/10.1007/s13304-024-01865-9>
3. Chen J, Duan S, Wang Y, Ling Y, Hou X, Zhang S, et al. MYG1 drives glycolysis and colorectal cancer development through nuclear-mitochondrial collaboration. *Nat Commun* [Internet]. 2024;15(1):4969. Available from: <http://dx.doi.org/10.1038/s41467-024-49221-0>

Synergistic Anti-Tumor Effects of BAY and Ionizing Radiation in Pancreatic Cancer Cells

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Introduction

Aryl hydrocarbon receptor (AHR) is known to regulate genes involved in cancer cell proliferation, survival, and resistance to therapy [1]. The AHR inhibitor BAY selectively inhibits AHR and blocks signaling pathways that promote tumor survival [2]. Ionizing radiation induces DNA damage, oxidative stress, and cell death in tumor cells by triggering multiple cell death pathways. Combining AHR inhibition with radiation is particularly interesting, because AHR inhibition disrupts DNA repair pathways. Consequently tumor cell's ability to recover from radiation induced damage may be reduced [3].

Aim

The aim of this study is to analyse the response of pancreatic cancer cell lines BxPC-3 and Su.86.86 to the AHR inhibitor BAY and radiation, in order to determine whether these treatments have a synergistic effect.



Methods

Pancreatic cancer cells lines (BxPC-3 and Su.86.86) were seeded in 96-well plate (2x10³ cells/well). 24 hours after seeding the cells were treated with varying doses of BAY compound (1-20 μ M). After 24 hours, the cells were exposed to varying doses of radiation (1-10 Gy). The cell metabolism was measured at 48 hours post radiation treatment by adding resazurin to the wells. Resazurin is reduced by cell into resorufin which was measured spectrophotometrically at 570/620 nm. The results were analysed and the combination index was calculated using SynergyFinder+ software employing Bliss, HSA and ZIP mathematical models.

Results

Synergistic effects of BAY combined with radiotherapy were observed in both BxPC-3 and Su.86.86 cell lines. In BxPC-3 cell line, the combination calculations produced a synergistic, statistically significant mean synergy scores of 7.55 (Bliss) ($p=0.0154$), 7.44 (ZIP) ($p=0.00457$), and 4.47 (HSA) ($p=0.013$). In Su.86.86 cell line, combination calculations produced synergistic mean scores of 4.34 (Bliss) ($p=0.395$), 3.9 (ZIP) ($p=0.402$), however only HSA mathematical model provided a statistically significant synergy score of 8.1 ($p=0.0269$).

Conclusions

The positive mean synergy scores indicate that the combination enhances the therapeutic response more effectively than either treatment alone. These findings suggest that inhibiting AHR may increase the effectiveness of radiation therapy, showing the potential of this combination as a more effective strategy for pancreatic cancer treatment. However, due to ambiguous scores for Su.86.86 cell line, cell-specific mechanisms should be investigated further.

References

1. Wang Z, Snyder M, Kenison JE, Yang K, Lara B, Lydell E, Bennani K, Novikov O, Federico A, Monti S, Sherr DH. How the AHR became important in cancer: The role of chronically active AHR in cancer aggression. *International Journal of Molecular Sciences*. 2020 Dec 31;22(1):387.
2. Christina Kober, Julian Roewe, Norbert Schmees, Lars Roese, Ulrike Roehn, Benjamin Bader, et al. Targeting the aryl hydrocarbon receptor (AhR) with BAY 2416964: a selective small molecule inhibitor for cancer immunotherapy. *J Immunother Cancer*. 2023 Nov;11(11):e007495. doi:10.1136/jitc-2023-007495.
3. K.H. Dittmann, M.C. Rothmund, A. Paasch, C. Mayer, B. Fehrenbacher, M. Schaller, K. Frauenstein, E. Fritsche, T. Haarmann-Stemmann, A. Braeuning, H.P. Rodemann The nuclear aryl hydrocarbon receptor is involved in regulation of DNA repair and cell survival following treatment with ionizing radiation. *Toxicology Letters*, 240(1), 122–129. <https://doi.org/10.1016/j.toxlet.2015.10.017>

Analysis of Aryl Hydrocarbon Receptor and Deoxycytidine Kinase Expression Changes and Gemcitabine Sensitivity in Gemcitabine-Resistant Pancreatic Cancer Cells

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Introduction

Pancreatic cancer (PC) is one of the most aggressive and lethal malignancies, mainly due to its late detection and acquired resistance to chemotherapy[1]. Gemcitabine therapy has been the standard first-line treatment for patients with unresectable pancreatic. Deoxycytidine kinase (DCK) is the main rate-limiting enzyme of intracellular activation and metabolism of gemcitabine, and its expression generally corresponds to the degree of gemcitabine resistance in pancreatic cancer patients[2]. Aryl Hydrocarbon Receptor (AHR) is a transcription factor regulating cancer progression and therapeutic response [3]. Increased AHR expression is thought to decrease gemcitabine response through AHR-ELAVL1-DCK pathway [4], however it is not clear if increased AHR expression is the causal effect of decreased DCK and in turn gemcitabine resistance in gemcitabine resistant PC cells.

Aim

The aim of this research is to evaluate changes in AHR and DCK expression and the response to gemcitabine in gemcitabine-resistant pancreatic cancer cells.



Methods

Commercial BxPC-3 and Su.86.86 pancreatic cancer cell lines were used in this study. Gemcitabine resistance was assessed before and after resistance development by treating cells seeded in 96-well plates with increasing concentrations of gemcitabine. Cell metabolic activity was measured using the resazurin reduction assay, and IC_{50} values were calculated by linear regression analysis. Following resistance acquisition, AHR and DCK mRNA expression was evaluated. RNA was isolated using column-based kits reverse-transcribed to cDNA, and analyzed by real-time PCR using TaqMan probes. Relative gene expression changes were calculated using the $2^{-\Delta\Delta Ct}$ method.

Results

Based on RT-qPCR $2^{-\Delta\Delta Ct}$ analysis, the expression of AHR and DCK genes was decreased in gemcitabine-resistant pancreatic cancer cells compared with non-resistant cells. In the BxPC-3 cell line, relative expression levels were 0.578 for AHR and 0.413 for DCK, while in the SU.86.86 cell line they were 0.459 for AHR and 0.274 for DCK.

Conclusions

Reduced gene expression of AHR and DCK was observed in gemcitabine-resistant pancreatic cancer cells compared with non-resistant cells in both BxPC-3 and SU.86.86 cell lines, showing that increased AHR expression might not be the causal effect of decreased DCK.

References

1. Delle Cave D. Emerging Therapeutic Options in Pancreatic Cancer Management. IJMS [Prieiga per internetą]. 2024 vas 5;25(3):1929. Available from: <http://dx.doi.org/10.3390/ijms25031929>
2. Delle Cave D. Emerging Therapeutic Options in Pancreatic Cancer Management. IJMS [Prieiga per internetą]. 2024 vas 5;25(3):1929. Available from: <http://dx.doi.org/10.3390/ijms25031929>
3. Stukas D, Jasukaitiene A, Bartkeviciene A, Matthews J, Maimets T, Teino I, ir kt. Targeting AHR Increases Pancreatic Cancer Cell Sensitivity to Gemcitabine through the ELAVL1-DCK Pathway. IJMS [Prieiga per internetą]. 2023 rugpj 24;24(17):13155. Available from: <http://dx.doi.org/10.3390/ijms241713155>
4. Stukas D, Jasukaitiene A, Bartkeviciene A, Matthews J, Maimets T, Teino I, ir kt.
5. Targeting AHR Increases Pancreatic Cancer Cell Sensitivity to Gemcitabine through the ELAVL1-DCK Pathway. IJMS [Prieiga per internetą]. 2023 rugpj 24;24(17):13155. Available from: <http://dx.doi.org/10.3390/ijms241713155>

Investigating the Relationship Between c-Myc and miR-143-3p with Temozolomide Resistance in Glioblastoma Cells

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Introduction

Glioblastoma multiforme (GBM) is the most common malignant solid brain tumor. Currently, standard clinical treatment, which includes surgical resection, radiation and chemotherapy, namely temozolomide (TMZ) treatment, is limited by tumor resistance to therapy [1]. While the primary resistance mechanism in GBM is typically MGMT expression, the transcription factor c-Myc drives resistance even in MGMT-deficient tumors by enhancing alternative repair pathways and pro-survival signals [2]. Thus, c-Myc-regulated signaling pathways are considered to be one of the key factors that may influence the TMZ resistance. It has recently been demonstrated that miR-143-3p indirectly influences c-Myc expression in cancer cells. Rather than just binding to c-Myc directly, miR-143-3p dismantles the signaling networks that c-Myc relies on for stability and transcriptional activation [3].

Aim

The aim of the study is to determine the functional relationship between c-Myc and miR-143-3p with regards to TMZ resistance.

Methods

The expression vectors pTO/Myc and pLKO/miR-143-3p, encoding c-Myc and miR-143-3p were constructed by using standard molecular cloning techniques. To generate a stable glioblastoma cell line with c-Myc overexpression (U87Myc), U87 cells transfected with pTO/Myc were cultured under zeocin selection for three weeks. Western blot analysis was performed to confirm c-Myc protein expression in U87Myc cells. The effect of c-Myc overexpression on cellular response to TMZ was evaluated in U87Myc and control U87 cells using the MTT assay. To assess the contribution of miR-143-3p to TMZ sensitivity, U87Myc cells were transfected with pLKO/miR-143-3p and analyzed by MTT assay. All experiments were performed in at least three independent biological replicates. Statistical analysis was conducted using Student's t-test, and

differences were considered statistically significant at $p < 0.05$.

Results

Preliminary results indicate that U87Myc cells exhibit reduced sensitivity to TMZ compared to parental U87 cells. Transfection with miR-143-3p was associated with a partial reduction of TMZ resistance in U87Myc cells, thus, counteracting c-Myc effect.

Conclusions

These findings provide initial evidence for the involvement of the c-Myc/miR-143-3p/axis in modulating TMZ response in glioblastoma cells.

References

1. Huang B, Li X, Li Y, Zhang J, Zong Z, Zhang H. Current Immunotherapies for Glioblastoma Multiforme. *Frontiers in Immunology*. 2021 Mar 9;11.
2. Sui M, Cai Q, Sun Z, Li J, Zhang Y, Li M, et al. ACYP2 induces temozolomide resistance in glioblastoma by promoting PARP1-mediated DNA damage repair. *Mol Cancer Res*. 2026 Feb;24(1):7–20.
3. Chen X, Guo X, Zhang H, Xiang Y, Chen J, Yin Y, et al. Role of miR-143 targeting KRAS in colorectal tumorigenesis. *Oncogene*. 2009 Jan 12;28(10):1385–92.

Functional analysis of U87 glioblastoma cells under inducible Sox2 and Oct4 expression

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Introduction

Multiforme glioblastoma (GBM) is the most common malignant solid tumor of the central nervous system (CNS). The current standard clinical treatment includes surgical resection, radiation, and chemotherapy. The effectiveness of the treatment is limited because GBM patients have an average survival of 15 months, and the probability of surviving longer than 5 years is less than 5%.(1) Treatment is particularly complicated by chemoresistance, which is mediated by Glioma Cancer Stem Cells (GCSCs).(2) The GCSC phenotype is driven by the Yamanaka transcription factors Sox2, Oct4, c-Myc, and Klf4. Lopez-Bertoni and co-authors (3) have shown that the expression of only two genes – SOX2 and OCT4 – is sufficient for stemness induction in glioblastoma cells, meaning that all four Yamanaka factors are not required for the reprogramming typically used to create induced Pluripotent Stem Cells (iPSC).

Aim

The objective of this study was to investigate how ectopic expression of the SOX2 and OCT4 genes influences the biological functions of glioblastoma cells.

Methods

Modified glioblastoma U87 cells, named U87-TSO, which synthesize the Sox2 and Oct4 proteins in a tetracycline-inducible manner, were used for the experiments. The proliferation rate of these cells in both tetracycline-treated and control U87-TSO cells was assessed using the MTT assay. The MTT assay was also used to evaluate the U87-TSO response to the anti-cancer drug temozolomide (TMZ). The ability to form spheroid structures was also evaluated by culturing the cells under conditions that promote a stem-like phenotype. The cell

migration rate was investigated by performing scratch assay. All research findings were evaluated using arithmetic mean and standard deviation. Student's t-test was used to determine the significance level (p) to evaluate data reliability. Results were considered statistically significant and reliable if $p < 0.05$.

Results

The MTT assay showed that proliferation slows down in tetracycline-induced cells, and significant changes in cell morphology were also recorded. The ectopic expression of SOX2 and OCT4 did not have a statistically significant effect on the cellular response to TMZ, but it did maintain the viability of U87-TSO cells. U87-TSO cell spheroids remained viable for longer than spheroids of unmodified U87 cells. The scratch assay experiments showed that the migration of U87-TSO cells is significantly slower compared to U87 cells.

Conclusions

These studies provide new insights into the stemness phenotype regulators Sox2 and Oct4 and the importance of their gene expression level in the process of glioblastoma pathogenesis.

References

1. Girardi F, Matz M, Stiller C, You H, Gragera RM, Valkov MY, et al. Global survival trends for brain tumors, by histology: analysis of individual records for 556,237 adults diagnosed in 59 countries during 2000–2014 (CONCORD-3). *Neuro Oncol* [Internet]. 2023 Mar 14;25(3):580–92. Available from: <https://dx.doi.org/10.1093/neuonc/noac217>
2. Abbas S, Singh SK, Saxena AK, Tiwari S, Sharma LK, Tiwari M. Role of autophagy in regulation of glioma stem cells population during therapeutic stress. *J Stem Cells Regen Med* [Internet]. 2020 Dec 11;16(2):80–9. Available from: <https://pubmed.ncbi.nlm.nih.gov/33414584/>
3. Lopez-Bertoni H, Lal B, Li A, Caplan M, Guerrero-Cázares H, Eberhart CG, et al. DNMT-dependent suppression of microRNA regulates the induction of GBM tumor-propagating phenotype by Oct4 and Sox2. *Oncogene* [Internet]. 2015 Jul 23;34(30):3994–4004. Available from: <https://pubmed.ncbi.nlm.nih.gov/25328136/>

Molecular Profiling of Clinically Relevant Platelet Antigens (HPA-1, HPA-3, HPA-5 and HPA-15) in Lithuanian Blood Donors: Implications for Platelet Transfusion Refractoriness

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Introduction

Immune-mediated platelet transfusion refractoriness (PTR) commonly results from alloantibodies against HLA class I antigens. However, antibodies targeting human platelet antigens (HPA) may also impair post-transfusion platelet increments. Antibodies directed against HPA-1, HPA-3, HPA-5 and HPA-15 are considered clinically significant and have been implicated in PTR, post-transfusion purpura and fetal/neonatal alloimmune thrombocytopenia [1,2]. Determining population-specific frequencies of these antigens is essential for establishing HPA-typed donor panels to support compatible platelet transfusion strategies [3]. No HPA genotype data have previously been reported for the Lithuanian donor population.

Aim

To characterize allele and genotype frequencies of HPA-1, HPA-3, HPA-5 and HPA-15 among Lithuanian blood donors and evaluate their potential relevance for managing platelet transfusion refractoriness.

Methods

Fifty voluntary blood donors (30 males, 20 females) from the Blood Centre of the Hospital of Lithuanian University of Health Sciences Kaunas clinics were included in this study. Genomic DNA was isolated from peripheral blood samples, and genotyping of four HPA systems (HPA-1, -3, -5 and -15) was performed using the FluoGene® HPA genotyping assay (Inno-Train Diagnostik, Germany). Allele and genotype frequencies were calculated using descriptive statistics. Hardy–Weinberg equilibrium (HWE) was evaluated using the chi-square test. Genotype distributions were compared between sexes. All statistical analyses were performed using IBM SPSS Statistics software (version 25.0; IBM Corp., USA).

Results

HPA-1a was the predominant allele (frequency 0.83), with HPA-1a/a, 1a/1b and 1b/1b genotypes observed in 68%, 30% and 2% of donors, respectively. For HPA-3, both alleles were common (3a = 0.55, 3b = 0.45), and the heterozygous 3a/3b genotype was most frequent (54%). HPA-5 was strongly skewed towards the 5a allele (5a = 0.96, 5b = 0.04), with 92% of donors being 5a/5a and 8% 5a/5b. HPA-15 showed nearly equal allele frequencies (15a = 0.49, 15b = 0.51), with 26% 15a/15a, 46% 15a/15b and 28% 15b/15b genotypes. All four systems were in HWE ($p > 0.05$), and no significant differences were observed across sex.

Conclusions

This study provides the first characterization of clinically relevant HPA systems in Lithuanian blood donors. The identified allele and genotype distribution supports future development of HPA-typed donor registries aimed at improving platelet transfusion compatibility for alloimmunized patients with platelet transfusion refractoriness. Rare donor genotypes, such as HPA-1b/b or carriers of the HPA-5b allele, may be of particular value for supplying matched platelet units in refractory cases [1,2,5]. The observed frequencies were generally comparable to those reported in other European populations, including Greek and Northern European donor cohorts [3,4].

References

1. de Vos TW, Porcelijn L, Hofstede-van Egmond S, Pajkrt E, Oepkes D, Lopriore E, van der Schoot CE, Winkelhorst D, de Haas M. Clinical characteristics of human platelet antigen (HPA)-1a and HPA-5b alloimmunised pregnancies and the association between platelet HPA-5b antibodies and symptomatic fetal neonatal alloimmune thrombocytopenia. *Br J Haematol.* 2021;195(4):595–603. doi:10.1111/bjh.17742.
2. Alm J, Leino EB, Kiely P, Kaplan C, Kjeldsen-Kragh J, Tiller H, et al. Anti-HPA-5b antibodies in suspected fetal and neonatal alloimmune thrombocytopenia (FNAIT): prevalence, clinical significance and neonatal outcomes. *Br J Haematol.* 2022;199(1):45–53. doi:10.1111/bjh.18342.
3. Nejad SA, Aghaei M, Abdi M, Rahimi H, Shakiba E, Rostami S. Association of HPA genotypes with autoimmune thrombocytopenia in the Lorestan population. *Immunohematology.* 2024;40(2):65–72. doi:10.21307/immunohematology-2024-012.
4. Kaltsounis D, Routsias JG, Panagopoulou V, et al. Frequency of human platelet antigens (HPA) in the Greek population and implications for platelet transfusion support. *Vox Sang.* 2024;119(1):45–54. doi:10.1111/vox.13313.
5. Okubo M, Kojima H, Setoguchi Y, Iriyama T, Sato T. Marked thrombocytopenia in a neonate associated with maternal anti-HPA-5b and anti-HLA class I antibodies. *Transfus Med Hemother.* 2019;46(3):226–229. doi:10.1159/000496076.

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Abstracts

Mechanical Small-Bowel Obstruction Caused by Gallstone Ileus: A Case Report

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Introduction

Gallstone ileus is a rare complication of gallstone disease caused by passage of a large gallstone through a biliary–enteric fistula, leading to mechanical small bowel obstruction (SBO). Because symptoms are often non-specific, diagnosis is frequently delayed [1]. This report describes a 53-year-old woman who presented with acute abdominal symptoms and was found to have gallstone ileus secondary to a cholecysto-duodenal fistula.

Case Presentation

A 53-year-old female arrived at Kaunas Clinics Emergency Department with severe (7 VAS) generalised abdominal pain, bloating, nausea, vomiting and inability to pass stools or gas for five days. Examination revealed a distended, diffusely tender abdomen with negative rebound tenderness. Ultrasound showed cholelithiasis and dilated intrahepatic bile ducts. Contrast-enhanced CT revealed a small, non-contractile gallbladder surrounded by air and inflamed adipose tissue. A cholecysto-duodenal fistula was identified, and a 3×2×4 cm ectopic partially calcified gallstone was visualised impacted in the terminal ileum, causing mechanical SBO with dilated jejunal loops (3,2 cm) above the obstruction. The patient was admitted to the Department of Surgery for definitive treatment where operative findings confirmed CT results.

Discussion

Gallstone ileus accounts for 1–4% of mechanical bowel obstruction and predominantly affects elderly women [2]. Chronic cholecystitis may lead to biliary-enteric fistula formation, allowing gallstones to migrate into the bowel and lodge most commonly in the ileum [3]. Symptoms include abdominal pain, distension, vomiting and constipation [4]. CT is the diagnostic gold standard, demonstrating pneumobilia, ectopic gallstone and obstruction (Rigler's triad) as well as abnormal gallbladder (fluid accumulation within the wall, presence of air-fluid level) [5]. Treatment requires surgical removal of the obstructing stone; options include enterolithotomy alone, single-stage surgery

with cholecystectomy and fistula repair, or staged repair depending on patient stability [6].

Conclusions

Gallstone ileus should be considered in patients with SBO and concurrent biliary findings. Identification of characteristic CT findings, particularly Rigler's triad and a biliary-enteric fistula, enables timely diagnosis and surgical planning, thereby reducing morbidity.

References

1. Arslani N. The Gallstone Ileus: A Retrospective Study and Review of the Literature. *Albanian Journal of Trauma and Emergency Surgery*. 2024 Jan 20;8(1):1377–80. doi:10.32391/ajtes.v8i1.355
2. Abich E, Glotzer D, Murphy E. Gallstone Ileus: An Unlikely Cause of Mechanical Small Bowel Obstruction. *Case Rep Gastroenterol*. 2017;11(2):389. doi:10.1159/000475749
3. Kela R, Katara S, Patel L, Modh F, Yagnik VD. Cholecystocolonic Fistula Presenting With Gallstone Ileus: A Report of a Rare Surgical Case. *Cureus*. 2025 Oct 1;17(10):e93624. doi:10.7759/cureus.93624
4. Petracca G, Zappia F, Silvaggio F. Gallstones Ileus. *Intestinal Obstructions*. 2020 Sep 22; doi:10.5772/intechopen.93576
5. Chang L, Chang M, Chang HM, Chang AI, Chang F. Clinical and radiological diagnosis of gallstone ileus: a mini review. *Emergency Radiology* 2017;25:2. 2017 Nov 16;25(2):189–96. doi:10.1007/s10140-017-1568-5
6. Vera-Mansilla C, Sanchez-Gollarte A, Matias B, Mendoza-Moreno F, Díez-Alonso M, Nisa FGM. Surgical Treatment of Gallstone Ileus: Less Is More. *Visc Med*. 2021 Feb 1;38(1):72. doi:10.1159/000518451

Therapeutic Application of Cryoablation for Parathyroid Adenoma: Case Presentation.

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Introduction

Treatment of parathyroid adenomas (PA) traditionally relies on open surgery, which may be unsuitable for elderly or comorbid patients [1]. We report the first use of percutaneous cryoablation for PA at Kaunas Clinics, demonstrating its feasibility as a minimally invasive alternative to surgery.

Case Presentation

A 79-year-old woman was admitted with hypercalcemia. Intravenous (IV) fluids and loop diuretics were initiated, along with correction of hypophosphatemia. The patient had a history of total thyroidectomy 30 years prior. Ultrasound (US) revealed a lesion in the left paratracheal region, measuring $1.1 \times 0.5 \times 1.4$ cm. Fine-needle aspiration with parathyroid hormone (PTH) washout showed markedly elevated PTH (210.6 pmol/L), confirming PA. Despite conservative management, calcium (Ca) levels remained elevated. The patient was referred to an interventional radiologist for planned cryoablation, as the patient was not eligible



for surgery. Under US guidance and general anesthesia, hydrodissection (HD) with physiological saline was performed to separate the lesion from the trachea and maintained this safe plane throughout the procedure. A single 17G cryoprobe was inserted into the lesion under US guidance and two freeze-thaw cycles (10-minute and 6-minute freezes) were applied. Ice-ball formation was monitored using US and computed tomography (CT), confirming complete lesion coverage. Follow-up CT showed no acute post cryoablative complications. Post-procedural laboratory results demonstrated a rapid decline in PTH (34.70 to 2.45 pmol/L) and a progressive decrease in serum Ca to normal levels (3.08 to 2.39 mmol/L) within 24 hours.

Discussion

The procedure was technically challenging due to the patient's history of thyroidectomy, which changed the cervical soft-tissue anatomy [2]. Identification of the recurrent laryngeal nerve was crucial and difficult; therefore, HD was used to safely separate the PA from the nerve's expected location, maintaining a safe distance throughout the procedure [3].

Conclusions

This case demonstrates that percutaneous cryoablation may serve as a safe, minimally invasive alternative to surgery for selected patients.

References

1. Laird AM, Libutti SK. Minimally Invasive Parathyroidectomy Versus Bilateral Neck Exploration for Primary Hyperparathyroidism. *Surg Oncol Clin N Am*. 2016;25(1):103-118. doi:10.1016/j.soc.2015.08.012
2. Richer SL, Wenig BL. Changes in surgical anatomy following thyroidectomy. *Otolaryngol Clin North Am*. 2008;41(6):1069-vii. doi:10.1016/j.otc.2008.06.001
3. Ma Y, Wu T, Yao Z, et al. Continuous, Large-Volume Hydrodissection to Protect Delicate Structures around the Thyroid throughout the Radiofrequency Ablation Procedure. *Eur Thyroid J*. 2021;10(6):495-503. doi:10.1159/000519625

Intestinal Perforation and Peritonitis in a Patient after Colectomy for Ulcerative Colitis: A Case Report of Unexpected Crohn's Disease

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Introduction

Inflammatory bowel disease is a chronic condition that includes ulcerative colitis (UC) and Crohn's disease (CD), which share overlapping symptoms but differ in their distribution and depth of gastrointestinal inflammation [1–3].

Case Presentation

A 33-year-old woman was admitted to the Gastroenterology Department with a severe flare of ulcerative colitis and was started on methylprednisolone. A sigmoidoscopy showed Mayo 3 disease activity. UC did not respond to steroids, cyclosporine treatment was initiated. Patient's condition improved, ustekinumab therapy was initiated and she was discharged for outpatient follow-up. However, patient was readmitted a week later with a recurrent flare that did not improve on conservative therapy. An urgent colectomy was done. A few days after discharge, she presented to the emergency department with signs of ileus. After initial treatment patient's condition worsened and signs of peritonitis appeared, laparotomy was performed. Local purulent peritonitis and a small bowel perforation of 3 mm were found. Blood tests unveiled worsening anemia. To determine the source of bleeding enteroscopy was performed and mucosa appeared almost completely ulcerated. A follow-up CT scan revealed an intra-abdominal abscess, surgical revision was required. It confirmed right-sided peritonitis and multiple small-bowel perforations. About 70 cm of the affected intestine was removed. As transfusion-dependent anemia persisted a repeat enteroscopy was performed and showed several aphthous ulcers. One required treatment using hemoclips. Biopsies were taken and showed active chronic ileitis without clear ulceration or immune granulomas. Based on the surgical findings, small bowel involvement, clinical course and biopsy results the diagnosis was changed to severe CD. Biological therapy was started.

Discussion

Small bowel perforation is a rare but life-threatening complication of CD (1–3%), typically seen in advanced disease [4]. In this case, its occurrence reflects difficulties in differential diagnosis and prolonged uncontrolled inflammation.

Conclusions

This case highlights that delayed recognition of CD, after initially being misdiagnosed as UC, resulted in severe disease-related complications.

References

1. Nakase H, Uchino M, Shinzaki S, Matsuura M, Matsuoka K, Kobayashi T, et al. Evidence-based clinical practice guidelines for inflammatory bowel disease 2020. *J Gastroenterol* 2021 Jun 1;56(6):489.
2. Ho GT, Porter RJ, Kalla R. Ulcerative colitis: Recent advances in the understanding of disease pathogenesis. *F1000Research* 2020 9:294. 2020 Apr 24;9:294.
3. Calvez V, Puca P, Di Vincenzo F, Del Gaudio A, Bartocci B, Murgiano M, et al. Novel Insights into the Pathogenesis of Inflammatory Bowel Diseases. *Biomedicines*. 2025 Feb 1;13(2).
4. Bhattacharya SM, Moradi DM, Bhandari BM. Crohn's Disease Mimicking Perforated Appendicitis. *American Journal of Gastroenterology*. 2017 Oct

When Acute Appendicitis Is Not Appendicitis: Appendiceal Intussusception Caused by Adenocarcinoma

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Introduction

Appendiceal intussusception is an exceptionally rare condition, with a reported incidence of approximately 0.01% among appendectomy specimens. It is most often associated with a structural abnormality or a neoplastic lead point in adults [1, 2]. Because clinical presentation frequently mimics acute appendicitis, the diagnosis is commonly made incidentally during surgery. Although malignancy-related appendiceal intussusception has been reported, it remains an uncommon finding [2].

Case Presentation

A 76-year-old woman presented with intermittent periumbilical abdominal pain radiating to the right lower quadrant that had persisted for several days. Laboratory evaluation revealed CRP of 12.8 mg/L and WBC count of $6.9 \times 10^9/L$. Abdominal ultrasound demonstrated an inflamed appendix measuring 2.1 cm in diameter, with wall thickening and periappendiceal fat infiltration. Laparoscopic appendectomy was performed. Intraoperatively, the appendix was found to be hyperemic, enlarged, and invaginated into the cecal lumen, consistent with appendiceal intussusception. Postoperative recovery was uneventful. Histopathological examination revealed invasive adenocarcinoma (pT3NxMxVLi0RxG1). The tumor infiltrated the submucosa and muscularis propria, without evidence of vascular or lymphatic invasion.

Discussion

In adults, appendiceal intussusception is frequently associated with a pathological lead point, including both benign lesions and malignant neoplasms such as adenocarcinoma [3]. As described in similar cases, the tumor may act as a mechanical lead point, initiating



inversion of the appendix into the cecum and potentially resulting in delayed or missed diagnosis if histopathological assessment is not carefully performed [2]. Because preoperative imaging rarely identifies appendiceal intussusception, routine microscopic evaluation of appendectomy specimens is essential, particularly to exclude malignancy in elderly patients [4].

Conclusions

This case demonstrates that appendiceal intussusception should prompt consideration of an underlying neoplastic process, especially in older adults. Thorough intraoperative assessment and mandatory histopathological examination are crucial for the detection of occult malignancy and for guiding appropriate oncologic follow-up.

References

1. Singhal, S., Centauri, S., Kumar, S., Arachchi, A. and Naqash, N. (2019), Appendiceal intussusception. ANZ Journal of Surgery, 89: E263-E264. <https://doi-org.ezproxy.dbazes.lsmuni.lt/10.1111/ans.14349>
2. Siddiqui G, Lipka S, Freedman L, Takeshige U, Rizvon K, Mustacchia P. Mucinous adenocarcinoma of the appendix presenting as intussusception in 27 year old female. J Gastrointest Oncol. 2012 Dec;3(4):369-72. doi: 10.3978/j.issn.2078-6891.2012.033. PMID: 23205315; PMCID: PMC3492470.
3. Liu, X., Liu, G., Liu, Y. et al. Complete appendiceal inversion with local high-grade intraepithelial neoplasia in an adult female: a case report. BMC Surg 19, 168 (2019). <https://doi.org/10.1186/s12893-019-0632->
4. Long Y, Xiang YN, Huang F, Xu L, Li XY, Zhen YH. Appendiceal intussusception complicated by adenocarcinoma of the cecum: A case report. World J Clin Cases. 2024 Mar 16;12(8):1461-1466. doi: 10.12998/wjcc.v12.i8.1461. PMID: 38576819; PMCID: PMC10989461.

Frequent Urinary Tract Infections Due to Sigmoid Colon Cancer with Colovesical Fistula

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Introduction

The spreading of colon cancer to the bladder is a rare complication of late-stage colon cancer. The tumor may form a fistula between the colon and the bladder. The main symptoms of colovesical fistula are gas during urination, urinary tract infections (UTI) and abdominal pain. Additionally for colon cancer: blood in stool and iron deficiency anemia[1,2].

Case Presentation

A 33-year-old woman consulted a family doctor about general weakness and drowsiness. Laboratory tests revealed low hemoglobin (Hb) (96.0 g/l), MCV (76.0 fl), MCH (24.3 pg), and ferritin (4.7 ug/l). Vitamin B12 and folic acid levels were normal. Iron deficiency anemia was associated with heavy menstrual bleeding. Hb did not increase significantly with iron supplements. After intravenous iron infusion, Hb increased to 99 g/l. No changes were found during fibroesophagogastroduodenoscopy. After a month the patient experienced frequent, painful urination with a fever of 38.5°C, increasing weakness. No defecation changes or gas during urination was reported. UTI was diagnosed and the patient had a history of frequent UTI's. Despite antibiotic treatment she also complained of sudden hematuria, more intense dysuria and persistent fever. Ultrasound of the urinary bladder revealed cloudy urine and a thickened bladder wall (~0.9 cm) along with hyperechoic insertions-suspected air in the bladder due to possible perforation. Cystoscopy revealed a tumor mass in the posterior wall of the bladder. Magnetic resonance imaging scan of the pelvis showed infiltration of the sigmoid colon with neoplastic masses extending into the bladder. Colonoscopy showed an ulcerative, fragile tumor obstructing the lumen. Biopsy confirmed adenocarcinoma.



Left hemicolectomy with anastomosis, bladder resection, and cystostomy were performed. The biopsy confirmed pT4b N0 Mx, G2 stage. After operation, adjuvant treatment with capecitabine was started, followed by FOLFOX scheme. No metastases were detected.

Discussion

Colovesical fistulas may manifest as frequent UTI's [3]. No bowel obstruction and no gas during urination can be misleading in differential diagnosis. Treatment involves surgical resection, chemotherapy or combined oncological treatment [4].

Conclusions

Colovesical fistula is a rare colon cancer complication that can be misdiagnosed as urinary tract infections, especially to younger women.

References

1. Cherukula A, Agrawal S, Jajoo SN, Saxena G. Radical Resection for Locally Advanced Colon Cancer With Bladder Involvement Treated in a Tertiary Health Care Centre. *Cureus*. 2024;16(2):e54333.
2. Skierucha M, Barud W, Baraniak J, Krupski W. Colovesical fistula as the initial manifestation of advanced colon cancer: A case report and review of literature. *World J Clin Cases*. 2018;6(12):538-541. doi:10.12998/wjcc.v6.i12.538
3. An Y, Cao Q, Liu Y, et al. Sigmoido-vesical fistula secondary to sigmoid colon cancer presenting as urinary tract infection with *Lactococcus lactis*: A case report. *Front Oncol*. 2023;13:1054978.
4. Dong C, Pan X, Wei L, et al. Colon cancer with colovesical fistula: A report of four cases and a literature review. *Oncol Lett*. 2023;25(4):158. Published 2023 Mar 7. doi:10.3892/ol.2023.13744

When Adhesive Small Bowel Obstruction Progresses Rapidly: A Diagnostic Challenge

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Introduction

Small bowel obstruction (SBO) is a surgical emergency, most commonly caused by postoperative intra-abdominal adhesions, with diagnosis typically supported by clinical assessment, laboratory and computed tomography (CT) [1-3]. Clinical evolution in adhesive small bowel obstruction can be unpredictable [5]. This case demonstrates rapid progression of adhesive SBO resulting in bowel necrosis with initially unremarkable laboratory and imaging findings.

Case Presentation

A 75 year-old female patient presented to the emergency department with epigastric pain, nausea. In 2024, the patient had surgical treatment for gastric tumour. On admission laboratory tests were within normal limits - CRP was <5 mg/l, WBC $6,3 \times 10^9$ /l. CT showed no acute pathological findings. After examination the surgeon concluded that no surgical intervention was needed, only symptomatic treatment - intravenous fluid therapy, analgesia. Within 24 hours, the patient's condition deteriorated with absent bowel sounds, positive peritoneal sign, and elevated inflammatory markers - CRP was 242 mg/l, WBC $12,52 \times 10^9$ /l. Due to rapid clinical deterioration, emergency laparotomy was performed. Intraoperatively, adhesions were dissected, revealing a 25 cm necrotic segment of small intestine, which was resected. Postoperatively, patient developed septic shock and admitted to the ICU, where broad-spectrum antibiotic therapy led to clinical improvement by the second postoperative day. She was discharged after a total hospital stay of 19 days without complications.

Discussion

Adhesive SBO occurs in 9% of patients after abdominal surgery and causes 20% all

surgical emergencies [4][5]. Clinical presentation is often non-specific, including abdominal pain, nausea, vomiting, abdominal distension, and obstipation, especially in elderly patients [2]. Strangulation may rapidly compromise bowel perfusion, resulting in ischemia and necrosis [6]. Diagnosis is based on clinical presentation and physical examination, supported by inflammatory markers and CT, although early signs of ischemia may not always be apparent [3]. Rapid clinical deterioration can develop, making repeated clinical assessment essential for timely surgical management.

Conclusions

In this case, SBO progressed rapidly to bowel necrosis and required urgent surgical intervention. Diagnosis may be difficult in early stages, as objective findings can appear normal. Close clinical monitoring, repeated evaluation and timely surgical intervention are essential to prevent severe complications.

References

1. Ten Broek RPG, Krielen P, Di Saverio S, Coccolini F, Biffl WL, Ansaloni L, et al. Bologna guidelines for diagnosis and management of adhesive small bowel obstruction (ASBO): 2017 update of the evidence-based guidelines from the world society of emergency surgery ASBO working group. *World J Emerg Surg* 2018 -06-19;13(1).
2. Tong JWV, Lingam P, Shelat VG. Adhesive small bowel obstruction – an update. *Acute Medicine & Surgery* 2020 -01;7(1).
3. Hajibandeh S, Hajibandeh S, Panda N, Khan RMA, Bandyopadhyay SK, Dalmia S, et al. Operative versus non-operative management of adhesive small bowel obstruction: A systematic review and meta-analysis. *International Journal of Surgery* 2017 -07-17;45:58.
4. Smolarek S, Shalaby M, Paolo Angelucci G, Missori G, Capuano I, Franceschilli L, et al. Small-Bowel Obstruction Secondary to Adhesions After Open or Laparoscopic Colorectal Surgery. *JSLs* 2016;20(4).
5. Ghimire P, Maharjan S. Adhesive Small Bowel Obstruction: A Review. *J Nepal Med Assoc* 2023 -04-01;61(260):390.
6. Catena F, Di Saverio S, Coccolini F, Ansaloni L, De Simone B, Sartelli M, et al. Adhesive small bowel adhesions obstruction: Evolutions in diagnosis, management and prevention? *WJGS* 2016 -03-27;8(3).

Recurrent Non-lactational Breast Abscess with Fistula Formation Caused by Salmonella Enteritidis in a Male Patient: A Case Report

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Introduction

Breast abscess in male patients is a rare entity, accounting for 1–3% of all documented breast diseases, while Salmonella-associated cases are exceptionally uncommon [1,2]. This case demonstrates an unusual clinical presentation and highlights diagnostic and therapeutic challenges.

Case Presentation

A 52-year-old man presented with a two-year history of recurrent left breast pain, swelling and intermittent purulent discharge, with fever episodes. The patient underwent multiple incision and drainage procedures combined with empirical antibiotic therapy. Relevant comorbidities included poorly controlled type 2 diabetes mellitus. Examination revealed fistulous openings in the left inframammary region with purulent secretion. MRI was nonspecific, showing superficial abscesses. Histopathological examination of a surgical biopsy from the left breast lesion excluded malignancy. Pus culture revealed Salmonella enteritidis, susceptible to ampicillin and trimethoprim-sulfamethoxazole. Blood culture was not performed, and the patient was HIV-negative. The man reported no occupational or household exposure to poultry. Despite targeted antibiotic therapy, persistent fistulae required surgical intervention. Surgical excision of two fistulous tracts in the left breast was done. Recovery was uncomplicated.

Discussion

Breast abscess in men is usually caused by Staphylococcus aureus, whereas Salmonella species are reported mainly in isolated cases[2,3]. Salmonella-associated breast

abscesses occur more often in patients with metabolic or immunological risk factors, such as diabetes, likely due to hematogenous spread [2,3,4]. Reports highlight Salmonella-associated breast abscesses as diagnostically challenging and often imitating inflammatory or neoplastic disease [5]. As imaging and histopathology are nonspecific, microbiological culture is essential for diagnosis [2,4]. Management requires culture-directed antimicrobial therapy, combined with surgical intervention for source control, with successful outcomes [2,3,4].

Conclusions

Salmonella-associated breast abscess, although rare, should be considered in recurrent or treatment-resistant infections. Early microbiological investigation and combined medical and surgical management are essential for accurate diagnosis and favorable outcomes [2,3,4].

References

1. Alzayyat R, Bokhari D, Almuhanha A, Al-Maghrebi D. Male breast abscess: a rare entity. *Radiol Case Rep.* 2024;19(3):1122–1127. doi:10.1016/j.radcr.2023.12.014.
2. Al-Ishaq Z, Sikdar O, Dobie D, Sircar T. Salmonella enteritidis breast abscess: an unusual cause of breast abscess in the UK. *BMJ Case Rep.* 2018;2018:bcr2018226075. doi:10.1136/bcr-2018-226075.
3. Agrawal S, Yadav VS, Srivastava A, Kapil A, Dhawan B. Breast abscess due to Salmonella paratyphi A: case reports with review of literature. *Intractable Rare Dis Res.* 2018;7(2):130–133. doi:10.5582/iridr.2018.01031.
4. Alsaket L, Alzahrani M, Almutairi M, et al. Granulomatous mastitis with breast abscess caused by Salmonella. *Cureus.* 2023;15(5):e39585. doi:10.7759/cureus.39585.
5. Kubota K, et al. Refractory granulomatous lobular mastitis associated with subpectoral abscess and localized Salmonella infection: a case report. *JPRAS Open.* 2025;45:454–459. doi:10.1016/j.jpra.2025.08.004.

Complicated Crohn's Disease with Biologic Therapy Challenges

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Introduction

Crohn's disease is a chronic inflammatory disease of the gastrointestinal tract that might lead to progressive bowel damage and disability [1]. Almost any organ system can be affected, including the musculoskeletal, renal, hepatopancreatobiliary, pulmonary and ocular systems [2].

Case Presentation

A 15-year-old male presented with recurrent bloody diarrhea over one year. Colonoscopy revealed chronic ulcers in the ascending colon, laboratory and histopathological findings confirmed Crohn's disease. The disease was complicated by extensive extraintestinal manifestations including a nasal septal defect, conjunctivitis, stomatitis, arthritis and vasculitis. Initial treatment with oral corticosteroids and azathioprine was discontinued due to intolerance and therapy was escalated to infliximab. The patient developed an acute infusion reaction followed by an anaphylactic reaction, necessitating a switch to adalimumab. The disease was further complicated by severe protein-energy malnutrition (BMI 12 kg/m²) requiring parenteral nutrition, which was poorly tolerated. One year after diagnosis, a severe disease flare required right hemicolectomy. Persistent disease activity and nutritional failure led to gastrostomy placement and renewed parenteral nutrition. Vedolizumab therapy was subsequently initiated; however, disease progression with abscess and fistula formation required further surgery. Ustekinumab was finally introduced, resulting in clinical stabilization.

Discussion

Crohn's disease is a multisystem disorder with major nutritional, growth, and surgical implications, as illustrated by our patient. Although stricturing or penetrating disease occurs in roughly 25 % of pediatric cases and 12–35 % eventually require surgery, this patient experienced an unusually severe course, with early profound malnutrition, widespread extraintestinal involvement and the need for hemicolectomy alongside prolonged, specialized nutritional support [3–5].

Conclusions

Sequential biologic therapies – including infliximab, adalimumab, vedolizumab and ustekinumab - combined with surgery and intensive nutritional support were required to achieve clinical stabilization, highlighting the severe, refractory course, extraintestinal manifestations and the need for a highly individualized, multidisciplinary approach [6].

References

1. [1] Dolinger M, Torres J, Vermeire S. Crohn's disease. *The Lancet*. 2024; 403(10432):1177 – 1191. Available from [https://www.thelancet.com/article/S0140-6736\(23\)02586-2/abstract](https://www.thelancet.com/article/S0140-6736(23)02586-2/abstract)
2. [2] Rogler G, Singh A, Kavanaugh A, Rubin DT. Extraintestinal Manifestations of Inflammatory Bowel Disease: Current Concepts, Treatment, and Implications for Disease Management. *Gastroenterology*. 2021;161(4):1118-1132. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC8564770/>
3. [3] Boscarelli A, Bramuzzo M. Pediatric stricturing Crohn's disease. *World J Gastroenterol*. 2024;30(12):1651-1654. Available from: <https://pubmed.ncbi.nlm.nih.gov/38617744/>
4. [4] Carter M, Lim II. Surgical management of pediatric Crohn's disease. *Seminars in Pediatric Surgery*. 2024;33(2):151401. Available from: <https://www.sciencedirect.com/science/article/abs/pii/S1055858624000222/>
5. [5] Kolho KL, Nikkonen A, Merras-Salmio L, Molander P. The need for surgery in pediatric patients with inflammatory bowel disease treated with biologicals. *Int J Colorectal Dis*. 2024;39(1):58. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11045629/>
6. [6] Vuijk AS, Camman AE, Ridder L. Considerations in Paediatric and Adolescent Inflammatory Bowel Disease. *Journal of Crohn's and Colitis*. 2024;18(2):31–45. Available from: https://academic.oup.com/ecco-jcc/article/18/Supplement_2/ii31/7848695

Non-cirrhotic Portal Vein Thrombosis

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Introduction

Portal vein thrombosis (PVT) is a partial or complete non-malignant obstruction of the portal vein (PV) that may present as an acute or chronic condition [1]. It is most commonly associated with liver cirrhosis, while in non-cirrhotic patients myeloproliferative neoplasms (MPN) - polycythemia vera, primary myelofibrosis and essential thrombocythemia - represent the leading systemic cause of PVT [2].

Case Presentation

An 83-year-old man with a heart failure and chronic kidney disease presented with dyspnea and dull paraumbilical abdominal pain. Blood test showed anemia (Hb 103 g/L) and thrombocytosis (PLT $678 \times 10^9/L$). Performed EFGDS was unremarkable. Ultrasound revealed paragastric venous collaterals, partial recanalization of the paraumbilical vein, and absent flow in the PV, raising suspicion for chronic PVT. Repeat testing showed worsening anemia (Hb 94 g/L) with persistent thrombocytosis. Then the patient was admitted to the gastroenterology department for further evaluation and management. CT showed complete thrombosis of the PV along its entire length with extension into the right portal branch, as well as thrombosis of the superior mesenteric and splenic veins, and venous collaterals at the porta hepatis. Anticoagulation therapy was initiated for 6 months. Due to unexplained anemia and thrombocytosis, hematology was consulted and molecular testing (JAK2/CARL/MPL) was ordered to evaluate for MPN.

Discussion

PVT can cause sudden partial or complete PV occlusion, ranging from incidental or mild abdominal pain to severe complications such as intestinal ischemia. Persistent thrombosis

may progress to chronic PVT with collateral formation and complications of portal hypertension or portal cholangiopathy [3,4]. Evidence suggests that early anticoagulation improves recanalization and may reduce outcomes. Therefore, guidelines recommend anticoagulation for acute PVT, typically with low-molecular-weight heparin and vitamin K antagonists [4].

Conclusions

PVT in non-cirrhotic patients is uncommon and should prompt evaluation for underlying prothrombotic causes. Diagnostic workup should include testing for hypercoagulable states and, if thrombocytosis is present, JAK2/CARL/MPL mutation testing for an underlying MPN. Early anticoagulation may improve recanalization and outcomes.

References

1. Elkrif L, Hernandez-Gea V, Senzolo M, Albillos A, Baiges A, Berzigotti A, et al. Portal vein thrombosis: diagnosis, management, and endpoints for future clinical studies. *Lancet Gastroenterol Hepatol*. 2024 Sep 1;9(9):859–83.
2. Willington AJ, Tripathi D. Current concepts in the management of non-cirrhotic non-malignant portal vein thrombosis. *World J Hepatol* [Internet]. 2024 [cited 2025 Dec 11];16(5):751.
3. Gupta S, Hidalgo J, Singh B, et al. (August 05, 2021) Usage of Direct Acting Oral Anticoagulants in Cirrhotic and Non-Cirrhotic Portal Vein Thrombosis: A Systematic Review. *Cureus* 13(8): e16922.
4. Ng J Y, Reason S, Ng J Y (August 25, 2021) Idiopathic Portal Vein Thrombosis in a Non-cirrhotic Patient: A Discussion of Management and a Review of Literature. *Cureus* 13(8): e17445.

Mallory–Weiss Syndrome induced by Gastric Trichobezoar

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Introduction

Mallory–Weiss syndrome is a common cause of upper gastrointestinal bleeding, responsible for about 5–15% of cases.[1] It is a linear mucosal tear at the gastroesophageal junction, commonly precipitated by forceful vomiting, alcohol use, or other factors that raise intra-abdominal pressure. In rare cases, atypical mechanical factors such as gastric bezoars may also contribute to mucosal injury. [2,3]

Case Presentation

A 22-year-old woman with a 5-month history of anemia (hemoglobin (Hb) 92 g/L) initially presented to her family physician with newly developed severe epigastric pain, anorexia, melena, and a recent episode of vomiting. She was subsequently referred to the Emergency Department for further evaluation. On examination, she exhibited pallor, tachycardia, and rapid recent weight loss. Laboratory investigations demonstrated profound anemia (Hb 49 g/L). Upper endoscopy identified a distal esophageal mucosal tear with mild active bleeding. Computed tomography revealed concentrically layered intragastric mass consistent with a trichobezoar intermixed with blood clots. The patient received intravenous fluid resuscitation, proton pump inhibitor therapy and packed red blood cell transfusion. After hemoglobin stabilization, surgical consultation was recommended for further evaluation and potential bezoar removal.

Discussion

This case highlights the necessity of a comprehensive diagnostic assessment, particularly in the context of prolonged severe anemia. The identification of a coexisting trichobezoar proved critical, as it likely contributed to ongoing mucosal injury and exacerbated the severity of the gastrointestinal bleeding.

Conclusions

This case illustrates that Mallory–Weiss tears may result from an interaction between

common emetogenic triggers and uncommon intragastric factors such as trichobezoars, underscoring the importance of considering atypical etiologies in young patients with persistent anemia.

References

1. Arora S, Singh I, Alauddin W, Monga P, Yadav S. Mallory-Weiss Syndrome Triggered by Undigested Food Residues in a 90-Year-Old Male: An Unusual Etiology. Cureus [Internet]. 2025 Oct 8 ;17(10):e94114. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC12594031/>
2. Lieto E, Auricchio A, Belfiore MP, Sorbo G Del, Sena G De, Napolitano V, et al. Mallory-Weiss syndrome from giant gastric trichobezoar: A case report. World J Gastrointest Surg [Internet]. 2023 May 27 ;15(5):972. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10277944/>
3. Ventura S, Pinho J, Cancela E, Silva A. Bezoar: an uncommon cause of upper gastrointestinal bleeding. Revista espanola de enfermedades digestivas [Internet]. 2021 ;113(11):791–2. Available from: <https://pubmed.ncbi.nlm.nih.gov/34565163/>

Flood Syndrome - A Rare, Life-Threatening Complication of Cirrhosis: A Case Report

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Introduction

Flood syndrome is a rare but fatal complication of decompensated cirrhosis with persistent ascites. It refers to the abrupt leakage of ascites from a ruptured umbilical hernia and is linked to high mortality due to infection, shock, and metabolic imbalances. As of now, there is no standard care for this pathology, with surgical interventions only required in selected cases [1,2].

Case Presentation

A 51-year-old male with hepatitis C-related end-stage cirrhosis and a history of intravenous drug use exhibited a painful non-reducible umbilical hernia with a 3 cm ulcerating skin defect, complicated by profuse ascitic fluid leakage. Abdominal examination revealed a non-tender abdomen without signs of peritonitis. Blood tests showed hyponatremia (130.6 mmol/L), hypomagnesemia (0.63 mmol/L), thrombocytopenia ($107 \times 10^9/L$), prolonged INR (1.73), elevated CRP (22.1 mg/L), normal potassium (3.6 mmol/L) and creatinine (92 $\mu\text{mol/L}$) levels. An abdominal CT scan revealed a 5×7 cm umbilical hernia with an edematous small bowel loop, diffuse ascites and intestinal wall edema without obstruction. Conservative treatment of intravenous crystalloids, albumin transfusions and empiric antibiotics (cefuroxime-metronidazole) was initiated. Same-day therapeutic paracentesis drained 800 ml of ascites. However, over a few days, severe hyperkalemia (6.1 mmol/L) developed, and despite treatment, the patient's condition worsened acutely, resulting in death.

Discussion

Up to 20% of patients with end-stage cirrhosis and ascites develop umbilical hernia, which can progress to Flood

syndrome, with 30% mortality [2,3]. In our case, rapid ascitic fluid loss likely contributed to acute kidney injury resulting in life-threatening electrolyte disturbances, and despite treatment, rapid clinical deterioration occurred. As no standard care exists and surgery is often limited by coagulopathy, low platelet count or viral hepatitis, management focuses on ascites control, making proper multidisciplinary care crucial [3,4].

Conclusions

Our case illustrates the critical role of early diagnosis of umbilical hernia and its complications in cirrhosis. Multidisciplinary evaluation, infection control and strict fluid and electrolyte monitoring are essential to optimise treatment outcomes [5].

References

1. Ekhteraei S, Alsafar A. Social considerations in surgical management of Flood syndrome: a case report. *J Surg Case Rep* 2023;2023. <https://doi.org/10.1093/JSCR/RJAD216>.
2. Lee JL, Jiang J. Flood Syndrome. *Gastroenterology Res* 2022;15:217–24. <https://doi.org/10.14740/gr.v15i4.1508>.
3. Liu GF, Liu GF, Srinivasan A, Mutnuri S, Yerramadha MR, Agraharkar M. Acute Abdomen From Umbilical Hernia Rupture to Flood Syndrome: A Case Report and Review of Literature. *J Med Cases* 2019;10:309–11. <https://doi.org/10.14740/jmc.v10i10.3375>.
4. Aithal GP, Palaniyappan N, China L, Härmälä S, MacKen L, Ryan JM, et al. Guidelines on the management of ascites in cirrhosis. *Gut* 2021;70:9–29. <https://doi.org/10.1136/GUTJNL-2020-321790>.
5. Jayaprakash A, Kawarat VC, S. V. Understanding the Spectrum of Flood Syndrome: A Case Series. *Cureus* 2024;16. <https://doi.org/10.7759/CUREUS.62059>.

Crohn's Disease: From Perianal Abscess to Short Bowel Syndrome – A Severe Clinical Course

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Introduction

Crohn's disease (CD) is a chronic bowel disease with full-thickness bowel wall inflammation in any part of the gastrointestinal (GI) tract. While most patients' presentation is mild, 30% may have severe complications. [1,2]

Case Presentation

A 46-year-old man presented with anal pain and dyschezia with blood for the last month. CRP was elevated (21 mg/l), ultrasound showed a perianal fistula (PF). A week later, CRP increased to 61 mg/l, surgery for PF was performed, complicated by anemia and hematochezia. Gastroenterology consultation for suspected CD led to rectoscopy showing extensive erosions, fibrin deposits, purulent exudate and histopathology confirming CD. Clinical deterioration prompted CT, which revealed three small bowel perforations, treated by excising a segment of small bowel. GI bleeding was treated by embolizing intestinal artery branches, with no effect. Glucocorticoid therapy (GCT) with methylprednisolone 80 mg was initiated after prior unsuccessful treatment. Nevertheless, recurrent bleeding required further small bowel resection, resulting in severe malnutrition treated with parenteral nutrition. Due to complications, inadequate response to GCT, and severe disease course, biological therapy (BT) with infliximab 400 mg was started. The bleeding ceased, the patient entered remission, and was discharged with planned ongoing BT.

Discussion

In newly industrialised countries CD incidence is rising, while in western countries it is stabilising. [3] Precise etiology of CD is unknown, however it is linked to genetic,

immunological, and environmental factors. [4] Typically, CD presents as abdominal pain, diarrhea, and in severe cases – fistulas, abscesses. [1,2] Diagnosis needs a detailed history, blood tests, especially calprotectin, and if CD is suspected – colonoscopy with biopsy. [5] Treatment consists of induction and maintenance of remission with medical treatment, such as GCT and BT, and the surgical treatment of complications – abscesses, fistulas, perforations. [6]

Conclusions

This case highlights a severe case of CD progressing from perianal abscess to GI hemorrhage, and extensive bowel loss. This report emphasizes the need for timely recognition of CD, swift multidisciplinary intervention and in severe clinical course, escalation from GCT, surgical interventions to BT, which was decisive in entering remission.

References

1. Cockburn E, Kamal S, Chan A, Rao V, Liu T, Huang JY, et al. Crohn's disease: an update. *Clinical Medicine* 2023 -11;23(6):549.
2. Torres J, Bonovas S, Doherty G, Kucharzik T, Gisbert JP, Raine T, et al. ECCO Guidelines on Therapeutics in Crohn's Disease: Medical Treatment. *Journal of Crohn's and Colitis* 2026 -01-23;14(1):4.
3. Ng SC, Shi HY, Hamidi N, Underwood FE, Tang W, Benchimol EI, et al. Worldwide incidence and prevalence of inflammatory bowel disease in the 21st century: a systematic review of population-based studies. *The Lancet* 2017 -10-16;390(10114):2769.
4. Richard N, Savoye G, Leboutte M, Amamou A, Ghosh S, Marion-Letellier R. Crohn's disease: Why the ileum? *World J Gastroenterol* 2023 -06-07;29(21):3222.
5. Veauthier B, Hornecker JR. Crohn's Disease: Diagnosis and Management. 2018 , December 1.
6. Meima - Van Praag EM, Buskens CJ, Hompes R, Bemelman WA. Surgical management of Crohn's disease: a state of the art review. *Int J Colorectal Dis* 2021 -02-02;36(6):1133.

When Duodenal Varices Are Not Caused by Cirrhosis: An Unusual Endoscopic Clue to Mesenteric Arterial Pathology

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Introduction

Duodenal varices are a rare cause of upper gastrointestinal bleeding and are most commonly associated with portal hypertension. Their occurrence in non-cirrhotic patients is exceptional and may indicate an underlying non-hepatic or systemic pathology, representing a diagnostic challenge [1–4].

Case Presentation

A 66-year-old man presented with progressive weakness, exertional dyspnea, and dizziness. Laboratory tests revealed severe anemia with a hemoglobin level of 45 g/L, requiring urgent hospitalization and blood transfusion. The patient was slightly hypotensive on admission, however, no overt signs of gastrointestinal bleeding such as hematemesis or melena were reported. Esophagogastroduodenoscopy was performed to investigate a potential source of gastrointestinal bleeding. Endoscopy revealed duodenal varices without signs of active bleeding. The patient had no history of liver disease, and laboratory evaluation demonstrated normal liver transaminase levels with no evidence of hepatic dysfunction. Contrast-enhanced computed tomography of the abdomen and pelvis revealed pathological changes of the mesenteric artery suspicious for arteritis, without signs of liver cirrhosis or portal vein thrombosis. The patient was referred to Kaunas Clinics for further evaluation. Rheumatological consultation suggested secondary inflammatory involvement of the mesenteric artery rather than primary vasculitis. The etiology of the duodenal varices remained unclear and was considered idiopathic. Further evaluation for an underlying systemic or hematological disease was initiated.

Discussion

Ectopic varices in non-cirrhotic patients are uncommon and may result from localized



portal hypertension, vascular abnormalities, systemic inflammatory or neoplastic processes [1–3,5]. Severe anemia and unexplained vascular changes raised suspicion for an underlying systemic disorder, emphasizing the importance of multidisciplinary evaluation when atypical varices are detected.

Conclusions

This clinical case, in the absence of cirrhosis, portal hypertension, or coagulation disorders, highlights that the identification of ectopic varices should prompt evaluation for alternative vascular or systemic etiologies and emphasizes the importance of a multidisciplinary diagnostic approach.

References

1. Tranah TH, Nayagam JS, Gregory S, Hughes S, Patch D, Tripathi D, et al. Diagnosis and management of ectopic varices in portal hypertension. *Lancet Gastroenterol Hepatol*. 2023 Nov 1;8(11):1046–56.
2. Romano-Munive AF, Tellez-Ávila FI. Bleeding from gastrointestinal ectopic varices is not associated with haemorrhage from oesophageal or gastric varices. *Prz Gastroenterol*. 2020;15(1):60.
3. He K, Pang K, Yan X, Wang Q, Wu D. New sights in ectopic varices in portal hypertension. *QJM*. 2024 Jun 1;117(6):397–412.
4. Alsabban AM, Almatrafi MJ, Malik ZM, Khiji IY, Shariff MK. An Unusual Case of Isolated Duodenal Varices With Superior Mesenteric Vein Thrombosis. *Cureus*. 2023 Aug 20;15(8):e43783.
5. Chooklin S, Chuklin S, Chukla R. Ectopic varices: anatomical features for surgeons and interventional radiologists. *Emergency Medicine (Ukraine)*. 2023;19(5):299–311.

Non-Cirrhotic Portal Hypertension Due to Congenital Portal Vein Dysplasia in an Adolescent: A Case Report

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Introduction

Non-cirrhotic portal hypertension (NCPH) is a rare but clinically relevant condition caused by altered portal venous blood flow in the presence of preserved liver parenchyma [1].

Case Presentation

A 17-year-old female has been followed for congenital gallbladder aplasia and portal vein trunk dysplasia, causing portal hypertension with esophageal varices and hypersplenism. Associated conditions included congenital cardiac valve abnormality, endocrine disorders and chronic iron deficiency anemia. Imaging (MRI/MRCP, CT angiography) revealed a collateral vascular network replacing the portal vein trunk, with no surgical options. Portal pressure gradient remained normal. Endoscopies showed F1 esophageal varices needing multiple ligations. Upper gastrointestinal endoscopy found gastric diverticula with heterotopic mucosa; biopsy caused bleeding, controlled endoscopically. The course was complicated by progressive iron deficiency anemia and pancytopenia; bone marrow showed hyperplasia, supporting hypersplenism-related cytopenia. The patient remains on propranolol and iron. Multidisciplinary team advised conservative management, evaluation for bleeding, and follow-up imaging. Splenectomy not indicated; partial splenic artery embolization for progression.

Discussion

Congenital dysplasia of the portal vein trunk resulted in altered portal blood flow architecture and early collateral circulation formation, leading to clinically apparent portal hypertension, although the portal pressure gradient remained within normal limits. Management of portal hypertension relies on medical and endoscopic approaches to prevent variceal



bleeding. When these measures fail, surgical options such as shunt procedures may be considered, particularly in patients with extrahepatic portal vein obstruction, hypersplenism, or recurrent bleeding [4]. Beta-blockers such as propranolol are commonly used despite limited pediatric evidence, while endoscopic variceal ligation is the preferred strategy for prophylaxis and treatment [2,3].

Conclusions

NCPH in children may cause significant complications even with normal portal pressure. Long-term multidisciplinary follow-up enables safe conservative management and helps avoid premature invasive interventions.

References

1. [1] Sarma MS, Seetharaman J. Pediatric non-cirrhotic portal hypertension: Endoscopic outcome and perspectives from developing nations. *World J Hepatol.* 2021 Oct 27;13(10):1269-1288. doi: 10.4254/wjh.v13.i10.1269.
2. [2] Sunar Yayla EN, Sarı S, Gürcan Kaya N, Eğriİtaş Gürkan Ö, Sözen H, Özen İO, Dalgıç A, Dalgıç B. Portal Hypertension in Children: A Tertiary Center Experience in Turkey. *Pediatr Gastroenterol Hepatol Nutr.* 2023 Nov;26(6):301-311. <https://doi.org/10.5223/pghn.2023.26.6.301>
3. [3] Vogel CB. Pediatric portal hypertension: A review for primary care. *Nurse Pract.* 2017 May 12;42(5):35-42. doi: 10.1097/01.NPR.0000515427.91649.91.
4. [4] Marti J, Gunasekaran G, Iyer K, Schwartz M. Surgical management of noncirrhotic portal hypertension. *Clin Liver Dis.* 2015;5:112-5.

Case report of complicated infected necrotizing pancreatitis following hypertriglyceridemia treated with EUS-LAMS.

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Introduction

Infected necrotizing pancreatitis is associated with high morbidity and mortality. A step-up strategy combining percutaneous endoscopic drainage and targeted antimicrobial therapy reduces the need for open necrosectomy and improves outcomes. [1,2]

Case Presentation

A 43-year-old man with acute pancreatitis due to severe hypertriglyceridemia was admitted in serious condition with signs of multiple organ failure. CT showed extensive necrosis and multiple fluid collections from the epigastrium to the pelvis. Percutaneous drainage was performed, followed by endoscopic cystogastrostomy with lumen-apposing metal stent and sequential endoscopic debridement of necrosis. [2] Hospitalization lasted approximately 3 months. The course included episodes of sepsis, acute renal failure and visceral vein thrombosis. The patient received supportive nutrition, intensive care, and targeted antimicrobial therapy based on culture results; after gradual regression of the collections, the clinical condition improved and the patient was discharged.

Discussion

This case was selected to demonstrate that a modern multidisciplinary approach to treating patients with severe acute pancreatitis is safer and more effective than current techniques based on surgical necrosectomy. This case highlights the need for a multidisciplinary, protocol-based approach: postponing invasive interventions until limited pancreatic necrosis has formed, using minimally invasive drainage techniques and sequential excision of necrotic foci, and reducing complications and the risk of open surgery. [3] The presence of



multidrug-resistant microorganisms complicates therapy and requires targeted treatment and rigorous infection control.

Conclusions

The integrated use of EUS-LAMS and multiple endoscopic interventions may improve outcomes in patients with infected pancreatic necrosis secondary to hypertriglyceridemia. Multidisciplinary care and treatment based on microbiological results are key.

References

1. [1] van Wanrooij RLJ, Bronswijk M, Kunda R, et al. Therapeutic endoscopic ultrasound: European Society of Gastrointestinal Endoscopy (ESGE) Technical Review. *Endoscopy*. 2022;54(3):310-332. doi:10.1055/a-1738-6780
2. [2] Baron TH, DiMaio CJ, Wang AY, Morgan KA. American Gastroenterological Association Clinical Practice Update: Management of Pancreatic Necrosis. *Gastroenterology*. 2020;158(1):67-75.e1. doi:10.1053/j.gastro.2019.07.064
3. [3] Baroud S, Chandrasekhara V, Storm AC, et al. A Protocolized Management of Walled-Off Necrosis (WON) Reduces Time to WON Resolution and Improves Outcomes. *Clin Gastroenterol Hepatol*. 2023;21(10):2543-2550.e1. doi:10.1016/j.cgh.2023.04.029

Clostridioides Difficile Infection Masking Severe Ulcerative Colitis: a Diagnostic Challenge.

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Introduction

Differentiating severe *Clostridioides difficile* infection from ulcerative colitis remains challenging due to overlapping clinical, endoscopic and histologic features.[1] In patients with persistent colitis, failure to recognize underlying ulcerative colitis may result in delayed treatment and an increased risk of toxic megacolon and colectomy.[2]

Case Presentation

A 52-year-old patient presented with one month of prolonged diarrhoea, abdominal pain, fever and elevated inflammatory markers. Stool testing was positive for *C. difficile* toxins A and B with GDH. Despite treatment with oral vancomycin, intravenous ceftriaxone and metronidazole, symptoms and inflammation persisted. Imaging demonstrated progressive colonic dilatation consistent with toxic megacolon. Initial colonoscopy showed pseudomembranous colitis, and biopsies revealed acute erosive inflammation. Due to refractory disease and severe malnutrition, repeat colonoscopy with biopsies was performed, confirming severe ulcerative pancolitis. Intravenous corticosteroids induced only transient improvement. Disease progression with recurrent diarrhoea, severe anaemia, active bleeding of the colon, and radiologic megacolon prompted second-line therapy with cyclosporine, which was ineffective. The patient ultimately required urgent total colectomy with ileostomy. The postoperative course was complicated by haemorrhagic shock, infections, respiratory failure, and profound protein-energy malnutrition.

Discussion

This case illustrates how *Clostridioides difficile* infection may mask the initial

presentation of ulcerative colitis. Pseudomembranes, though characteristic of *Clostridioides difficile* infection, are not disease specific.[3,4] Lack of response to appropriate antimicrobial treatment should prompt reassessment of the initial diagnosis.

Conclusions

This case highlights how *Clostridioides difficile* infection can mimic or mask ulcerative colitis. Early recognition of refractory disease and timely multidisciplinary management are crucial to prevent life-threatening complications.

References

1. Alhobayb T, Ciorba MA. *Clostridium Difficile* in Inflammatory Bowel Disease. *Curr Opin Gastroenterol* [Internet]. 2023 Jul 1;39(4):257.
2. Skomorochow E, Pico J. Toxic Megacolon. *StatPearls* [Internet], Treasure Island (FL): StatPearls Publishing [Internet]. 2023 Jul 4;
3. Jagirdhar GSK, Surani S. Non-clostridium difficile induced pseudomembranous colitis. *World J Clin Cases* [Internet]. 2023 Feb 16;11(5):979.
4. Ginjupalli M, Jayakumar J, Bandaru P, Kumar V, Forlemu A, Isaac Coss G, et al. Pseudomembranous Colitis: Unveiling an Infrequent Culprit Beyond *Clostridium difficile*—A Case Report. *J Investig Med High Impact Case Rep* [Internet]. 2025 Jan 1;13:23247096251347400.

**Orthopaedics &
Traumatology,
Plastic surgery
Case Report | Oral**

Abstracts

Guided Growth of the Longer Limb with Contralateral Gastrocnemius Recession for Progressive Limb Length Discrepancy in a 10-Year-Old Boy

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Introduction

Limb length discrepancy (LLD) in children may be congenital or developmental and can lead to gait asymmetry, pelvic obliquity, and progressive deformity if untreated. Guided growth through temporary hemiepiphysiodesis enables gradual, reversible correction during skeletal development, avoiding the morbidity of limb-lengthening procedures.

Case Presentation

A 10-year-old boy presented with a 2.6 cm right-sided shortening, pelvic tilt, genu valgum, and right ankle equinus contracture causing toe-walking gait. Radiographs confirmed right femur 43.3 cm and tibial length of 34.1 cm, compared with a left femur of 44.1 cm and tibia of 35.9 cm. Under general anaesthesia, guided growth of the longer left limb was performed using medial and lateral eight-plates at the distal femur and proximal tibia. Due to equinus contracture and a positive Silfverskjöld test, a contralateral right gastrocnemius recession was added to restore ankle dorsiflexion. The procedure lasted 2 h 30 min without complications, followed by below-knee immobilisation. Early postoperative recovery was uncomplicated, with restoration of ankle dorsiflexion and improvement in gait mechanics.

Discussion

Guided growth with eight-plates provides a minimally invasive, reversible option for 2–5 cm discrepancies, achieving correction rates of 0.5–1.0 mm/month with high success and low complication rates [1], [2], [3]. These correction rates align with the expected growth modulation trajectory in the present patient. When equinus contracture limits dorsiflexion, gastrocnemius recession has demonstrated reliable functional improvement and gait normalisation and can be extrapolated to selected paediatric cases [4].



Conclusions

Combined guided growth of the longer limb and contralateral gastrocnemius recession represents an effective, low-risk approach for managing progressive paediatric limb length discrepancy, facilitating equalisation and functional gait restoration during growth, with favourable early postoperative outcomes.

References

1. [1] Borbas P, Agten CA, Roskopf AB, Hingsammer A, Eid K, Ramseier LE. Guided growth with tension band plate or definitive epiphysiodesis for treatment of limb length discrepancy. *J Orthop Surg Res.* 2019;14:99. doi:10.1186/s13018-019-1139-4.
2. [2] Vaishya R, Shah M, Agarwal AK, Vijay V. Growth modulation by hemi-epiphysiodesis using eight-plate in genu valgum in the paediatric population. *J Clin Orthop Trauma.* 2018;9(4):327–333. doi:10.1016/j.jcot.2017.11.004.
3. [3] Demirel M, Sağlam Y, Yıldırım AM, Bilgili F, Şeker A, Şen C. Temporary epiphysiodesis using the eight-plate in the management of children with leg length discrepancy: a retrospective case series. *Indian J Orthop.* 2022;56:874–882. doi:10.1007/s43465-021-00599-9.
4. [4] Molund M, Lapinskas SR, Nilsen FA, Hvaal KH. Clinical and functional outcomes of gastrocnemius recession for chronic Achilles tendinopathy. *Foot Ankle Int.* 2016;37(1):1–7. doi:10.1177/1071100716667445

Non-Surgical Paediatric Radial Head Fracture with Excellent Outcome

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Introduction

Radial head fractures account for 4.5–21% of paediatric elbow injuries. They most commonly occur after a fall onto an outstretched hand, transmitting axial force through the radius. Early diagnosis is critical to prevent complications. Treatment depends on displacement and stability, with both conservative and surgical approaches often achieving good outcomes.

Case Presentation

Eight-year-old gymnastics injured her elbow after a fall on an outstretched arm. She presented to the hospital immediately after the injury, but the initial radiographs missed the radial head fracture, which was diagnosed only three to four weeks later. Repeat imaging revealed a fully displaced and laterally migrated radial head with early callus formation, indicating a late stage of healing. Due to the displacement, surgical intervention with open reduction and internal fixation was recommended. However, the parents declined surgery, over concerns about complications, so the patient was managed conservatively with close follow-up. Despite persistent lateral displacement on radiographs, she is pain-free with full elbow motion and normal forearm rotation and has returned to sports. Her short-term outcome is excellent, though the long-term prognosis remains uncertain.

Discussion

Developing ossification centres can make early fractures easy to miss, and delayed diagnosis may lead to displacement, malunion or early ossification, complicating later treatment. Operative treatment is recommended for angulation $> 30^\circ$ or translation > 3 mm, but studies show good function may still occur with non-anatomical union if joint mobility is preserved. This case demonstrates the unpredictable course of late-diagnosed radial head fractures. The patient is currently asymptomatic with full function, but future risks include growth deviation, elbow valgus, or limited forearm rotation.



Conclusions

This case highlights the importance of accurate radiographic assessment in paediatric elbow trauma. Delayed-diagnosed fractures may function well short-term without surgery, but long-term outcomes are uncertain. Therefore, regular follow-up throughout growth is essential to detect deformities or functional issues and ensure optimal outcomes.

References

1. Dietzel M, Scherer S, Esser M, Kirschner HJ, Fuchs J, Lieber J. Fractures of the proximal radius in children: management and results of 100 consecutive cases. *Arch Orthop Trauma Surg.* 2022
2. Al-Tawil K, Arya A. Radial head fractures. *J Clin Orthop Trauma.* 2021
3. Patel DS, Statuta SM, Ahmed N. Common Fractures of the Radius and Ulna. *Am Fam Physician.* 2021
4. Ohl X, Siboni R. Surgical treatment of terrible triad of the elbow. *Orthop Traumatol Surg Res.* 2021

Successful Management of a Femoral Giant Cell Tumor, a Case Report

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Introduction

Giant cell tumor (GCT) of bone accounts for approximately 4-5% of primary bone tumors. It is intermediate, locally aggressive, and characterized by a high risk of recurrence, and a small but recognized risk of lung metastasis. GCT presents typically in the fourth decade of life, with a slight female predominance, and is often found in the meta-epiphyseal region of long bones, around major joints, where mechanical load and joint preservation are critical. The knee joint structures, particularly the distal femur and proximal tibia, are the most involved anatomical sites. The treatment typically adopted in case of GCT is intralesional curettage, resulting in a bone cavity that must be filled or reconstructed to restore the structural integrity and allow weight-bearing. Bone grafting, bone cement, and artificial bone substitutes are common options, and the choice depends on the extent of defect, location, size, the surgeon's preference, as well as the main concerns. These points are reflected in the clinical presentation that follows.

Case Presentation

A 33-year-old woman presented to the department with an 8-month history of knee pain. Imaging revealed a distal femoral lesion. Giant cell tumor was suspected and confirmed by biopsy. No metastasis was detected. The patient underwent intralesional curettage followed by cementoplasty, bone grafting, and internal fixation of the distal femur.

Discussion

The distal femur is a high-load-bearing region, and after curettage, maintaining structural integrity is critical to reduce the risk of fracture. The sandwich technique, in which bone graft is interposed between cement and the articular surface, was employed. This approach may complicate radiologic follow-ups, but it facilitates safe reconstruction adjacent to the joint surface. Internal fixation was used considering both the volume and location of the cavity, providing adequate reinforcement. Follow-up imaging showed no evidence of



recurrence, and chest CT excluded metastasis, confirming the treatment's success. Regular monitoring is indicated due to the possibility of recurrence.

Conclusions

Curettage with sandwich cement reconstruction and internal fixation proved to be an effective and stable technique for the treatment of GCT of distal femur.

References

1. Heijden L van der, 1, Lipplaa A, 2, Langevelde K van, et al. Giant cell tumour of bone analysis of risk factors for recurrence in 354 patients 2022. <https://doi.org/10.1097/CCO.0000000000000852>.
2. Sükösd Á, 1, Moghaddam AM, Perlaky T, Szalay K, et al. Demographical characteristics and surgical treatment outcomes of giant cell tumor of bone at the Department of Orthopedics at Semmelweis University 2025;166. <https://doi.org/10.1556/650.2025.33184>.
3. Jamshidi K, 1, Bagherifard A, Mohaghegh MR, 2, et al. Fibular strut allograft or bone cement for reconstruction after curettage of a giant cell tumour of the proximal femur : a retrospective cohort study 2022. <https://doi.org/10.1302/0301-620X.104B2.BJJ-2021-1322.R1>.
4. Management of Giant Cell Tumor of Talus With Extended Intralesional Curettage and Reconstruction Using Polymethylmethacrylate Cement 2024.
5. Ming L, Jingqian C, Zhongyu X, Meifeng G, Bingqing G, Yu W, et al. Clinical results of knee juxta-articular giant-cell tumors treated with bone cement filling and internal fixation after extensive curettage 2024;36:31. <https://doi.org/10.52312/jdrs.2024.1801>.

Multistage Surgical Management of a Complex Polymicrobial Prosthetic Hip Joint Infection: Case Report

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Introduction

Prosthetic joint infection (PJI) is a severe complication of joint arthroplasty associated with high mortality rates and economic burden [1]. While two-stage revision is widely accepted as the standard treatment for hip PJI, polymicrobial infections further compromise treatment success [2,3]. This case highlights the complexity of managing such infections.

Case Presentation

A 56-year-old male underwent right total hip arthroplasty in 2006 and later developed PJI requiring implant removal and multiple revision procedures abroad. In 2022, the patient presented to LSMU KK with PJI of the right hip caused by *Pseudomonas aeruginosa*, *Staphylococcus epidermidis*, *Staphylococcus aureus*, necessitating a two-stage surgical approach. Subsequently, first-stage revision surgery was performed using cement spacers and targeted antimicrobial therapy with amikacin. Treatment was complicated by acute kidney injury, prompting modification of antimicrobial therapy to meropenem and colistin following multidisciplinary consultation. Despite initial management, persistent infection required additional surgical management. Recurrent isolation of *Pseudomonas aeruginosa* from intraoperative cultures was treated with repeated antimicrobial therapy using colistin and ceftazidime. Dosing was adjusted according to renal function under the guidance of a clinical pharmacologist. During follow-up, joint aspiration performed in 2023 revealed infection with *Enterococcus faecalis*, for which intravenous antimicrobial therapy with linezolid was initiated. After clinical evaluation and serum inflammatory markers suggested that the infection was resolved, the second-stage revision was completed in 2024. At 17 months postoperatively, the patient remains well with no clinical or laboratory evidence of infection.



Discussion

Infections caused by *Pseudomonas aeruginosa* and *Enterococcus faecalis*, each account for around 3% of PJI cases and pose significant therapeutic challenges [4,5]. This case was further complicated by renal dysfunction, which limited effective antibiotic options and required individualized dosing and close monitoring.

Conclusions

Management of persistent polymicrobial PJI often requires a multistage surgical intervention, multidisciplinary approach and prolonged antimicrobial therapy to achieve successful outcomes.

References

1. Xu Y, Huang TB, Schuetz MA, Choong PFM. Mortality, patient-reported outcome measures, and the health economic burden of prosthetic joint infection. *EFORT Open Rev.* 2023 Sep 1;8(9):690–7.
2. Kavolus JJ, Cunningham DJ, Rao SR, Wellman SS, Seyler TM. Polymicrobial Infections in Hip Arthroplasty: Lower Treatment Success Rate, Increased Surgery, and Longer Hospitalization. *J Arthroplasty.* 2019 Apr;34(4):710-716.e3.
3. Charette RS, Melnic CM. Two-Stage Revision Arthroplasty for the Treatment of Prosthetic Joint Infection. *Curr Rev Musculoskelet Med.* 2018 June 9;11(3):332–40.
4. Triffault-Fillit C, Ferry T, Laurent F, Pradat P, Dupieux C, Conrad A, et al. Microbiologic epidemiology depending on time to occurrence of prosthetic joint infection: a prospective cohort study. *Clin Microbiol Infect.* 2019 Mar 1;25(3):353–8.
5. Zeller V, Kerroumi Y, Meyssonier V, Heym B, Metten MA, Desplaces N, et al. Analysis of postoperative and hematogenous prosthetic joint-infection microbiological patterns in a large cohort. *J Infect.* 2018 Apr 1;76(4):328–34.

Recurrent Patellar Dislocation Treatment With Elmslie-Trillat Tibial Tubercle Osteotomy: Case Report

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Introduction

Recurrent lateral patellar dislocations are a persistent concern after the first episode, with approximately 60% of patients experiencing the same injury after initial healing or instability issues in the future[1]. Critical anatomical factors, such as trochlear dysplasia, the Insall-Salvati index, tibial tuberosity-trochlear groove distance, and younger age, affect the decision-making process regarding surgical management[1,2]

Case Presentation

A 26-year-old female patient presented with a history of recurrent left knee patellar dislocations, pain, and functional impairment. The patient had previously undergone a tibial tuberosity osteotomy (TTO) with medialization and medial patellofemoral ligament (MPFL) reconstruction of the contralateral knee, one year prior with no recurrent dislocations recorded postoperatively. Physical examination revealed increased patellar mobility, lateralization, tenderness, and a positive J-sign. The surgical management chosen was an Elmslie-Trillat procedure, combined with knee arthroscopy, which comprised tibial tuberosity osteotomy with medialization, lateral patellar release, and medial patellar plication. The postoperative course was uncomplicated; the patient underwent continuous passive motion (CPM) therapy and was discharged for outpatient rehabilitation.

Discussion

The Elmslie-Trillat procedure is a well-established, biomechanically precise technique with low recurrent dislocation rates and adequate preservation of physiological joint movements; thus, it was favored for this case[2]. This technique preserves the



hamstring tendons, maintaining knee flexion strength and dynamic knee stability while avoiding donor-site morbidity and complications associated with tendon grafts, unlike medial patellofemoral ligament reconstruction[3,4]. Identifying the underlying mechanism of patellar pathology remains crucial when selecting a surgical approach[5]. For patients with soft-tissue deficiencies or excessive patellofemoral joint pressure, MPFL reconstruction or Fulkerson's anteromedialization may be more appropriate[6,7].

Conclusions

Individualized surgical planning is key in recurrent patellar instability, with the Elmslie-Trillat procedure representing a viable option for restoring stability when alignment abnormalities are present.

References

1. Martinez-Cano JP, Chica J, Martinez-Arboleda JJ, Rincón-Escobar E, Zamudio-Castilla L, Renjifo M, et al. Patellofemoral Dislocation Recurrence After a First Episode: A Case-Control Study. *Orthop J Sports Med.* 2021 Jan;9(1):2325967120981636.
2. DeNovio AC, Holle A, Pan X, Saris DBF, Krych AJ, Hevesi M, et al. Incidence of Complications, Recurrent Instability, and All-Cause Reoperations After Tibial Tubercle Osteotomy for Patellofemoral Instability: A Systematic Review and Meta-analysis of the Literature. *Orthop J Sports Med.* 2025 Sept;13(9):23259671251374307.
3. Keilani M, Palma S, Crevenna R, Gaudart C, Hasenöhl T, Reschl M, et al. Functional outcome after recurrent patellar dislocation: Comparison of two surgical techniques-Medial patellofemoral ligament reconstruction (MPFL) vs. Elmslie Trillat procedure. *Wien Klin Wochenschr.* 2019 Dec;131(23–24):614–9.
4. Popovic M, Myhre JR, Holen JIH, Gifstad T, Strand IL, Strand T, et al. Reduced Knee Flexion Strength 18 Years After ACL Reconstruction With Hamstring Tendon Versus Patellar Tendon. *Am J Sports Med.* 2024 Sept;52(11):2750–7.
5. Hinckel B, Smith J, Tanaka MJ, Matsushita T, Martinez-Cano JP. Patellofemoral instability part 1 (When to operate and soft tissue procedures): State of the art. *Journal of ISAKOS.* 2025 Feb 1;10:100278.
6. Rosso F, Rossi R, Cottino U, Bonasia DE. Tibial tubercle osteotomy for patellofemoral malalignment and chondral disease provided good outcomes: A systematic review. *Journal of ISAKOS.* 2022 Apr 1;7(2):78–86.
7. Parker AM, Hashiguchi N, Tanaka MJ. Updates in the management of lateral patellar instability. *Journal of Joint Surgery and Research.* 2025 June 1;3(2):103–12.

When Follow-up Fails: Post-traumatic Tibial Osteomyelitis in a 12-year-old Boy

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Introduction

Paediatric tibial fractures aren't uncommon and usually heal uneventfully if treated properly and followed up regularly. However, delayed postoperative care or neglected wound supervision may lead to infectious complications, including osteomyelitis. This case emphasizes that a successful healing process relies on effective family education and strict adherence to the postoperative care plan.

Case Presentation

A 12-year-old boy sustained a distal tibial fracture following a fall. The fracture required a closed reduction and Kirschner wire fixation, with the wires left external to the skin. The limb was immobilised in a plaster splint and the patient's parents were given instructions for regular outpatient review. Despite that, the family failed to return for a consultation for nearly 4 months. The patient presented again after swelling, redness and discharge were noted around the pin sites. X-ray, CT and MRI imaging confirmed a diagnosis of osteomyelitis of the distal tibial metaphysis. Surgical debridement was performed and long-term antibiotic therapy initiated. The infection was successfully controlled and the patient regained good limb function.

Discussion

Delayed or absent postoperative monitoring can transform an otherwise straightforward fracture into a serious infectious complication, potentially leading to growth disturbances or deformity.[1] Given this risk, it is important to anticipate such scenarios and implement strategies to optimize patient outcomes. Variety of socioeconomic factors, including



socioeconomic deprivation, help to determine an adolescent patient's risk of poor care compliance after sustaining a fracture. Awareness of these factors allows clinicians to identify patients who may benefit from extra time spent emphasizing the importance of timely follow-up care.[2]

Conclusions

This case highlights that even technically correct surgery may lead to severe complications if postoperative care is neglected. Effective communication, family education, and close follow-up are key to preventing osteomyelitis in paediatric fracture management. Early recognition and timely intervention are essential to ensure full recovery and avoid long-term disability.

References

1. Gönder N, Karabulut Ç, Bilgin MA, Demir İH, Parıldar R, Unat B, Rızvanoğlu İH. Clinical and Radiographic Outcomes of ESIN, Plate, and K-Wire Fixation in Pediatric Tibial DDMJ Fractures: A Retrospective Comparative Study. *Children*. 2025;12(10):1345. doi:10.3390/children12101345.
2. Meza BC, Iacone D, Talwar D, Sankar WN, Shah AS. Socioeconomic Deprivation and Its Adverse Association with Adolescent Fracture Care Compliance. *JBJS Open Access*. 2020;5(2):e0064. doi:10.2106/JBJS.OA.19.00064.

Delayed Fixation of a Complex Acetabular Fracture Using a Modified Extensile Iliofemoral Approach with Femoral Head Mosaicplasty: A Case Report

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Introduction

Complex acetabular fractures combined with traumatic osteochondral defects of the femoral head are rare but clinically significant injuries. These fractures are usually the result of high-energy trauma and may increase the risk of post-traumatic osteoarthritis, avascular necrosis, and long-term functional impairment. 1, 2 Precise anatomical reduction, stable fixation, and restoration of articular congruence are essential for optimal outcomes. 3

Case Presentation

A 40-year-old male suffered polytrauma in a traffic accident on 13 May 2023. Full-body CT revealed a right femur fracture (AO/OTA 32-C1), APC II pelvic ring injury, right T-type acetabular fracture with posterior wall involvement, and a femoral head osteochondral defect. Initial damage control was performed using external fixators, followed by definitive staged surgery. The posterior pelvic ring was percutaneously stabilised with S1, S2 iliosacral screws on 30 May 2023. On 7 June 2023, definitive fixation of the acetabulum was performed using a modified extensile iliofemoral approach (Maryland modification), including femoral head mosaicplasty. At follow-up on September 1, 2025, radiographs demonstrated fracture consolidation and incorporation of the graft. No radiographic signs of osteoarthritis were observed, and the hip ROM was well preserved.

Discussion

Combined pelvic and acetabular fractures occur in 5–16% of high-energy trauma cases in young males. They are often caused by anterior–posterior or lateral compression and carry a high risk of post-traumatic osteoarthritis.^{1,4,5} Delayed referral and initial polytrauma management may lead to early callus formation and soft-tissue contracture, limiting fragment mobility. Standard non-extensile approaches (ilio-inguinal, anterior intrapelvic, Kocher-

Langenbeck) would not allow complete callus removal and fragment mobilization. A modified extensile iliofemoral approach with iliac crest, greater trochanter, and anterior superior iliac spine osteotomies provided wide exposure of both acetabular columns and the weight-bearing dome.^{6,7}

Conclusions

Anatomical reduction combined with cartilage restoration represents a hip preservation strategy that can reduce post-traumatic osteoarthritis and delay total hip arthroplasty in young patients.^{8, 9}

References

1. Li R, Zhao P, Guan J, Wang X, Liu L, Wu M. Combined pelvic and acetabular injuries: clinical features and treatment strategies of a unique injury pattern. *J Orthop Surg Res.* 2023;18(1):415.
2. Kiran M, Frostick R, Elnahal W, et al. The fate of acetabular fracture fixation at 10 years: rates of conversion to arthroplasty. *HIP International.* 2022;33(6):1086-1092. doi:10.1177/11207000221138040
3. Verbeek, D. O., van der List, J. P., Tissue, C. M., & Helfet, D. L. (2018). Long-term patient reported outcomes following acetabular fracture fixation. *Injury*, 49(6), 1131–1136. <https://doi.org/10.1016/j.injury.2018.04.031>
4. Veerappa LA, Tippannavar A, Goyal T, Purudappa PP. A systematic review of combined pelvic and acetabular injuries. *J Clin Orthop Trauma.* 2020;11(6):983-8.
5. Puchwein P, Sandersjoo G, Lindahl J, Eibinger N. Combined pelvic ring and acetabular fractures - strategies and sequence of surgery. State of the art. *Arch Orthop Trauma Surg.* 2024;144(10):4577-86.
6. Perumal R, Bhasker H, Wilson Armstrong BR, Devendra A, Dheenadhayalan J. Modified Ilio-femoral approach: An update. *J Clin Orthop Trauma.* 2025;68:103112.
7. Das CP, Acharya MR, Makwana VR. Delayed presentation of complex acetabular fractures: Review of literature on outcome of internal fixations with reference to extended ilio-femoral approach. *J Clin Orthop Trauma.* 2020;11(6):1082-9.
8. Cahueque M, Martinez M, Cobar A, Bregni M. Early reduction of acetabular fractures decreases the risk of post-traumatic hip osteoarthritis? *J Clin Orthop Trauma.* 2017;8(4):320-6.
9. Passaplan C, Hanauer M, Gautier L, Stetzelberger VM, Schwab JM, Tannast M, et al. Surface repair of the femoral head using press-osteochondral autograft transfer. *Bone Jt Open.* 2023;4(7):523-31.

Open Reduction With Salter Pelvic Osteotomy in Late-Diagnosed Developmental Dysplasia of the Hip: A Case Report

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Introduction

Developmental dysplasia of the hip (DDH) is a common pediatric orthopedic condition. Early diagnosis allows effective conservative treatment, whereas delayed diagnosis may result in fixed dislocation, acetabular dysplasia, and the need for surgical reconstruction. This case report presents successful operative management with open reduction combined with Salter pelvic osteotomy after failed conservative treatment.

Case Presentation

A 2.5-year-old child was diagnosed with unilateral developmental dysplasia of the hip with dislocation at 14 months. Clinical examination revealed pelvic asymmetry, mild limb length discrepancy and limited abduction. MRI confirmed unilateral hip dislocation and acetabular dysplasia. Conservative treatment with bracing, closed reduction and coxitis cast was unsuccessful. Open reduction with Salter osteotomy using an iliac graft was performed, followed by pelvic cast immobilization. Post-operative imaging confirmed positive acetabular roof positioning and consolidation. No complications occurred during follow-up.

Discussion

DDH outcomes largely depend on age at diagnosis. Conservative treatment is effective in infants, but less successful in older children. In this case, delayed diagnosis resulted in closed reduction failure, consistent with evidence showing higher complication and reoperation rates after closed reduction in children over 12 months (1,2). Open reduction enables stable concentric reduction; when combined specifically with Salter pelvic osteotomy, it



improves acetabular coverage and provides favorable long-term clinical and radiographic outcomes. Among several available pelvic osteotomies for DDH, the Salter technique is well established for children in this age group (3). Redislocation after open reduction remains a serious risk due to the potential development of avascular necrosis (4). In this case, open reduction with Salter osteotomy achieved stable alignment without complications.

Conclusions

Delayed diagnosis reduces the effectiveness of conservative treatment in DDH. When closed reduction fails or DDH is diagnosed after infancy, open reduction combined with Salter pelvic osteotomy represents a single, comprehensive surgical strategy. This approach provides stable reduction and promotes improved acetabular development.

References

1. Benaroch LR, Thornley P, Ross M, Charron B, Bartley D, Carey T, et al. Late closed or open reduction of developmental dysplasia of the hip: a systematic review and meta-analysis of outcomes. *Annals of Medicine & Surgery*. 2025 Nov 18. <https://pubmed-ncbi-nlm-nih-gov.ezproxy.dbazes.lsmuni.lt/41180725/>
2. Morris WZ, Hinds S, Worrall H, Jo CH, Kim HKW. Secondary Surgery and Residual Dysplasia Following Late Closed or Open Reduction of Developmental Dysplasia of the Hip. *Journal of Bone and Joint Surgery*. 2021 Feb 3. <https://pubmed-ncbi-nlm-nih-gov.ezproxy.dbazes.lsmuni.lt/33252590/>
3. Castañeda P, Masrouha KZ, Vidal Ruiz C, Moscona-Mishy L. Outcomes following open reduction for late-presenting developmental dysplasia of the hip. *J Child Orthop*. 2018. <https://pubmed-ncbi-nlm-nih-gov.ezproxy.dbazes.lsmuni.lt/37622079/>
4. Merckaert S, Zambelli PY. Treatment perspective after failed open reduction of congenital hip dislocation. A systematic review. Vol. 11, *Frontiers in Pediatrics*. Frontiers Media SA; 2023. <https://pubmed-ncbi-nlm-nih-gov.ezproxy.dbazes.lsmuni.lt/30154922/>

Masquelet technique in complicated femoral shaft fracture complicated by pseudoarthrosis

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Introduction

Femoral shaft fractures frequently require surgical interventions, however, postoperative complications such as infections ($\approx 5\%$) and nonunions (1.9-5%) significantly complicate outcomes (1,2,3,6,7). A relatively new induced membrane or Masquelet technique has emerged as an effective two-stage procedure for treating large bone defects and nonunions (3,4,5). This case report describes a femoral shaft fracture treated by osteosynthesis that developed chronic infection and nonunion, which ultimately led to the use of the Masquelet technique.

Case Presentation

A 38-year-old male presented with swelling, knee contracture and pain in the left leg. The patient had an extensive history of trauma and orthopedic surgeries. On 30.09.2024 the patient sustained a left femur shaft fracture which was treated 10 days later with an intramedullary (IM) nail. From 19.10.2024 to 08.09.2025 the postoperative course was complicated by recurrent infections and implant migration. During this period multiple revision surgeries were performed, including debridement, implant exchange and prolonged intravenous antibiotic therapy. Despite the use of these measures the implant suffered mechanical failure and pseudoarthrosis developed. On 08.09.2025 the IM nail was removed; debridement was done and a temporary external fixation (EF) was applied. On 06.10.2025 the first stage of the Masquelet technique was performed, the EF was removed, an IM nail was implanted, the necrotized bone was removed and the bone defect was filled with cement spacer. On 12.12.2025 the second stage was performed, the pseudomembrane was cut, spacer was removed from within, and the space was filled with cancellous bone. Postoperatively primary wound healing and no signs of infection were observed.

Discussion

Chronic infection severely impairs fracture healing and increases the risk of fixation failure. Repeated conventional fixation may be insufficient in such cases. The Masquelet technique allows effective infection control and creates a favorable biological environment for bone regeneration, making it ideal for complex infected nonunions (3,4,5).



Conclusions

This report illustrates that complications following femoral osteosynthesis may require more drastic, staged reconstructive strategies, such as the Masquelet technique, when standard treatment options fail to manage them.

References

1. Medlar C, Kilkenny CJ, Davey MS, Farooq F, O'Daly BJ. The top 50 cited publications relating to femoral shaft fractures – A bibliometric analysis of the literature. *J Orthop* [Internet]. 2025 Sept 1 [cited 2025 Dec 18];67:88–93. Available from: <https://www.sciencedirect.com/science/article/pii/S0972978X2500025X>
2. Ghouri SI, Mustafa F, Kanbar A, al Jogol H, Shunni A, Almadani A, et al. Management of Traumatic Femur Fractures: A Focus on the Time to Intramedullary Nailing and Clinical Outcomes. *Diagnostics* [Internet]. 2023 Mar 1 [cited 2025 Dec 18];13(6):1147. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10047428/>
3. Sahu Shivam, Venkataram V, Joseph De Jomon, Krishnan Ganesh Kr. Case Series Challenges and Outcome of Infected Non Union of Bones using Masquelet Technique: A Case Series. *JCDR* [Internet]. 2025 Feb 1 [cited 2025 Dec 18];19:6–11. Available from: [https://jcdr.net/articles/PDF/20669/75664_CE\[Ra1\]_F\(SS\)_QC\(PS_SS\)_PF1\(KN_SL\)_PFA_NC\(IS\)_PN\(IS\).pdf](https://jcdr.net/articles/PDF/20669/75664_CE[Ra1]_F(SS)_QC(PS_SS)_PF1(KN_SL)_PFA_NC(IS)_PN(IS).pdf)
4. Vasios IS, Makiev KG, Tryfonidis M, Iliopoulos E, Georgoulas P, Tilkeridis K. Masquelet technique combined with Ilizarov external fixation for the management of large femoral defects: A neglected technique. *Trauma Case Rep* [Internet]. 2025 Dec 1 [cited 2025 Dec 18];60:101263. Available from: <https://www.sciencedirect.com/science/article/pii/S2352644025001402>
5. Morelli I, Drago L, George DA, Gallazzi E, Scarponi S, Romanò CL. Masquelet technique: myth or reality? A systematic review and meta-analysis. *Injury* [Internet]. 2016 Dec 1 [cited 2025 Dec 18];47:S68–76. Available from: <https://pubmed.ncbi.nlm.nih.gov/28040090/>
6. Flores MJ, Brown KE, O'Marr JM, Adejuyigbe B, Rodarte P, Gomez-Alvarado F, et al. The economic impact of infection and/or nonunion on long-bone shaft fractures: a systematic review. *OTA International* [Internet]. 2024 June 10 [cited 2026 Jan 26];7(3):e337. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11164001/>
7. Ghayyad K, Escobar P, Beaudoin TF, Wandersleben L, Hawks M, Ahmed A, et al. Nonunion Fractures: Trends in Epidemiology and Treatment of Femur Fractures, 2017-2022. *Cureus* [Internet]. 2024 Oct 1 [cited 2026 Jan 26];16(9):e70566. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11524799/>

Recurrent Meniscal Bearing Dislocation After Oxford Medial UKA Requiring Two Sequential Bearing Exchanges

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Introduction

Dislocation of the meniscal bearing is a well-recognized complication of medial Oxford unicompartmental knee arthroplasty (UKA) with a mobile design [1]. In Oxford UKA, the polyethylene meniscal bearing mimics the native meniscus; however, this design carries a risk of bearing dislocation [2]. Bearing dislocation occurs in approximately 0.6–4.0% of Oxford UKAs, but recurrent cases requiring multiple revisions remain uncommon [3,4].

Case Presentation

A 52-year-old woman underwent right medial Oxford UKA for isolated medial compartment osteoarthritis with a 4-mm polyethylene meniscal bearing. Intraoperative soft-tissue balance was satisfactory in flexion and extension, with flexion to 110°. Three months postoperatively, after squatting, she developed acute knee pain and loss of extension. Radiographs showed medial bearing dislocation, and a bearing exchange to a 5-mm bearing was performed. The ACL was clinically intact with no definite ligament injury on clinical assessment. Five months after the first bearing exchange, she presented again with recurrent severe knee pain and functional impairment. Repeat radiographs confirmed recurrent medial dislocation, and a second bearing exchange was undertaken, upsizing to a 7-mm bearing after reassessment of valgus laxity and flexion–extension balance. Serial radiographs showed well-fixed femoral and tibial components with appropriate alignment. Postoperatively, stability and function were restored.

Discussion

Medial meniscal bearing dislocation after Oxford UKA is multifactorial and associated with ligament attenuation and flexion instability [3]. In our case, dislocation occurred during deep flexion; both episodes were medial despite a clinically intact ACL and no clear ligament injury on clinical assessment, making an anteroposterior instability mechanism less likely and supporting a soft-tissue laxity or flexion-gap mechanism [3,5]. This highlights the importance of reassessing valgus laxity and



bearing tracking at the first bearing exchange to guide appropriate bearing selection and reduce the risk of recurrent dislocation [3,6].

Conclusions

Isolated bearing exchange is reasonable when femoral and tibial components are well fixed and appropriately aligned. Recurrent medial dislocation should prompt reassessment for instability, including possible ligamentous laxity.

References

1. Pontoh LA, Dilogio IH, Hartono F, Rhatomy S, Fioline J. Meniscal bearing dislocation following minimally invasive Oxford medial unicompartmental knee arthroplasty treated with simple open reduction: a case report. *Int J Surg Case Rep.* 2021;79:371–374.
2. Vajapey SP, Alvarez PM, Chonko D. Bearing failure in a mobile bearing unicompartmental knee arthroplasty: an uncommon presentation of an implant-specific complication. *Arthroplasty.* 2021;3:16.
3. Sun X, Liu P, Lu F, Wang W, Guo W, Zhang Q. Bearing dislocation of mobile bearing unicompartmental knee arthroplasty in East Asian countries: a systematic review with meta-analysis. *J Orthop Surg Res.* 2021;16:28.
4. De Geus T, Farrell T, Kavanagh E. Superior bearing dislocation in a unicompartmental total knee prosthesis. *Radiol Case Rep.* 2019;14(4):405–409.
5. Mancuso F, Dodd CA, Murray DW, et al. Medial unicompartmental knee arthroplasty in the ACL-deficient knee. *J Orthop Traumatol.* 2016;17:267–275. doi:10.1007/s10195-016-0402-2.
6. Suh DW, Yeo WJ, Han SB, Cheong K, Kyung BS. Preoperative factors involved in dislocation of mobile bearing after Oxford medial unicompartmental knee arthroplasty. *Clin Surg.* 2019;4:2398.

A Possible Link Between Plantar Fasciitis and Achilles Tendon Rupture: A Case Report

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Introduction

Plantar fasciitis is one of the most common causes of heel pain in physically active individuals and is considered a chronic degenerative condition related to repetitive mechanical overload (1). Plantar fasciitis may increase the risk of Achilles tendon shortening and rupture (2).

Case Presentation

A 44-year-old physically active male presented with acute sharp pain in the left foot. Ultrasound examination revealed moderate plantar fasciitis with partial tearing. Physical examination showed reduced range of motion of the left ankle, tenderness at the plantar fascia insertion on the calcaneus, and marked Achilles tendon shortening. A structured rehabilitation program was recommended. Although symptoms gradually improved, the patient did not adhere to the prescribed rehabilitation and treatment was limited to activity restriction and relative rest. After symptom resolution, he resumed recreational basketball. Six months later, he presented with a sudden “popping” sensation in the left Achilles region. Clinical and ultrasound findings confirmed a left Achilles tendon rupture, and surgical repair of Achilles tendon was performed. One year later, Biodex testing demonstrated improved ankle strength with a persistent ~20% left-sided plantarflexion deficit. Continued strengthening and stability training were recommended.

Discussion

The plantar fascia and Achilles tendon are functionally linked within the posterior kinetic chain. Therefore, increased fascial tension and posterior calf muscle alterations



associated with plantar fasciitis may increase mechanical loading and injury risk of the Achilles tendon (2,3). Pain reduction does not necessarily indicate full biomechanical recovery, especially without structured rehabilitation (4,5). Effective management should prioritize functional and biomechanical recovery through progressive strengthening and stretching exercises to reduce reinjury risk (6,7). Insufficient functional recovery before sports resumption may increase the risk of Achilles tendon rupture (8).

Conclusions

Plantar fasciitis may cause posterior chain dysfunction and increased Achilles tendon loading. Symptoms resolution does not necessarily reflect full functional recovery. Insufficient functional restoration before resuming sports activity may increase the risk of Achilles tendon injury.

References

1. Hamstra-Wright KL, Huxel Bliven KC, Bay RC, Aydemir B. Risk Factors for Plantar Fasciitis in Physically Active Individuals: A Systematic Review and Meta-analysis. Vol. 13, Sports Health. SAGE Publications Inc.; 2021. p. 296–303.
2. Latt LD, Jaffe DE, Tang Y, Taljanovic MS. Evaluation and Treatment of Chronic Plantar Fasciitis. Vol. 5, Foot and Ankle Orthopaedics. SAGE Publications Inc.; 2020.
3. Zhu G, Wang Z, Yuan C, Geng X, Zhang C, Huang J, et al. A Radiographic Study of Biomechanical Relationship between the Achilles Tendon and Plantar Fascia. Biomed Res Int. 2020 Jan 18;2020(1).
4. Hanlon SL, Pohlig RT, Silbernagel KG. Differences in Recovery of Tendon Health Explained by Midportion Achilles Tendinopathy Subgroups: A 6-Month Follow-up. Journal of Orthopaedic and Sports Physical Therapy. 2023 May 1;53(4):217–34.
5. Corrigan P, Cortes DH, Pohlig RT, Grävare Silbernagel K. Tendon Morphology and Mechanical Properties Are Associated With the Recovery of Symptoms and Function in Patients With Achilles Tendinopathy. Orthop J Sports Med. 2020 Apr 1;8(4).
6. Motley T. Plantar Fasciitis/Fasciosis. Clin Podiatr Med Surg. 2021 Apr;38(2):193–200.
7. Cooper MT. Common Painful Foot and Ankle Conditions: A Review. Vol. 330, JAMA. American Medical Association; 2023. p. 2285–94.
8. McAuliffe S, Tabuena A, McCreesh K, O’Keeffe M, Hurley J, Comyns T, et al. Altered strength profile in Achilles tendinopathy: A systematic review and meta-analysis. J Athl Train. 2019;54(8):889–900.

Multiple Comminuted Pelvic Ring Fractures: Case Report of Surgical Management

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Introduction

Pelvic ring fractures (PRFs) have an estimated incidence of 0.8 per 100.000 individuals per year [1]. These injuries most commonly affect young males between 18 and 44 years of age and are typically the result of high-energy trauma [1,2]. Management of unstable PRFs requires a coordinated multidisciplinary approach, guided by ATLS protocols [3]. Definitive treatment aims to achieve anatomical restoration of the pelvic ring to reduce mortality and minimize long-term pelvic dysfunction [4,5].

Case Presentation

A 40-year-old man presented with severe left pelvic pain after a diving injury. Imaging revealed displaced, comminuted fractures involving the left pubic rami, pubic body, iliac wing, and lateral sacrum (S1–S5 foramina). He was admitted to the ICU for anemia monitoring, remained hemodynamically stable, received pain control, and was stabilized with a pelvic binder. Ten days later, open reduction and internal fixation were performed using a modified Stoppa approach. Anatomical reduction was achieved under fluoroscopy, and fixation was accomplished with three plates addressing the pubic symphysis, inferior pubic ramus to iliac wing, and iliac wing fragments. The sacral fracture was treated nonoperatively. Postoperatively, the patient remained non-weight-bearing for 8 weeks and ambulated with crutches. At 12 weeks, radiographs confirmed fracture union, and gradual weight-bearing and rehabilitation were initiated.



Discussion

Modified Stoppa approach provides a shorter duration of surgery, less blood loss and improved intrapelvic exposure compared with a more invasive ilioinguinal approach [6,7]. This case highlights the effectiveness of ORIF using the modified Stoppa approach in achieving stable anatomical reduction of the pelvic ring. Precise reduction is critical for optimizing long-term functional outcomes and preventing complications such as chronic pain, malunion, gait abnormalities, and pelvic organ dysfunction.

Conclusions

Despite the potentially life-threatening nature of PRFs and its associated injuries, a coordinated multidisciplinary approach can achieve effective stabilization and support meaningful functional recovery, even in the presence of highly complex fracture patterns [4,5].

References

1. Perry K, Mabrouk A, Chauvin Authors Kevin Perry BJ, Chauvin Affiliations BJ. Pelvic Ring Injuries Continuing Education Activity [Internet]. 2024. <https://www.ncbi.nlm.nih.gov/books/NBK544330/>
2. Davis DD, Tiwari V, Kane SM, Waseem M. Pelvic Fracture Continuing Education Activity [Internet]. 2024. <https://www.ncbi.nlm.nih.gov/books/NBK430734/>
3. Madsen JE, Flugsrud GB, Hammer N, Puchwein P. Emergency treatment of pelvic ring injuries: state of the art. Arch Orthop Trauma Surg. Springer Science and Business Media Deutschland GmbH; 2024;144:4525–39. <https://doi.org/10.1007/s00402-024-05447-7>
4. Dabetic U, Grupkovic J, Zagorac S, Aleksandric D, Bogosavljevic N, Tulic G. Advances in Managing Pelvic Fractures in Polytrauma: A Comprehensive Review. J Clin Med. Multidisciplinary Digital Publishing Institute (MDPI); 2025. <https://doi.org/10.3390/jcm14051492>
5. Ohla J, Walus P, Wiciński M, Małkowski B, Turoń B, Jabłoński A, et al. Pelvic Fractures in Adults and the Importance of Associated Injuries—A Current Multi-Disciplinary Approach. Clin Pract. Multidisciplinary Digital Publishing Institute (MDPI); 2025;15. <https://doi.org/10.3390/clinpract15070130>
6. Shigemura T, Murata Y, Yamamoto Y, Shiratani Y, Hamano H, Wada Y. Comparison between ilioinguinal approach and modified Stoppa approach for the treatment of acetabular fractures: An updated systematic review and meta-analysis. Orthopaedics and Traumatology: Surgery and Research. Elsevier Masson s.r.l.; 2022;108. <https://doi.org/10.1016/j.otsr.2022.103204>
7. Srivastava A, Rajnish RK, Kumar P, Haq RU, Dhammi IK. Ilioinguinal versus modified Stoppa approach for open reduction and internal fixation of displaced acetabular fractures: a systematic review and meta-analysis of 717 patients across ten studies. Arch Orthop Trauma Surg. Springer Science and Business Media Deutschland GmbH; 2023. p. 895–907. <https://doi.org/10.1007/s00402-022-04369-6>

A Custom-Made Titanium Prosthesis of the Talus for the Treatment of Idiopathic Talar Avascular Necrosis: A Case Report

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Introduction

Idiopathic avascular necrosis (AVN) of the talus is a debilitating condition that causes severe ankle pain, reduced range of motion, gait impairment, and functional loss [1]. Because a large proportion of the talar surface is covered by articular cartilage and its vascular supply is limited, the talus is particularly susceptible to AVN. Multiple treatment options have been described for this condition [2]. In advanced cases with extensive bone loss, where other treatment modalities are not feasible, total talus replacement (TTR) may be indicated to alleviate pain and restore ankle function [3].

Case Presentation

A 44-year-old man presented with progressively worsening left ankle pain that impaired function and ambulation, requiring crutches. There was no history of trauma. Plain radiographs, CT, and MRI of the left ankle demonstrated fragmentation of the talar trochlea with collapse of the articular surface, consistent with avascular necrosis of the talus. Following multidisciplinary consultation, total talar replacement with a



custom-made 3D titanium implant was performed. 3D implant was designed based on the anatomical characteristics of the patient, utilizing computed tomography of the talus from the other. Postoperative imaging confirmed correct prosthesis positioning. The patient was maintained non-weight-bearing on the operated limb for 3 weeks and ambulated with crutches. Immobilization with an orthopedic splint was applied for 6 weeks. At the 3-week outpatient follow-up, the patient was allowed to begin weight-bearing and was referred for rehabilitation.

Discussion

TTR is an attractive surgical option for both patients and surgeons as it is the only operative method that preserves ankle range of motion [4]. Compared with arthrodesis using bone grafts, TTR allows faster rehabilitation and earlier return to daily activities [5]. Moreover, there is increasing evidence that the custom implant prevents degenerative changes in adjacent joints and evenly distributes the forces during ambulation, producing stability [6].

Conclusions

TTR is a viable treatment option for AVN of the talus as a custom-made implant matches the patient's native anatomy, restoring ankle integrity and function.

References

1. Choi YH, Kwon TH, Choi JH, Lee DY, Lee KM. Natural course of talar avascular necrosis during short-term follow-up and factors associated with Disease progression. *BMC Musculoskelet Disord*. 2024 Jan 22;25(1):85.
2. Zhang H, Fletcher AN, Scott DJ, Nunley J. Avascular Osteonecrosis of the Talus: Current Treatment Strategies. *Foot Ankle Int*. 2022 Feb;43(2):291–302.
3. Abar B, Kim MS, Adams SB, Adams WR, Amendola A, Easley ME, et al. Initial Safety of Total Talus Replacement Used to Treat Talar Avascular Necrosis. *Foot Ankle Int*. 2024 Nov;45(11):1258–65.
4. Cottom JM, Badell JS, Wolf JR. Management of Talar Avascular Necrosis with Total Talus. *Clin Podiatr Med Surg*. 2023 Oct;40(4):735–47.
5. Morita S, Taniguchi A, Miyamoto T, Kurokawa H, Takakura Y, Takakura Y, et al. The Long-Term Clinical Results of Total Talar Replacement at 10 Years or More After Surgery. *J Bone Joint Surg Am*. 2022 May 4;104(9):790–5.
6. Johnson LG, Anastasio AT, Fletcher AN, Hendren S, Adams SB. Outcomes following total talus replacement: A systematic review. *Foot Ankle Surg*. 2022 Dec;28(8):1194–201.

Early Mechanical Failure After Primary Total Knee Arthroplasty Requiring Revision Surgery: A Case Report

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Introduction

Total knee arthroplasty (TKA) effectively reduce pain in advanced osteoarthritis cases, however, mechanical failure, especially in early stages, remains a serious complication requiring revision surgery [1]. Component loosening shortly after implantation is uncommon and challenging to manage [2]. We present a case of early mechanical femoral component failure following primary TKA.

Case Presentation

A 77-year-old woman developed progressive pain, instability, and reduced function in the left knee two months following primary TKA for osteoarthritis. Conservative treatment was unsuccessful. Examination showed painful, limited motion, medial laxity, difficult weight-bearing without infection signs. Radiographs confirmed femoral component loosening. Patient underwent revision TKA. Intraoperatively, loosening of the femoral component with a medial femoral condyle fracture was noted. Revision was performed using a constrained condylar knee implant with stem extensions and augments to restore alignment, manage bone loss, and improve stability. There were no intraoperative complications. During postoperative period, the patient received antibiotic treatment, thromboembolism prophylaxis, early mobilization and physiotherapy. Recovery was satisfactory with improved mobility and reduced pain. Control radiographs showed proper implant position without loosening or fractures.

Discussion

Early failure after TKA may result from insufficient fixation, ligament imbalance or osteoporotic bone. Correct diagnosis and further treatment are crucial to avoid further morbidity. Constrained revision systems provide adequate stability in cases with ligament insufficiency and bone defects[3].

Conclusions

This case emphasizes the necessity for early diagnosis of mechanical TKA complications. Prompt revision arthroplasty can result in favourable outcomes even when early loosening and bone compromise are present.

References

1. [1] Mathis DT, Lohrer L, Amsler F, Hirschmann MT. Reasons for failure in primary total knee arthroplasty - An analysis of prospectively collected registry data. J Orthop 2021;23:60–6. <https://doi.org/10.1016/j.jor.2020.12.008>.
2. [2] Inui H, Yamagami R, Kono K, Kawaguchi K. What are the causes of failure after total knee arthroplasty? Journal of Joint Surgery and Research 2023;1:32–40. <https://doi.org/10.1016/j.jjoisr.2022.12.002>.
3. [3] Jannelli E, Ivone A, Rossi S, Ghiara M, Castelli A, Pasta G, et al. Clinical Outcomes of Revision Total Knee Arthroplasty among Different Etiologies and Treated with a Condylar Constrained Knee Implant Supported with Cones. Applied Sciences (Switzerland) 2022;12. <https://doi.org/10.3390/app121910117>.

Acute Hand Frostbite Induced by Liquefied Petroleum Gas Exposure: A Case Report

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Introduction

Liquefied petroleum gas is colorless, odorless hydrocarbon mixture. Rapid evaporation cause cold injury, as the resulting drop in temperature can lead to frostbite [1]. Frostbite represents a cold induced injury in which tissue temperatures fall low enough to allow ice crystal formation within superficial deep layers [2]. For frostbite injuries, initiating reperfusion directed therapy early is associated with superior tissue protection compared with conventional conservative care, defined as noninvasive management without active restoration of microvascular flow [3].

Case Presentation

This case describes a 34 y.o. man who sustained a right hand injury while refueling a car with LPG. Immediately after the incident, his hand became numb and cold. Examination showed diffuse redness, swelling, and hypoesthesia. He was admitted to the ICU for thrombolysis. After treatment swelling stabilized and a single serous blister appeared dorsally, the dorsal hand and medial side of the fifth finger were paler, but all fingers remained warm. Further management included LMWH aspirin ibuprofen and wound care with paraffin mesh and sterile dressings. Early antithrombotic therapy and local wound care preserved perfusion, halted injury progression and resulted in complete hand viability. At discharge swelling and sensory deficits had resolved, skin integrity was restored and no ischemic changes were present.

Discussion

When exposed to cold, the body responds by alternating vasoconstriction and vasodilation to protect the extremities from cold induced damage [4]. However this protective

response can also lead to severe injury, including progressive thrombosis and tissue ischemia [5]. Early thrombolytic therapy has been shown to reduce amputation rates in severe frostbite [6]. In our case, early assessment and prompt medical reperfusion therapy stabilized perfusion and improved tissue recovery.

Conclusions

This unique case highlights the potential severity of LPG induced frostbite and the importance of early recognition of frostbite as a thrombotic injury. Prompt vascular assessment and monitoring of tissue perfusion guided targeted treatment. Early thrombolytic and antithrombotic therapy improved perfusion halted injury progression and resulted in complete preservation of hand viability with full functional recovery.

References

1. Vellingiri K, Bhat AK, Acharya AM, Pai MG. Liquefied petroleum gas injury of the hand. *Journal of Karnataka Orthopaedic Association*. 2022 Aug;10(2):48–50.
2. Knapik JJ, Reynolds KL, Castellani JW. Frostbite: Pathophysiology, Epidemiology, Diagnosis, Treatment, and Prevention. *Journal of Special Operations Medicine*. 2020;20(4):123.
3. Regli IB, Oberhammer R, Zafren K, Brugger H, Strapazzon G. Frostbite treatment: a systematic review with meta-analyses. *Scand J Trauma Resusc Emerg Med*. 2023 Dec 11;31(1):96.
4. Regli IB, Strapazzon G, Falla M, Oberhammer R, Brugger H. Long-Term Sequelae of Frostbite—A Scoping Review. *Int J Environ Res Public Health*. 2021 Sep 14;18(18):9655.
5. Joshi K, Goyary D, Mazumder B, Chattopadhyay P, Chakraborty R, Bhutia YD, et al. Frostbite: Current status and advancements in therapeutics. *J Therm Biol*. 2020 Oct;93:102716.
6. Lorentzen AK, Davis C, Penninga L. Interventions for frostbite injuries. *Cochrane Database of Systematic Reviews*. 2020 Dec 20;2020(12).

Individualised 3D printed mechanical partial hand prosthesis and Masquelet technique following bilateral partial hand amputation: A case report

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Introduction

Bilateral partial hand amputations severely reduce function. Losing multiple fingers, especially thumbs, which provide about 40 % of hand function [1] limits grasp and independence. Crush injuries often cannot be fully reconstructed [2]. Partial hand prostheses fill a gap when reconstructive surgery is not possible [3]. Modern 3D scanning and printing allow rapid individualised prostheses.

Case Presentation

A 62 y music performer's hands were crushed by a press, causing traumatic amputations of all fingers except the right thumb and index, part of the left thumb. Emergency surgery involved debridement, osteosynthesis of the remaining digits, attempted replantation. Nonviable fingers were amputated. Over the next year the right index developed chronic osteomyelitis with a comminuted fracture. After failed conservative care, sequestrectomy and Masquelet technique with a polymethylmethacrylate (PMMA) spacer reinforced the bone. Prostheses were considered only when no other treatments remained. Once the wounds healed, palms were laser scanned with a HandySCAN 700 to capture residual anatomy. Anonymised 3D scans were transferred into Fuse CAD to create digital models of a mechanical left hand prosthesis with custom sockets, finger segments.

Discussion

Digital fabrication provided precise, patient specific prosthesis. Reports show that custom 3D printed devices improve grasp and fit [4]. A mechanical design was chosen because body powered prostheses are lighter and more durable than myoelectric prostheses [5]. The HandySCAN 700 captures up to 480000 measurements s^{-1} using laser triangulation enabling accurate custom prosthetic design [6]. Although many body powered partial hand devices can be coupled to preserved joints, digits this case used a self contained mechanical prosthesis without residual finger actuation. Masquelet technique reinforced the index finger. Its PMMA spacer fills bone cavities and provides structural support [7].

Conclusions

Digital 3D scanning and CAD based fabrication produced a custom mechanical partial hand prosthesis that should restore functional grasp and improve the patient's independence. Precisely matched to the residual palm this printed lightweight body powered device provided a stable, comfortable interface and may offer a feasible option when multiple digits are amputated and not reconstructable.

References

1. Hanawi M, Bhat TA, Alokaili H, Altamimi A, Mirza MY. A Successful Non-microsurgical Thumb Reconstruction by Using the Skeletonized Amputated Phalanges, After a Failed Trial of Microsurgical Replantation: A Case Report. *Cureus*. 2022 Dec 10;
2. Li AY, Watt AJ. Approach to Complex Upper Extremity Reconstruction. *Semin Plast Surg*. 2022 Nov 4;36(04):221–32.
3. Aleman Paredes K, Selaya Rojas JC, Nolasco Mendoza CL, Acosta Ramirez A, Montelongo Quevedo M, Flores Valdés JR. Restorative Strategies for Bilateral Mutilated Hands in a Secondary Care Level: A Report of a Case in Mexico. *Cureus*. 2024 Mar 12;

4. Putra KB, Montgomery N, Kalamdani S, Chen L, Kelly B, Wensman J, et al. Fabrication and assessment of partial finger prostheses made using 3D-printed molds: A case study. *Prosthet Orthot Int*. 2023 Jun;47(3):327–35.
5. Esquenazi A. Upper Limb Prosthetics [Internet]. PM&R Knowledge NOW. 2024 [cited 2025 Dec 15]. Available from: <https://now.aapmr.org/upper-limb-prosthetics/>
6. AKULOVAS D, KLEIVA A, EIDUKYNAS D. Investigation of Robotic System Parameters for 3D Scanning Human Limbs. *Mechanics*. 2025 Sep 14;31(4):410–4.
7. Saito T, Noda T, Kondo H, Demiya K, Nezu S, Yokoo S, et al. The Masquelet technique for septic arthritis of the small joint in the hands: Case reports. *Trauma Case Rep*. 2020 Feb;25:100268.

Advanced Biologic Skin Substitute Therapy for a Refractory Pressure Ulcer in a Quadriplegic Patient: A Case Report

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Introduction

Biologic skin substitutes may be used alongside standard wound care for chronic pressure ulcers that fail to heal despite optimized conservative management, such as pressure offloading, appropriate wound dressings, infection control, and nutritional support; however, evidence remains limited [1–4].

Case Presentation

A 45-year-old homebound male with quadriplegia following a motor vehicle accident presented with a chronic Stage 2 pressure ulcer of the left buttock persisting for over four months. The ulcer measured 4.0 × 2.0 × 2.5 cm and showed full-thickness tissue loss with healthy granulation tissue and no signs of infection. Despite six months of optimized standard care, including pressure offloading, appropriate dressings, and nutritional support, no significant healing was observed. Due to the lack of response to conservative treatment, a biologic skin substitute was applied. After wound bed preparation with sterile saline irrigation, a dehydrated amniotic membrane allograft (AmchoPlast) was placed. The procedure was well tolerated. At the time of reporting, early signs of wound improvement were noted, and further follow-up is ongoing.

Discussion

Small comparative studies have reported higher healing rates with biologic skin substitutes compared with standard care alone, with absolute differences of approximately 10–20%, however, these findings are based on low-quality evidence [5,6].

Conclusions

Biologic skin substitutes may be considered for selected chronic pressure ulcers, but

consistent wound care, including pressure offloading and appropriate dressings, remains essential.

References

1. Haxho F, Lytvyn Y, Shelley AJ, Ortega A, Melin M, Alavi A. Wound care—part II: Tissue-engineered skin substitutes and other advanced wound therapies. *J Am Acad Dermatol*. 2025 Jun 19:S0190-9622(25)02375-8. doi:10.1016/j.jaad.2025.06.045. Epub ahead of print. PMID:40543660.
2. Kondej K, Zawrzykraj M, Czerwiec K, Deptuła M, Tymińska A, Piśkuła M. Bioengineering skin substitutes for wound management—perspectives and challenges. *Int J Mol Sci*. 2024 Mar 26;25(7):3702. doi:10.3390/ijms25073702. PMID:38612513. PMCID:PMC11011330.
3. Gould LJ, Alderden J, Aslam R, et al. WHS guidelines for the treatment of pressure ulcers—2023 update. *Wound Repair Regen*. 2024;32(1):6–33. doi:10.1111/wrr.13130.
4. Gefen A, Brienza DM, Cuddigan J, Haesler E, Kottner J. Our contemporary understanding of the aetiology of pressure ulcers/pressure injuries. *Int Wound J*. 2022 Mar;19(3):692–704. doi:10.1111/iwj.13667. Epub 2021 Aug 11. PMID:34382331. PMCID:PMC8874092.
5. Alvarez OM, Archambault T, Sabolinski ML. Comparative effectiveness study of a bilayer cellular construct and dehydrated human amnion/chorion membrane in the treatment of pressure injuries. *J Wound Care*. 2025 Aug 2;34(8):616–622. doi:10.12968/jowc.2024.0070. PMID:40801773.
6. Narayan N, Ramegowda YH, Raghupathi DS, Chethan S, Gowda S. Biological skin substitutes in pressure ulcers: high-purity type I collagen-based versus amnion/chorion membrane. *Cureus*. 2025 Aug 25;17(8):e90956. doi:10.7759/cureus.90956. PMID:40862036. PMCID:PMC12377520.

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Abstracts

Normal-Tension Glaucoma in Pseudophakic Patient with End-Stage Left Eye Glaucoma and Preserved Right Eye

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Introduction

Normal-tension glaucoma (NTG) is a subtype of primary open-angle glaucoma characterized by glaucomatous optic neuropathy and corresponding visual field loss despite statistically normal intraocular pressure (IOP), as defined in current glaucoma guidelines [1-2]. Vascular dysregulation and optic nerve susceptibility are important contributors.

Case Presentation

A 65-year-old pseudophakic woman with a >10-year history of glaucoma was followed from 2017 to 2025. Ocular history included bilateral cataract extraction (2015–2016) and a peripheral retinal tear treated with laser in 2017. Treatment included travoprost once nightly and dorzolamide/timolol twice daily; memantine and B-vitamins were added for suspected vascular compromise. Serial magnetic resonance imaging showed optic nerve atrophy with nonspecific ischemic foci and no compressive or demyelinating lesions. Gonioscopy revealed open angles. In 2025, best-corrected visual acuity was 1.0 in the right eye (OD) and 0.4 in the left eye (OS), with IOP ranging from 9–12 mmHg on therapy. Fundus examination showed glaucomatous cupping and disc pallor, more pronounced in OS. Retinal nerve fiber layer thickness on optical coherence tomography was reduced bilaterally (OD 55 μ m, OS 49 μ m). Humphrey 24-2 visual field testing showed an almost normal visual field in OD (visual field index 99%, mean deviation –2.56 dB) and end-stage glaucomatous visual field loss in OS (visual field index 22%, mean deviation –26.71 dB).

Discussion

NTG frequently demonstrates inter-eye asymmetry, particularly in patients with vascular risk factors, as reported in clinical and perfusion studies.[3] In this case, open angles, characteristic optic disc cupping, retinal nerve fiber layer thinning, and arcuate with central visual field defects are consistent with asymmetric NTG. The right eye shows mild glaucomatous

damage, whereas the left eye demonstrates end-stage disease. The diffuse glaucomatous visual field loss pattern cannot be explained by the prior peripheral retinal tear or its laser treatment.

Conclusions

This case illustrates that NTG may progress to severe damage at low IOP [1-3]. Individualized low target pressures, optimization of systemic vascular status, and close optical coherence tomography and perimetry follow-up are essential to preserve vision in the better-seeing eye.

References

1. European Glaucoma Society. Terminology and Guidelines for Glaucoma. 5th ed. Savona (IT): PubliComm; 2020.
2. Gedde SJ, Vinod K, Wright MM, Muir KW, Lind JT, Chen PP, et al. Primary open-angle glaucoma Preferred Practice Pattern®. *Ophthalmology*. 2021;128(1):P71–P150.
3. Ch'ng TW, Gillmann K, Hoskens K, Orgül S, Mansouri K. Ocular perfusion pressure and glaucoma severity: a systematic review. *Front Med (Lausanne)*. 2021;8:742004.

Valsalva Retinopathy During Pregnancy: Case Report

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Introduction

Subhyaloid hemorrhage is defined as preretinal accumulation of blood located between the posterior hyaloid membrane and the internal limiting membrane [1]. It is known to manifest with sudden increase in intrathoracic pressure—classically described as Valsalva retinopathy [2].

Case Presentation

A 27-year-old pregnant woman at 33 weeks of gestation presented with sudden vision loss in the left eye after an emesis episode the previous day. On examination, visual acuity (VA) in the left eye (OS) was reduced to counting fingers at ~10 cm. Fundus photography of the OS revealed a large well-defined subhyaloid hemorrhage centered over the macula. Optical Coherence Tomography (OCT) confirmed the hemorrhage location, and Optos wide-field imaging showed its extent. Given the serious visual impairment, Nd:YAG laser hyaloidotomy was performed the same day under topical anesthesia. A single 7.0 mJ pulse perforated the posterior hyaloid membrane and enabled blood evacuation into the inferior vitreous cavity. At follow-up two days later, VA in the OS had improved to 0.1. The subhyaloid hemorrhage had largely resorbed, leaving residual blood elements within the vitreous. OCT demonstrated a normal macular structure, a persistent hyaloid membrane, and remaining vitreous blood, consistent with an improving clinical course. Three weeks later, VA in the OS had further improved to 0.7. Vitreous hemorrhage was significantly decreased, and the subhyaloid hemorrhage had fully resolved. OCT showed a normal foveal contour with minimal residual vitreous blood. Overall, the patient's functional and anatomical recovery was steady. Since the initial hemorrhage occurred after a vomiting episode, the patient was advised to consider cesarean delivery, as natural labor may increase the risk of recurrence.

Discussion

Valsalva retinopathy is an uncommon condition linked to increased intrathoracic pressure, with pregnancy being a predisposing factor. Patients typically experience sudden, painless vision loss due to premacular hemorrhage. Nd:YAG laser hyaloidotomy enables rapid visual recovery by facilitating hemorrhage drainage, whereas spontaneous resolution may take up to five months [3].

Conclusions

Subhyaloid hemorrhage may take months to clear spontaneously. Nd:YAG hyaloidotomy provides a minimally invasive solution leading to rapid recovery.

References

1. Shukla UV, Gurnani B, Kaufman EJ. Intraocular Hemorrhage. [Updated 2024 Oct 6]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK567779/>
2. Simakurthy S, Tripathy K. Valsalva Retinopathy. [Updated 2023 Aug 25]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK545219/>
3. Zhou B, Sarwar F, Ashkenazy N. Valsalva Retinopathy in Pregnancy: A Case Report and Review of the Literature. *Int Med Case Rep J*. 2025 Jun 30;18:777-784. doi: 10.2147/IMCRJ.S524362. PMID: 40621446; PMCID: PMC12227002.

Living With a Rare Ocular Disease: A Case of congenital cataract

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Introduction

Congenital cataract is a leading cause of childhood blindness (5–20% worldwide) [1]. Early surgery helps prevent deprivation amblyopia but carries a significant long-term risk of secondary glaucoma [2].

Case Presentation

A child who underwent bilateral congenital cataract extraction at 2 months of age was evaluated during routine follow-up for fluctuating intraocular pressure (IOP). The postoperative course had been uneventful apart from amblyopia management. Initial IOP was normal, at 7 years of age, elevations up to 28 mmHg in the right eye and 25 mmHg in the left eye were detected, and topical timolol therapy was initiated. Visual acuity remained variable but showed gradual improvement with ongoing amblyopia therapy. Gonioscopy revealed postoperative angle alterations, while fundus examination showed progressive optic nerve cupping. Optical coherence tomography (OCT), although limited by suboptimal image quality, demonstrated retinal nerve fiber layer thinning. And a mild increase in central corneal thickness was observed that was not clinically significant. Topical antiglaucoma therapy was initiated, resulting in partial IOP control though with ongoing fluctuations. The patient remains under close surveillance to determine the need for potential surgical intervention.

Discussion

Secondary glaucoma is a well-recognized late complication after congenital cataract surgery and may develop months to decades postoperatively [3]. Risk is increased with earlier surgery, aphakia, microcornea, anterior segment/angle anomalies, and other



developmental angle abnormalities [3–5]. In this patient, progressively rising IOP, increasing optic disc cupping, OCT changes, and postoperative angle findings on gonioscopy were consistent with early glaucomatous damage [4,6]. Management of glaucoma after congenital cataract surgery is challenging [4]. Although topical therapy can provide partial IOP control, many children ultimately require surgical treatment [6]. Because progression is often subtle and asymptomatic, long-term monitoring is essential [4].

Conclusions

This case highlights the chronic risk of glaucoma after congenital cataract surgery and the essential role of long-term surveillance [4]. Regular IOP checks, optic nerve evaluation, and OCT monitoring, with timely treatment according to disease stage [7].

References

1. Charlene Crockett, MD, Kathryn A. Camero, MD, Lingkun Kong, MD, PhD, Kimberly G. Yen, MD. Visual outcomes of patients presenting with bilateral infantile cataracts and nystagmus [Internet]. 2017 Apr 9 [cited 2025 Dec 03].
2. Bell SJ, Oluonye N, Harding P, Moosajee M. Congenital cataract: a guide to genetic and clinical management. *Ther Adv Rare Dis*. [Internet]. 2020 Jul 22.
3. Li L, Wang X, Liu C, Wang S, Wang X. Incidence Rate of Secondary Glaucoma Following Congenital Cataract Surgery: An In-Depth Systematic Review and Meta-Analysis. *Am J Ophthalmol*. [Internet]. 2024 Sep.
4. Freedman SF, Beck AD, Nizam A, Vanderveen DK, Plager DA, Morrison DG, Drews-Botsch CD, Lambert SR; Infant Aphakia Treatment Study Group. Glaucoma-Related Adverse Events at 10 Years in the Infant Aphakia Treatment Study: A Secondary Analysis of a Randomized Clinical Trial. *JAMA Ophthalmol*. [Internet]. 2021 Feb 1.
5. Krista Heidar, MD, Prerana Tripathi MBBS DOMS DNB. Cataracts in Children, Congenital and Acquired. [Internet]. 2025 Aug 3.
6. Baris M, Biler ED, Yilmaz SG, Ates H, Uretmen O, Kose S. Treatment results in aphakic patients with glaucoma following congenital cataract surgery. *Int Ophthalmol*. [Internet]. 2019 Jan.
7. Shen R, Li VSW, Wong MOM, Chan PPM. Pediatric Glaucoma-From Screening, Early Detection to Management. *Children (Basel)*. [Internet]. 2023 Jan 18.

Iris Tamponade of a Corneal Perforation Caused by a Metallic Foreign Body: A Case Report

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Introduction

Metallic corneal foreign bodies are common and may lead to serious complications, including corneal ulceration or, rarely, full-thickness perforation. [1] Spontaneous iris prolapse at the perforation site, though uncommon, is vision-threatening. [2] This case illustrates such progression and the value of timely diagnosis and conservative management.

Case Presentation

A 66-year-old man presented with a one-week history of progressive blurred vision in the right eye after rubbing it. On examination, visual acuity (VA) was 0.03 (0.1 corrected), intraocular pressure 8 mmHg. Ocular ultrasonography showed a superior choroidal detachment with vitreous opacities, while computed tomography was unremarkable. Slit-lamp exam revealed a paracentral corneal opacity with rust deposits from a prior metallic foreign body. Fluorescein pooling and a positive Seidel test indicated a small corneal perforation, with iris tamponade at the wound. The anterior chamber was shallow laterally, the pupil was irregular and drawn to 9 o'clock, but remained reactive. The fundus view was hazy due to vitreous opacities. A therapeutic contact lens was applied, and topical levofloxacin and cyclopentolate were started along with systemic antibiotics and anti-inflammatory therapy. After 24 hours, VA improved to 0.1 (0.4 corrected), and ultrasonography showed a flat superior



choroidal detachment. The anterior chamber reformed and he was discharged with VA 0.3 (0.7 pinhole), a clear cornea, and the perforation sealed by iris tamponade. The anterior chamber remained shallow but stable, and mild diffuse lens opacities persisted.

Discussion

Metallic corneal foreign bodies usually resolve after removal, but rare complications like full-thickness perforation can occur. [3] Spontaneous iris prolapse may act as a temporary autologous tamponade, as in our case, allowing conservative management with a therapeutic contact lens. Careful monitoring is essential to ensure healing and prevent secondary complications, such as infection or persistent leakage. [2]

Conclusions

This case shows that spontaneous iris prolapse does not always require surgical intervention. Conservative management with a healing lens can be effective, but vigilant follow-up is critical to preserve corneal integrity and visual function.

References

1. Melton R, Thomas R. Corneal Foreign Body. Clinical and Refractive Optometry [Internet]. 2025 Jan 22 [cited 2025 Nov 26];15(11–12):318–23. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK536977/>
2. Muceniece L, Markevica I, Laganovska G. Corneal Perforation Self-Healing with an Iris Plug in the Cornea. Case Rep Ophthalmol [Internet]. 2020 [cited 2025 Nov 26];11(2):330. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC7443679/>
3. Macarie SS, Vlad F, Macarie DM. Corneal perforation after corneal foreign body - Case Report. Rom J Ophthalmol [Internet]. 2023 Apr 15 [cited 2025 Nov 26];67(1):77. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10117182>

Subhyaloid Hemorrhage During Pregnancy: A Case Report

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Introduction

Subhyaloid hemorrhage (SH) is an accumulation of blood between the vitreous body and the retina, typically presenting with sudden deterioration of vision.[1] Most common cause is Valsalva retinopathy (VR), caused by acute intrathoracic or intra-abdominal pressure rise.[1,3] The risk increases during pregnancy due to changes in blood flow and venous pressure.[5,6]

Case Presentation

A 27-year-old woman at 33 weeks of gestation developed nausea during an eyelash extension procedure. After vomiting, she noted sudden central vision loss in the left eye, preserving only peripheral vision. Examination on 2025-08-27 showed: visual acuity (VA) of the right eye (OD) = 1.0; VA of the left eye (OS) = finger counting at 10 cm; intraocular pressure OD = 15.3 mmHg; OS = 16.3 mmHg. Anterior segments were unremarkable. Fundoscopy revealed a SH in the macular area of OS. Nd:YAG laser hyaloidotomy (7.0 mJ, N1) was performed. Follow-up one week later showed: vision slightly improved, though foggy and blurred. VA OS = 0.1. Vitreous hemorrhage present, subhyaloid blood partially resorbed. 2025-09-23 follow-up showed: significant subjective improvement; VA OS = 0.7; vitreous hemorrhage decreased; residual hemorrhagic borders remained. Recommendations: follow-up in 2 - 3 months. Cesarean delivery was recommended to avoid recurrence induced by strong Valsalva maneuvers during vaginal delivery.

Discussion

SH is an uncommon but vision-threatening condition, most frequently observed in younger patients and triggered by a sudden rise in intrathoracic or intraabdominal pressure. A vomiting episode, as in our case, is a well-documented predisposing factor for VR in the literature. [1,3] Nd:YAG laser hyaloidotomy is an effective treatment option, especially when performed within 3 - 4 weeks of symptom onset. [2] Recent data indicates that both delivery modes - vaginal and cesarean delivery are considered safe. However, the decision should be individualized, as literature recommendations apply when SH has had sufficient time to resolve, while in our case delivery planning was required while the hemorrhage was still only partially resorbed. [4]

Conclusions

This case highlights the importance of timely diagnosis and appropriate treatment of SH during pregnancy. The choice of delivery method must be individualized, based on the risk of bleeding and the ophthalmological condition.

References

1. Valsalva subhyaloidal hemorrhage. Retina Today 2022. Available from: <https://retinatoday.com/articles/2022-mar/valsalva-subhyaloidal-hemorrhage>
2. Khadka D, Bhandari S, Bajimaya S, Thapa R, Paudyal G, Pradhan E. Nd:YAG laser hyaloidotomy in the management of premacular subhyaloid hemorrhage. BMC Ophthalmol 2016; 16: 21. Available from: <https://link.springer.com/article/10.1186/s12886-016-0218-0>
3. Leite J, Meireles A, Correia NA. Valsalva Retinopathy after a Vomiting Episode. Case Rep Ophthalmol 2022; 13: 706–710. DOI: 10.1159/000525312.
4. Zhou B, Sarwar F, Ashkenazy N. Valsalva Retinopathy in Pregnancy: A Case Report and Review of the Literature. Int Med Case Rep J 2025; 18: 777–784. DOI: 10.2147/IMCRJ.S524362.
5. El-Defrawy H, Sallam A, McKechnie CJ, Zambarakji H. Valsalva retinopathy in pregnancy: Should we treat? JRSO Short Rep 2011; 2: 45.
6. Satirtav G. Premacular Subhyaloid Hemorrhage Treated with Argon Laser Hyaloidotomy in a Pregnant Patient. Case Rep Ophthalmol Med 2016.

Secondary Macular Neovascularisation After Blunt Trauma in 16-Year-Old Patient

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Introduction

Secondary macular neovascularisation (MNV) following choroidal rupture due to blunt trauma is rare but vision-threatening complication and may result in significant central vision loss up to 5–25% of affected eyes [1]. In this report we describe a case of secondary MNV after blunt trauma in a 16-year-old male, highlighting the clinical course, imaging findings and treatment.

Case Presentation

A 16-year-old male presented with worsened vision in the right eye (OD) one month after sustaining blunt ocular trauma. Visual acuity (VA) in the OD was 0.08 at presentation. Fundus examination revealed macular hemorrhage and oedema. Subsequent optical coherence tomography (OCT) and OCT angiography confirmed the presence of choroidal rupture and secondary MNV. Intravitreal anti-vascular endothelial growth factor (VEGF) injections with bevacizumab were initiated. Following 3 injections there was a reduction in MNV activity, with complete resolution of the hemorrhage and edema. Mild local retinal pigment epithelium atrophy was noted. VA improved to 0.9, and continued follow-up was recommended.

Discussion

Choroidal rupture typically results from traumatic injury and represents the most frequent macular finding observed in eyes sustaining blunt ocular trauma [2]. MNV develops due to increased production of VEGF by the retinal pigment epithelium and/or Müller cells in response to localized ischaemia and inflammation [3]. The primary treatment for MNV is intravitreal anti-VEGF [1]. VA at presentation and outcome depend on the



rupture location, baseline VA, and the presence of retinal hemorrhage, macular edema or macular holes, with some improvement possible as subretinal hemorrhage and edema resolve [2].

Conclusions

Secondary MNV after traumatic choroidal rupture due to blunt trauma particularly in paediatric population is rare but vision-threatening complication. This case highlights the importance of early detection, multimodal imaging, individualised approach and timely intravitreal anti-VEGF therapy that can substantially improve anatomical and functional outcomes.

References

1. Barth T, Zeman F, Helbig H, Gamulescu MA. Intravitreal anti-VEGF treatment for choroidal neovascularization secondary to traumatic choroidal rupture. *BMC Ophthalmol*. 2019 Nov 26;19(1).
2. Ozer O. A practical clinical approach to traumatic choroidal rupture. *Medical hypothesis, discovery & innovation in optometry*. 2023 Jun 22;4(2):76–82.
3. Sheth JU, Stewart MW, Narayanan R, Anantharaman G, Chandran K, Lai TYY, et al. Macular neovascularization. *Surv Ophthalmol* [Internet]. 2025 Jul 1 [cited 2025 Dec 13];70(4):653–75. Available from: <https://www.sciencedirect.com/science/article/abs/pii/S003962572400095X?>

When Vision Speaks First: Ocular Manifestations in Metastatic Disease

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Introduction

Metastatic brain lesions can cause a variety of symptoms. Visual changes might be the first and only complaint [1], therefore, a consistent evaluation and urgent systemic referral is essential in establishing the diagnosis. This case illustrates how ophthalmological examination may be the first sign of an underlying disease.

Case Presentation

A 62-year-old male with diabetes mellitus and arterial hypertension presented with worsening of vision, flickering, uneven visual perception and diplopia for 3 weeks. Visual acuity was 0.4 in the right eye and 0.7 in the left eye with normal intraocular pressure bilaterally. Fundus examination revealed bilateral optic nerve disc hyperemia and oedema, streak-like hemorrhages, cotton-wool spots, venous congestion and arterial sclerosis. Visual field testing demonstrated left-sided homonymous hemianopia, optical coherence tomography showed peripapillary retinal nerve fiber layer thickening. Emergent computed tomography revealed multiple metastatic brain lesions. With subsequent full systemic examination, the diagnosis of lung adenocarcinoma was made.

Discussion

Brain metastases are common (25%) complications in systemic malignancies with lungs as one of the most common sites of origin and may present with a variety of visual symptoms depending on anatomical location of metastases [1,2]. Ocular manifestations such as papilledema may be the initial sign of intracranial pathology and need a prompt



assessment [1]. This case underlines the importance of recognizing papilledema as potential life-threatening sign of intracranial metastatic disease and the need for multidisciplinary evaluation of the patient.

Conclusions

Visual disturbances, papilledema and visual field defects can represent as a sign of brain metastases. This case highlights the importance of careful ophthalmological evaluation in patients with atypical visual symptoms, as ocular findings may provide the first clue to an underlying malignant disease.

References

1. Chun NT, Mohamad NF, Masnon NA, Abdul Isa NS, Sallapan S. Stereotyped visual aura as early manifestation of a relapsed breast cancer with isolated brain metastasis. *Indian Journal of Ophthalmology - Case Reports* [Internet]. 2024 Oct [cited 2025 Dec 14];4(4):920–3. Available from: https://journals.lww.com/ijog/fulltext/2024/04040/stereotyped_visual_aura_as_early_manifestation_of.54.aspx
2. Cardinal T, Pangal D, Strickland BA, Newton P, Mahmoodifar S, Mason J, et al. Anatomical and topographical variations in the distribution of brain metastases based on primary cancer origin and molecular subtypes: a systematic review. *Neurooncol Adv* [Internet]. 2021 Jan 1 [cited 2025 Dec 14];4(1):vdab170. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC8739649/>

Clinical Management of Macular Edema Secondary to Retinal Vein Occlusion: A Case Report

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Introduction

Macular edema (ME), caused by retinal vein occlusion (RVO), is a common source of vision loss in elderly patients. Early diagnosis and prompt initiation of anti-VEGF therapy are critical for achieving favorable outcomes [1]. This report describes the diagnostic approach and treatment response in an 80-year-old woman with RVO-associated ME.

Case Presentation

In December 2024, the patient with a known history of heart failure, presented with decreased vision in the right eye (OD). Best-corrected visual acuity (BCVA) in OD was 0.28. Fundus examination revealed retinal hemorrhages along the superior arcade, and optical coherence tomography (OCT) and OCT angiography (OCTA) confirmed the presence of ME. The woman was diagnosed with superior branch RVO. Anti-VEGF therapy with intravitreal Ranibizumab was initiated. Over four injections administered between December 2024 and June 2025, OCT and OCTA showed progressive reduction and eventual resolution of ME, accompanied by functional improvement, with BCVA in OD improving to 0.49. By December 2025, the retina remained stable and ME had not recurred. Anti-VEGF treatment was no longer indicated and follow-up visits were scheduled.

Discussion

RVO is the second most common retinal vascular cause of visual impairment after diabetic retinopathy and predominantly affects elderly patients with cardiovascular risk factors [1,2]. Visual outcome largely depends on the presence and duration of ME, the most



frequent and vision-threatening complication of RVO [1,3]. OCT is essential for diagnosing and monitoring ME, while OCTA assists in identifying perfusion abnormalities and neovascularization [1]. Anti-VEGF therapy is the first-line treatment for ME secondary to RVO and provides significant anatomical and functional improvement [3,4]. Early initiation of therapy is crucial, as prolonged edema increases the risk of irreversible retinal damage and poorer prognosis [5].

Conclusions

This case demonstrates how anti-VEGF therapy successfully resolved ME and improved visual outcomes in this patient with RVO. OCT and OCTA played an essential role in guiding treatment decisions and confirming the resolution of edema. Sustained anatomical stability after treatment discontinuation highlights the benefit of individualized follow-up and imaging-guided management.

References

1. Studnicka J, Němcanský J, Vyslouzilová D, Ernest J, Veith M, Němec P. Retinal Vein Occlusion Guidelines. *Ceska a slovenska oftalmologie : casopis Ceske oftalmologicke spolecnosti a Slovenske oftalmologicke spolecnosti* [Internet]. 2024;80(6):298–305. Available from: <https://pubmed.ncbi.nlm.nih.gov/39709229/>
2. Terao R, Fujino R, Ahmed T. Risk Factors and Treatment Strategy for Retinal Vascular Occlusive Diseases. *Journal of Clinical Medicine*. 2022 Oct 27;11(21):6340
3. Qian T, Zhao M, Wan Y, Li M, Xu X. Comparison of the efficacy and safety of drug therapies for macular edema secondary to central retinal vein occlusion. *BMJ open*. 2018 Dec 1;8(12):e022700–0
4. Chen KY, Chan HC, Chan CM. Effectiveness and safety of anti-vascular endothelial growth factor therapies for macular edema in retinal vein occlusion: A systematic review and network meta-analysis of randomized controlled trials. *Survey of ophthalmology* [Internet]. 2025;70(6):1067–89. Available from: <https://pubmed.ncbi.nlm.nih.gov/40419166/>
5. Nicholson L, Talks SJ, Amoaku W, Talks K, Sivaprasad S. Retinal vein occlusion (RVO) guideline: executive summary. *Eye*. 2022 Mar 17

Ocular Complications of Influenza: A Case Report

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Introduction

Influenza viruses are RNA viruses of the Orthomyxoviridae family and are classified as types A–D [1,2]. Influenza A and B viruses circulate among humans, mainly A(H1N1) and A(H3N2), and B/Victoria and B/Yamagata lineages [3]. They cause acute febrile illness with systemic and respiratory symptoms [4]. In high-risk groups, including older adults, young children, pregnant women, people with chronic diseases, immunocompromised patients, influenza can lead to severe or life-threatening complications [5,6].

Case Presentation

A young boy developed bilateral visual deterioration after a viral illness. This case was evaluated retrospectively, and data on influenza testing and subtype was unavailable. Best-corrected visual acuity was 0.8 OD and 0.9 OS (previously 1.0 bilaterally). Slit-lamp examination showed no anterior segment abnormalities. Perimetry revealed central scotomas in both eyes and additional peripheral defects in the right eye. Optical coherence tomography showed mild retinal nerve fiber layer thickening in the left eye and parafoveal hyperreflective changes in both maculae. The patient was diagnosed with maculopathy post Influenza OU and treated with nepafenac eye drops. All findings resolved within fourteen days.

Discussion

Seasonal influenza affects up to 20% of the global population annually and causes

290,000–650,000 deaths [7,8]. Influenza is primarily a respiratory infection and only occasionally causes ocular complications, indicating that other infectious or inflammatory etiologies should be excluded when eye symptoms occur [9]. Conjunctivitis is most common, but uveitis, retinopathy, neuro-ophthalmic damage, and macular detachment have also been reported, caused by direct viral invasion or immune responses [10]. According to European guidelines, antiviral treatment is indicated mainly in patients with severe or high-risk influenza, and there are no specific recommendations for antiviral therapy based solely on ocular involvement [11]. Non-steroidal anti-inflammatory therapy was used in this case to suppress a presumed post-infectious inflammatory response [12].

Conclusions

Influenza may affect both systemic and ocular health, so early recognition, specific diagnosis and appropriate management are essential to prevent long-term sequelae.

References

1. Paules C, Subbarao K. Influenza. The Lancet [Internet]. 2017 Aug 12 [cited 2025 Dec 5];390(10095):697–708. Available from: <https://pubmed.ncbi.nlm.nih.gov/28302313/>
2. Liang Y. Pathogenicity and virulence of influenza. Virulence [Internet]. 2023 [cited 2025 Dec 5];14(1):2223057. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10283447/>
3. Zheng L, Lin Y, Yang J, Fang K, Wu J, Zheng M. Global variability of influenza activity and virus subtype circulation from 2011 to 2023. BMJ Open Respir Res [Internet]. 2023 Jul 25 [cited 2026 Jan 21];10(1):e001638. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10577751/>
4. Krammer F, Smith GJD, Fouchier RAM, Peiris M, Kedzierska K, Doherty PC, et al. Influenza. Nat Rev Dis Primers [Internet]. 2018 Dec 1 [cited 2025 Dec 5];4(1):1–21. Available from: <https://pubmed.ncbi.nlm.nih.gov/29955068/>
5. Clohisey S, Baillie JK. Host susceptibility to severe influenza A virus infection. Crit Care [Internet]. 2019 Sep 5 [cited 2025 Dec 5];23(1). Available from: <https://pubmed.ncbi.nlm.nih.gov/31488196/>
6. Grohskopf LA, Alyanak E, Broder KR, Walter EB, Fry AM, Jernigan DB. Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices — United States, 2019–20 Influenza Season. MMWR Recommendations and Reports [Internet]. 2019 [cited 2026 Jan 21];68(3):1. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC6713402/>
7. Tyrrell CS, Allen JLY, Gkrania-Klotsas E. Influenza: epidemiology and hospital management. Medicine (Abingdon) [Internet]. 2021 Dec 1 [cited 2025 Dec 5];49(12):797. Available

from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC8624711/>

8. World Health Organization (WHO) [Internet]. [cited 2025 Dec 5]. Available from: <https://www.who.int/>

9. Belser JA, Lash RR, Garg S, Tumpey TM, Maines TR. The eyes have it: influenza virus infection beyond the respiratory tract. *Lancet Infect Dis* [Internet]. 2018 Jul 1 [cited 2025 Dec 5];18(7):e220–7. Available from: <https://pubmed.ncbi.nlm.nih.gov/29477464/>

10. Zong Y, Qiu S, Zhang J, Yang M, Zou Y, Du J, et al. Influenza-Associated Ocular Complications: A Comprehensive Review of Viral Subtypes, Clinical Presentations, and Vaccination Risks. *Vaccines (Basel)* [Internet]. 2025 Sep 1 [cited 2025 Dec 5];13(9):950. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC12474507/>

11. Antiviral treatment of influenza [Internet]. [cited 2026 Jan 21]. Available from: https://www.ecdc.europa.eu/en/seasonal-influenza/prevention-and-control/antivirals?utm_source=chatgpt.com

12. Petrushkin H, Rogers D, Pavesio C. The Use of Topical Non-steroidal Anti-inflammatory Drugs for Uveitic Cystoid Macular Edema. *Ocul Immunol Inflamm* [Internet]. 2018 Jul 4 [cited 2026 Jan 23];26(5):795–7. Available from: <https://pubmed.ncbi.nlm.nih.gov/28080174/>

Blunt Ocular Trauma With Traumatic Lens Subluxation and Retinal Dialysis

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Introduction

High-energy blunt ocular trauma may result in combined anterior and posterior segment injuries, including lens instability and retinal dialysis, requiring surgical management.

Case Presentation

A 44-year-old male sustained severe blunt trauma to the left eye after being struck by a wooden plank at work. He was referred to Kaunas Clinics. On admission, best-corrected visual acuity (BCVA) was 0.8 in the right eye (OD) and limited to hand motion in the left eye (OS). Intraocular pressure (IOP) measured 10 mmHg OD and 4–5 mmHg OS. OS examination revealed periorbital edema, upper eyelid ptosis, conjunctival and lower eyelid lacerations requiring suturing, hyphema, traumatic mydriasis, lens subluxation, and vitreous hemorrhage. Fundus visualization was limited by media opacity. Ocular ultrasonography (OUS) showed dense vitreous opacities with suspected retinal traction and retinal dialysis. The patient received systemic and topical therapy including IV dexamethasone, oral ciprofloxacin, topical corticosteroids, antibiotics, mydriatics, and NSAIDs. Based on OUS findings, surgical management was indicated. Pars plana vitrectomy (PPV) with lensectomy, endolaser photocoagulation, cryopexy, and C3F8 tamponade was performed within one week. Intraoperatively, extensive zonular defects, vitreous hemorrhage, multiple retinal tears, and inferior retinal dialysis from 1–10 o'clock were identified. Complete vitreous removal, retinal reattachment, and stabilization were achieved.

Discussion

Retinal dialysis is strongly associated with blunt trauma and frequently leads to retinal

detachment if untreated, with modern series reporting high anatomic success after PPV or scleral buckle repair (1). Without surgical intervention, progression to retinal detachment and permanent visual impairment may occur. Blunt trauma can also cause zonular damage and traumatic lens subluxation (2). In this case, injury extent and imaging findings supported vitrectomy with lens removal and retinal repair. In case of favorable retinal healing, secondary intraocular lens implantation with peripheral iridotomy is planned as part of further visual rehabilitation.

Conclusions

This case highlights the importance of appropriate assessment and surgical management in severe blunt ocular trauma with anterior and posterior segment involvement.

References

1. Mahmoudzadeh R, Huang D, Salabati M, et al. Clinical Characteristics and Management Outcomes of Rhegmatogenous Retinal Detachments Due to Retinal Dialysis. *J Vitreoretin Dis.* 2021;5(5):405-411. Published 2021 Jul 9. doi:10.1177/24741264211024127.
2. Zhou J, Ma X, Duan F, Liu M, Xie Y, Long C. Lens Displacement and Retinal Injury in Blunt Eye Trauma. *J Ophthalmol.* 2024;2024:1781997. Published 2024 Oct 22. doi:10.1155/2024/1781997

Case Report: Macular Edema Secondary to Central Retinal Vein Occlusion in young adult

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Introduction

Central retinal vein occlusion (CRVO) usually affects elderly with vascular risk factors but may also occur in young patients without classic comorbidities [1,2]. This case illustrates CRVO-related macular edema (ME) in young adult and the importance of optical coherence tomography (OCT) guided intravitreal ranibizumab treatment.

Case Presentation

A 26-year-old man presented to the Department of Ophthalmology at the Hospital of Lithuanian University of Health Sciences Kauno klinikos on 2024-10-01 with sudden painless vision loss in the left eye. Medical history included anxiety disorder with hypertensive panic attacks. Best-corrected visual acuity (VA) was 1.0 in the right eye and 0.43 in left eye. Fundus examination of the right eye was normal. Fundus examination of the left eye showed diffuse flame-shaped hemorrhages, venous dilation and tortuosity, cotton-wool spots, optic disc and macular edema, consistent CRVO. OCT revealed cystoid ME with central retinal thickness (CRT) 390 μm and ischemic inner retina. CRVO-ME was diagnosed. Treatment consisted of initial topical dexamethasone followed by intravitreal ranibizumab. During 13 months of follow-up, 9 injections were administered without complications as disease activity was monitored using OCT-guided CRT assessment.

Discussion

In adults aged <50 years, CRVO-ME often develops in the absence of hypertension, diabetes, or dyslipidemia, suggesting a greater role of transient blood pressure elevation, inflammation, or hypercoagulable states [1,2]. Venous occlusion causes retinal ischemia, upregulation of inflammatory cytokines and vascular endothelial growth factor (VEGF), disruption of blood-retinal barrier, and intraretinal fluid accumulation [3,4]. OCT is essential for diagnosing and monitoring CRVO-ME, as persistent macular fluid is associated with



poorer visual prognosis [5,6]. Anti-VEGF therapy is the standard treatment that effectively reduces ME, although optimal long-term regimens for young patients, are not fully defined [7,8].

Conclusions

CRVO-ME in young adults is an uncommon but vision-threatening condition. This case highlights evidence-supported importance of OCT-based monitoring and sustained anti-VEGF therapy for stabilizing anatomy and vision.

References

1. Zhang XT, Zhong YF, Xue YQ, Li SQ, Wang BY, Zhang GQ, et al. Clinical Features of Central Retinal Vein Occlusion in Young Patients. *Ophthalmology and Therapy* 2022 11:4 [Internet]. 2022 Jun 13 [cited 2025 Dec 15];11(4):1409–22. Available from: <https://link.springer.com/article/10.1007/s40123-022-00534-7>
2. Sanlés González I, Napal Lecumberri JJ, Pérez-Montes R, Cerveró Varona A, Casado Rojo A, Hernández Hernández JL. Retinal vein occlusion in patients under 50 years. Analysis of vascular risk factors, thrombophilia, carotid ultrasound findings and uncommon aetiologies. *Archivos de la Sociedad Española de Oftalmología (English Edition)*. 2022 Aug;97(8):443–9.
3. Noma H, Yasuda K, Shimura M, Noma H, Yasuda K, Shimura M. Cytokines and Pathogenesis of Central Retinal Vein Occlusion. *Journal of Clinical Medicine* 2020, Vol 9, [Internet]. 2020 Oct 27 [cited 2025 Dec 15];9(11). Available from: <https://www.mdpi.com/2077-0383/9/11/3457>
4. Dinah C, Dodds M, Lotery A, Salvatore S, Fletcher E, Lake AVR, et al. Treatment patterns and long-term outcomes in anti-VEGF-treated macular oedema secondary to retinal vein occlusion: a retrospective observational study. *Eye* 2025 [Internet]. 2025 Nov 14 [cited 2025 Dec 15];1–10. Available from: <https://www.nature.com/articles/s41433-025-04089-2>
5. Ciulla TA, Kapik B, Hu A, Harris A, Ip MS, Blodi B. Anatomic Biomarkers of Macular Edema Associated with Retinal Vein Occlusion. *Ophthalmol Retina* [Internet]. 2022 Dec 1 [cited 2025 Dec 15];6(12):1206–20. Available from: <https://pubmed.ncbi.nlm.nih.gov/35781069/>
6. Blair K, Czyz CN. Central Retinal Vein Occlusion. 2025.
7. Dinah C, Dodds M, Lotery A, Salvatore S, Fletcher E, Lake AVR, et al. Treatment patterns and long-term outcomes in anti-VEGF-treated macular oedema secondary to retinal vein occlusion: a retrospective observational study. *Eye* 2025 [Internet]. 2025 Nov 14 [cited 2025 Dec 15];1–10. Available from: <https://www.nature.com/articles/s41433-025-04089-2>
8. Gurudas S, Patrao N, Nicholson L, Sen P, Ramu J, Sivaprasad S, et al. Visual Outcomes Associated With Patterns of Macular Edema Resolution in Central Retinal Vein Occlusion Treated With Anti-Vascular Endothelial Growth Factor Therapy: A Post Hoc Analysis of the Lucentis, Eylea, Avastin in Vein Occlusion (LEAVO) Trial. *JAMA Ophthalmol* [Internet]. 2022 Feb

1 [cited 2025 Dec 15];140(2):143-50. Available from:
<https://jamanetwork.com/journals/jamaophthalmology/fullarticle/2787670>



What Can Severe Hypertension in a Young Woman Teach Us? A Case Report

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Introduction

Severe arterial hypertension (AH) in young adults is uncommon yet associated with progressive organ damage. Hypertensive retinopathy indicates systemic microvascular injury and may reveal previously undiagnosed hypertension.[1,2] This case highlights rapid organ damage in a young woman and emphasizes early diagnosis and blood pressure (BP) control.

Case Presentation

A 27-year-old woman reported episodic blurred vision in the right eye, with visual acuity remaining 1.0 in both eyes. The patient had a two-year history of migraine with visual impairment during severe headache episodes. Ophthalmologic examination revealed bilateral optic disc edema, arteriolar narrowing, venous stasis, macular hard exudates with a partial macular star in the left eye, and serous retinal detachments in both eyes. Optical coherence tomography showed bilateral subretinal fluid and retinal pigment epithelium detachment. Fluorescein angiography demonstrated diffuse vascular leakage and optic disc hyperfluorescence. In the hospital, incidentally measured arterial BP was markedly elevated, reaching 223/150 mmHg. The patient was diagnosed with acute kidney injury, indicated by elevated creatinine and pathological albuminuria. Renal ultrasonography revealed parenchymal thickening and an elevated resistive index. Twenty-four-hour BP monitoring showed uncontrolled BP. Treatment included four antihypertensive drugs and a loop diuretic. AH etiology is unclear. Secondary causes are under investigation, including endocrine, renal, neurologic, and cardiologic evaluation.



Discussion

This case demonstrates that uncontrolled secondary AH can lead to multi-organ damage in young patients.[1] Retinal vessels are highly sensitive to BP changes, resulting in grade IV hypertensive retinopathy according to the Keith–Wagener–Barker classification, characterized by optic disc edema.[2] Such fundoscopic findings reflect systemic microvascular injury and hypertension-induced organ damage, including acute renal impairment.[2,3] Severe fundoscopic changes may regress with effective BP control.[2]

Conclusions

Severe hypertension in young adults may remain clinically silent until advanced organ damage occurs, with hypertensive retinopathy as the first or only clinical sign. Therefore, hypertensive disorders should be suspected even in young patients.

References

1. de Freminville J-B, Gardini M, Cremer A, Camelli S, Baron S, Bobrie G, et al. Prevalence and risk factors for secondary hypertension in young adults. *Hypertension* [Internet]. 2024 Nov 19 [cited 2025 Dec 15]. Available from: <https://www.ahajournals.org/doi/10.1161/HYPERTENSIONAHA.124.22753> DOI: 10.1161/HYPERTENSIONAHA.124.22753
2. Dziedziak J, Zaleska-Żmijewska A, Szaflik JP, Cudnoch-Jedrzejewska A. Impact of arterial hypertension on the eye: a review of the pathogenesis, diagnostic methods, and treatment of hypertensive retinopathy. *Medical Science Monitor* [Internet]. 2022 Jan 20 [cited 2025 Dec 15];28:e935135. Available from: <https://pubmed.ncbi.nlm.nih.gov/35046380/> DOI: 10.12659/MSM.935135
3. Blatsos A, Alalwan AA, Razeem M, Laird A. Acute Kidney Injury Secondary to Hypertension-Related Thrombotic Microangiopathy: A Case Report and Literature Review [Internet]. *Cureus*. 2024 Oct 8 [cited 2025 Dec 15];16(10):e71067. Available from: <https://pubmed.ncbi.nlm.nih.gov/39525102/> DOI: 10.7759/cureus.71067

Case Report: X-Linked Juvenile Retinoschisis in a Young Female

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Introduction

Retinoschisis (RS) is an abnormal separation of the retinal layers and is asymptomatic in most cases (1). This condition can be congenital (also called juvenile or X-linked) or degenerative (also called senile or acquired) (2). This case is exceptional, as females are very rarely reported to exhibit any clinical features (3).

Case Presentation

A 23-year-old female presented with a complaint of recurring flashes in her eyes when lying down. Best corrected visual acuity was determined to be 1.0 in both eyes. On slit lamp examination, no changes were found in the anterior segment of the eye. Fundus examination of the right eye revealed uneven pigmentation in the periphery of the retina laterally. Meanwhile, RS with round inner and outer holes was found in the lower lateral quadrant of the left eye's retinal periphery. Optical coherence tomography revealed subretinal fluid at the site of RS. Because of the firm attachment of the vitreous body in young patients and stable vision, it was decided not to apply invasive treatment. The patient has been under observation for over one year. The changes remain stable, and the subretinal fluid is not progressing.

Discussion

Juvenile RS itself is uncommon in females, but retinal layer breaks within it are exceptionally rare, as there have been barely any cases reported (3,4). If both inner and outer layer breaks coexist, a continuous pathway of fluid is created from the vitreous cavity to the subretinal space, increasing the risk of a schisis-associated rhegmatogenous retinal detachment (RRD) (5). However, RRD occurs only in 0.05% of patients with RS. Previously, laser barrier to prevent progression was the first choice of treatment, but now it is recommended to simply monitor the patient, as the entity rarely progresses (6).

Conclusions

Although rare, juvenile RS can occur in females as well. Even RS with holes and subretinal fluid has a low risk of progression to RRD, thus the first choice of treatment is observation.



References

1. Suzuki AC de F, Zacharias LC, Tanaka T, Rocha DN, Takahashi WY. Case report: pneumatic retinopexy for the treatment of progressive retinal detachment in senile retinoschisis. *Arq Bras Oftalmol* [Internet]. 2015 [cited 2025 Dec 6];78(1):50–2. Available from: <https://pubmed.ncbi.nlm.nih.gov/25714540/>
2. Ness S, Subramanian ML, Chen X, Siegel NH. Diagnosis and management of degenerative retinoschisis and related complications. *Surv Ophthalmol* [Internet]. 2022 Jul 1 [cited 2025 Dec 6];67(4):892–907. Available from: <https://www.sciencedirect.com/science/article/abs/pii/S0039625721002241>
3. Kirkby J, Halford S, Shanks M, Moore A, Gait A, Jenkins L, et al. A Carrier Female Manifesting an Unusual X-Linked Retinoschisis Phenotype Associated with the Pathogenic Variant c.266delA, p.(Tyr89LeufsTer37) in RS1, and Skewed X-Inactivation. *Genes (Basel)* [Internet]. 2023 Jun 1 [cited 2025 Dec 6];14(6):1193. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10298380/>
4. Altun A. A Female Case of X-Linked Retinoschisis with Macular Hole Bilaterally. *Case Rep Ophthalmol Med* [Internet]. 2020 Aug 17 [cited 2025 Dec 14];2020:8824995. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC7448253/>
5. Imaging in Retinoschisis - Retina Today [Internet]. [cited 2025 Dec 13]. Available from: <https://retinatoday.com/articles/2015-nov-dec/imaging-in-retinoschisis>
6. Senile Retinoschisis - EyeWiki [Internet]. [cited 2025 Dec 13]. Available from: https://eyewiki.org/Senile_Retinoschisis

Case Report: Corneal Collagen Cross-Linking in Progressive Keratoconus With Tomographic and Visual Improvement.

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Introduction

Keratoconus is a progressive corneal disorder affecting young adults and may cause significant visual impairment if progression is not detected and managed early [1]. Corneal collagen cross-linking (CXL) is the only evidence-based treatment proven to halt progression [2]. This case demonstrates long-term tomographic flattening and visual rehabilitation after CXL.

Case Presentation

A 22-year-old male was referred to the Department of Ophthalmology, LSMU Kauno klinikos on 2021-04-21 for evaluation of bilateral asymmetric keratoconus, with a four-year history of gradually worsening vision. Pentacam examinations documented progression in both eyes within an eight-month interval. In the right eye (OD), Kmax increased from 58.50 D on 2021-04-21 to 60.15 D on 2021-12-03, representing a progression of +1.65 D, while best-corrected visual acuity (BCVA) before intervention was 0.8 with spectacle correction. The left eye (OS) showed more rapid progression, with Kmax increasing from 53.79 D on 2021-04-21 to 56.46 D on 2021-12-03 (+2.67 D), preoperative BCVA in OS was 0.4. A repeat Pentacam performed on 2021-12-17 demonstrated further steepening in OS (Kmax 56.2 D), supporting ongoing disease activity. Based on documented tomographic progression, epithelium-off CXL was performed in OS 2021-12-17, while OD was managed conservatively. Immediately after CXL, BCVA in OS remained 0.4, consistent with early postoperative status. At long-term follow-up on 2025-09-02, Pentacam tomography demonstrated corneal flattening and stabilization in OS, with BCVA improving to 1.0. OD remained tomographically stable and achieved BCVA 1.0 with spectacle correction, indicating excellent bilateral visual rehabilitation despite previously advanced tomographic changes.

Discussion

Detecting keratoconus progression is challenging, therefore, the use of multimodal imaging enhances recognition of active ectasia and guides intervention [3,5]. CXL strengthens corneal biomechanics by increasing stromal cross-links, halting progression and often producing long-term tomographic stabilization and visual improvement [4,6].

Conclusions

This case highlights the evidence-supported importance of serial corneal imaging and timely epithelium-off CXL in achieving sustained long-term tomographic stabilization and excellent visual recovery at four-year follow-up.

References

1. Gomes JA, Tan D, Rapuano CJ, Belin MW, Ambrósio R Jr, Guell JL, et al. Global consensus on keratoconus and ectatic diseases. *Cornea* [Internet]. 2015 Apr [cited 2025 Dec 15];34(4):359–369. Available from: https://journals.lww.com/corneajrnl/Fulltext/2015/04000/Global_Consensus_on_Keratoconus_and_Ectatic.1.aspx
2. Sykakis E, Karim R, Evans JR, Bunce C, Amissah-Arthur KN, Patwary S, et al. Corneal collagen cross-linking for treating keratoconus. *Cochrane Database Syst Rev* [Internet]. 2015 Mar 10 [cited 2025 Dec 15];2015(3):CD010621. Available from: <https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD010621.pub2/full>
3. Hashemi H, Yekta A, Khabazkhoob M, Ostadimoghaddam H, Mahdavi A, Jafarzadehpur E. The distribution of keratoconus severity based on corneal tomography. *Cornea* [Internet]. 2017 Jan [cited 2025 Dec 15];36(1):45–50. Available from: https://journals.lww.com/corneajrnl/Fulltext/2017/01000/The_Distribution_of_Keratoconus_Severity.9.aspx
4. Raiskup F, Theuring A, Pillunat LE, Spoerl E. Corneal collagen crosslinking with riboflavin and ultraviolet-A light in progressive keratoconus: ten-year results. *J Cataract Refract Surg* [Internet]. 2015 Jan [cited 2025 Dec 15];41(1):41–46. Available from: https://journals.lww.com/jcrs/Fulltext/2015/01000/Corneal_collagen_crosslinking_with.6.aspx
5. Qin XY, Xu JT, Wang Y, Zou HD, Lu XL. Early diagnosis of keratoconus using biomechanical and OCT derived technologies. *Ophthalmic Res* [Internet]. 2025 [cited 2025 Dec 15];1–7. Available from: <https://pubmed.ncbi.nlm.nih.gov/40350508/>
6. Papachristoforou N, Ueno A, Ledwos K, Bartuś J, Nowińska A, KarskaBasta I. A review of keratoconus crosslinking treatment methods. *J Clin Med* [Internet]. 2025 Mar 3 [cited 2025 Dec 15];14(5):1702. Available from: <https://pubmed.ncbi.nlm.nih.gov/40095727/>

Neurovascular Compression Mimicking Normal-Tension Glaucoma

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Introduction

Normal-tension glaucoma (NTG) is a progressive glaucomatous optic neuropathy occurring in the presence of normal intraocular pressure (IOP). [1] However, several neuro-ophthalmological conditions may present with similar optic nerve (ON) and visual field (VF) changes, increasing misdiagnosis risk.

Case Presentation

A 57-year-old woman presented for evaluation of suspected NTG. Her IOP measurements were normal and she had no family history of glaucoma. VF testing demonstrated a nasal step in the left eye. Ophthalmoscopic examination and optical coherence tomography revealed no glaucomatous optic disc changes. A diagnosis of glaucoma was not confirmed and the patient was lost to follow-up. 6 years later, her VF testing demonstrated a superior nasal VF defect respecting the vertical midline. As compressive optic neuropathy (CON) was suspected, magnetic resonance imaging (MRI) was ordered. It demonstrated compression of the left ON by the internal carotid artery. Cerebral angiography revealed no vascular abnormalities. CON secondary to a neurovascular conflict was diagnosed. Given the preservation of good visual function, no interventions were undertaken, and the patient is currently under observation for potential progression.

Discussion

Compression of the ON by an anatomically normal intracranial artery may result in CON and mimic glaucomatous changes. [2,3] CON should be suspected in younger patients with progressive, unexplained, or asymmetric visual loss, particularly when optic disc pallor is greater than excavation, visual field defects respect the vertical midline, and there is



disproportionate color vision loss. [4] MRI imaging is diagnostic for CON. [5] Many patients with CON due to neurovascular compression remain stable with conservative monitoring, whereas severe or progressive cases may require surgical decompression. [6–8]

Conclusions

This case showed that the CON can potentially be confused with NTG, but VF testing and MRI can help establish the diagnosis.

References

1. Ho K, Bodi NE, Sharma TP. Normal-Tension Glaucoma and Potential Clinical Links to Alzheimer's Disease. *J Clin Med* [Internet]. 2024 Apr 1 [cited 2025 Dec 16];13(7). Available from: <https://pubmed.ncbi.nlm.nih.gov/38610712/>
2. Lim H, Lee BJ, Kook MS, Sung KR, Kim KE, Moon Y. Topographic comparison of the retinal microvascular changes between patients with compressive and glaucomatous optic neuropathies. *Sci Rep* [Internet]. 2023 Dec 1 [cited 2025 Dec 16];13(1):22569. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10730648/>
3. Pellegrini F, Cuna A, Prosdocimo G. Glaucomatous Type Cupping Caused by Internal Carotid Artery Compression: a Case Report. *J Cent Nerv Syst Dis* [Internet]. 2022 Feb 10 [cited 2025 Dec 16];14:11795735221081588. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC8854233/>
4. Senthil S, Nakka M, Sachdeva V, Goyal S, Sahoo N, Choudhari N. Glaucoma Mimickers: A major review of causes, diagnostic evaluation, and recommendations. *Semin Ophthalmol* [Internet]. 2021 [cited 2025 Dec 16];36(8):692–712. Available from: <https://pubmed.ncbi.nlm.nih.gov/33689583/>
5. Dias DT, Ushida M, Battistella R, Dorairaj S, Prata TS. Neurophthalmological conditions mimicking glaucomatous optic neuropathy: analysis of the most common causes of misdiagnosis. *BMC Ophthalmol* [Internet]. 2017 Jan 10 [cited 2025 Dec 16];17(1). Available from: <https://pubmed.ncbi.nlm.nih.gov/28073365/>
6. Gelkopf MJ, Jabehdar Maralani P, Da Costa L, Birt C, Sundaram ANE. Neurovascular Compression in the Anterior Visual Pathway: A Case Series. *Can J Neurol Sci* [Internet]. 2023 May 1 [cited 2025 Dec 16];50(3):440–5. Available from: <https://pubmed.ncbi.nlm.nih.gov/35621137/>
7. Lischynski JR, Molot-Toker S, Mansouri B, Kaufmann AM. Compressive optic neuropathy caused by a nonectatic internal carotid artery: illustrative case. *Journal of neurosurgery Case*

lessons [Internet]. 2025 Mar 1 [cited 2025 Dec 16];9(13). Available from: <https://pubmed.ncbi.nlm.nih.gov/40164001/>

8. Gamboa NT, Makarenko S, Couldwell WT. Supraclinoid Internal Carotid Artery Dolichoectasia Causing Compression of the Prechiasmatic Optic Nerve. Oper Neurosurg (Hagerstown) [Internet]. 2023 Mar 18 [cited 2025 Dec 16];24(3):E218–22. Available from: <https://pubmed.ncbi.nlm.nih.gov/36701742/>

Artificial Iris– Intraocular Lens Complex Implantation Using Combined Yamane and Canabrava Fixation Techniques: A Case Series

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Introduction

Eyes with combined aphakia and extensive iris defects are challenging, particularly in the absence of capsular support [1]. We present two cases of staged secondary artificial iris–intraocular lens (AI–IOL) complex implantation using Yamane and Canabrava combination, enabling four-point fixation and improved stability in eyes with aphakia and large iris defects [2,3].

Case Presentation

First patient presented 4–5 hours after blunt trauma to left eye with scleral rupture and vitreous prolapse together with hyphema. Primary treatment included globe repair and pars plana vitrectomy. Postoperatively, eye was aphakic with partial traumatic aniridia - large iris defect from 6 to 12 o'clock was observed. Secondary reconstruction included implantation 3-piece IOL combined with AI, using Canabrava transscleral fixation and Yamane flanged intrascleral IOL fixation techniques. Second patient had penetrating corneoscleral trauma to right eye with iris prolapse, traumatic aphakia, vitreous hemorrhage. After wound closure and vitrectomy, eye remained aphakic with large iris defect. Secondary AI–IOL implantation using the same technique in both patients resulted in significant visual improvement, with BCVA improving from 20/800 to 20/25 in the first patient and from hand movements to 20/32 in the second, while maintaining good centration, clear optical media, and an attached retina.

Discussion

In current surgical practice, AI may be fixated by threading three-piece intraocular lens through AI with IOL fixation using Yamane

technique [4]. However, this way entire complex is supported by only two fixation points, resulting in high risk of complex tilt, particularly IOL tilt. Alternatively, whole complex may be fixated using Gore-Tex sutures; however, this material is primarily intended for use in cardiac surgery and its application in ophthalmology remains off label [5]. Combination of Canabrava and Yamane techniques allows fixation of entire AI-IOL complex at four points, requiring two fixation points each for IOL and AI. This provides stability of complex and enables centration.

Conclusions

Combined Yamane and Canabrava fixation of AI-IOL provides four-point stability, centration, and significant visual rehabilitation.

References

1. Safran JP, Safran SG. Intraocular lens tilt due to optic-haptic junction distortion following intrascleral haptic fixation with the Yamane technique. *Am J Ophthalmol Case Rep.* 2023;30:101845.
2. Muth DR, Priglinger SG, Shajari M, Kreutzer TC, Mayer WJ. Novel surgical technique of sutureless artificial iris and intraocular lens scleral fixation using Yamane technique. *Am J Ophthalmol Case Rep.* 2022;26:101502.
3. Özcan AA, Sarıyeva A. Scleral fixation of iris–intraocular lens complex (Reper®) with Canabrava double-flanged technique: a case report. *Arq Bras Oftalmol.* 2023;86(5):e20230060. DOI:10.5935/0004-2749.20230060.
4. Mayer CS, Laubichler AE, Masyk M, et al. Functional outcomes after combined iris and intraocular lens implantation in various iris and lens defects. *BMC Ophthalmol.* 2020;20:370.
5. Bechay J, Rosenberg S, Flynn E, Bitar M. Unburied polytetrafluoroethylene scleral suture erosions and failure of pericardial graft revision. *Am J Ophthalmol Case Rep.* 2024;36:102223.

Clinical Case: Is Removal of an Intraocular Foreign Body Always Necessary?

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Introduction

Intraocular foreign body (IOFB) injuries are a significant cause of acquired visual impairment across all age groups [1]. Even IOFBs with minimal symptoms require urgent treatment, as retained foreign bodies may cause delayed and serious complications [2].

Case Presentation

A middle-aged man presented with redness in his right eye (RE) one week after a metal-related eye injury. Best-corrected visual acuity was found to be 1.0 (decimal) in both eyes, but the RE had a critically elevated intraocular pressure of 59.2 mmHg. Examination showed a corneal wound with a small metal dust buried deep in the stroma. However, computed tomography revealed a larger IOFB, but did not distinguish the exact location due to artefacts. Only during gonioscopy, the foreign body was located in the inferior corner of the anterior chamber. Despite excellent vision and no signs of intraocular inflammation, the patient was referred for urgent surgery to avoid serious complications. After the removal of IOFB, the vision remained at 1.0 (decimal) with no signs of infection or inflammation.

Discussion

IOFB injuries most often affect young adults aged 21–40 years and are commonly related to metal-working activities such as hammering. The severity of damage depends on the size, shape, and location of the foreign body and the entry wound [1]. Patients may experience eye discomfort and redness, though some remain asymptomatic [2,3]. Nevertheless, retained IOFBs must be removed to prevent complications, such as ocular siderosis, secondary glaucoma, endophthalmitis, and sympathetic ophthalmia, with a higher risk if removal is delayed [3]. Diagnosis is typically made using non-contrast CT [1]. Gonioscopy may aid localization, and most cases require surgical management [4,5]. Protective eyewear is the most effective preventive measure against IOFBs [6].

Conclusions

IOFB injuries are a common reason for emergency room visits. Even with good visual acuity and no inflammation, prompt diagnosis and removal are essential to prevent serious complications.

References

1. Watanachai N, Choovuthayakorn J, Nanegrungsunk O, Phinyo P, Chokesuwattanaskul S, Tanasombatkul K, et al. Intraocular foreign body: Characteristics, visual outcomes, and predictive values of ocular trauma score. *Heliyon* [Internet]. 2023 Oct 1 [cited 2025 Dec 9];9(10):e20640. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/37842556>
2. He N, Lv Z, Saranathan M. A rare asymptomatic metallic intraocular foreign body retained in the anterior chamber for 15 years: A case report. *Medicine* [Internet]. 2021 Jun 25 [cited 2025 Dec 14];100(25):E26470. Available from: <https://pubmed-ncbi-nlm-nih-gov.ezproxy.dbazes.lsmuni.lt/34160455/>
3. Loporchio D, Mukkamala L, Gorukanti K, Zarbin M, Langer P, Bhagat N. Intraocular foreign bodies: A review. *Surv Ophthalmol* [Internet]. 2016 Sep 1 [cited 2025 Dec 8];61(5):582–96. Available from: <https://pubmed-ncbi-nlm-nih-gov.ezproxy.dbazes.lsmuni.lt/26994871/>
4. Bondok MS, He B, Ka-Lok Tao B, Bondok M, Hussain A, Ing E. Incidence of Sympathetic Ophthalmia after Intraocular Surgery: A Systematic Review and Meta-analysis. *Ophthalmology*. 2024 Jul 1;131(7):836–44.
5. Au ACK, Wong DHT, Li KKW. Updates on the clinical management of intraocular foreign body (IOFB). *Asia-Pacific Journal of Ophthalmology* [Internet]. 2025 May 1 [cited 2025 Dec 9];14(3). Available from: <https://pubmed-ncbi-nlm-nih-gov.ezproxy.dbazes.lsmuni.lt/40398511/>
6. Zor KR, Özer Ö, Baysal Z, Doğan L, Dursun Ö. Intraocular Foreign Body: Etiology, Management, and Clinical Outcomes. *J Craniofac Surg* [Internet]. 2025 Mar 3 [cited 2025 Dec 8]; Available from: <http://www.ncbi.nlm.nih.gov/pubmed/40029667>

Is It Always Amblyopia?

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Introduction

RS1 gene mutations cause X-linked juvenile retinoschisis (XLRS), a hereditary retinal disorder with progressive vision loss and retinal layer splitting [1,2]. Clinical features vary from macular cysts to peripheral changes, and genotype-phenotype correlations [3,4]. Children with reduced vision or amblyopia unresponsive to correction should be assessed for other ocular causes. Diagnosis requires clinical evaluation and genetic confirmation, with long-term monitoring to guide management and prevent complications [1,3].

Case Presentation

A 12-year-old boy with a prior diagnosis of amblyopia and mild intermittent divergent strabismus had suboptimal BCVA despite spectacle correction (BCVA right eye 0.4, left eye 0.3 (Snellen decimal chart)). OCT and fundus examination revealed bilateral macular and peripheral retinoschisis. RS1 gene sequencing (single-gene analysis) revealed hemizygous pathogenic variant NM_000330.4:c.638G>A; p.(Arg213Gln) and XLRS was confirmed. Continuous spectacle use and regular eye follow-up were advised. XLRS is phenotypically variable, sometimes affecting mainly the periphery or showing subtle pigmentary changes, requiring individualized follow-up [3,5].

Discussion

This case shows that therapy-resistant amblyopia should prompt detailed structural evaluation. Bilateral macular pathology can

be missed without OCT or thorough fundus evaluation. Visual acuity correlates more with outer retinal layer integrity - especially the photoreceptor layer and ellipsoid zone than cyst size [7]. RS1 dysfunction alters retinal architecture and photoreceptor development, with genetic modifiers influencing phenotype [8]. No cure exists, but gene therapy and retinal organoid advances may enable future XLRS treatments [9].

Conclusions

In children, amblyopia unresponsive to optimal refractive correction should prompt evaluation for other causes, including hereditary retinal diseases like XLRS, which is heterogeneous, with visual function linked to outer retinal integrity [3,7]. Genetic diagnosis is important for clinicians and parents, and individualized monitoring with OCT, fundus evaluation, and genetic counseling is essential [1,2,5]. Advances in gene therapy and retinal organoid technology may offer future treatment options [8,9].

References

1. Xiao S, Sun W, Xiao X, Li S, Luo H, Jia X, et al. Clinical and genetic features of retinoschisis in 120 families with RS1 mutations. *Br J Ophthalmol*. 2023 Mar;107(3):367–72. doi: 10.1136/bjophthalmol-2021-319668. Epub 2021 Oct 13. PMID: 34645606.
2. RS1 gene. NCBI Gene Database. 2020. Available from: <https://www.ncbi.nlm.nih.gov/gene/6247>
3. Guo Q, Li Y, Li J, You Y, Liu C, Chen K, et al. Phenotype heterogeneity and the association between visual acuity and outer retinal structure in a cohort of Chinese X-linked juvenile retinoschisis patients. *Front Genet*. 2022;13:832814. doi: 10.3389/fgene.2022.832814.
4. Chen C, Xie Y, Sun T, Tian L, Xu K, Zhang X, et al. Clinical findings and RS1 genotype in 90 Chinese families with X-linked retinoschisis. *Mol Vis*. 2020 Apr 11;26:291–8. PMID: 32300273; PMCID: PMC7155891.
5. Smith LM, Cernichiaro-Espinosa LA, McKeown CA, Tekin M, Lam BL, Chiang J, et al. X-linked peripheral retinoschisis without macular involvement: a case series with RS1 genetic confirmation. *Ophthalmic Genet*. 2020 Feb;41(1):57–62. doi: 10.1080/13816810.2020.1723115. Epub 2020 Mar 3. PMID: 32124668.
6. Molday RS, Kellner U, Weber BH. X-linked juvenile retinoschisis: clinical diagnosis, genetic analysis, and molecular mechanisms. *Prog Retin Eye Res*. 2012 May;31(3):195–212. doi: 10.1016/j.preteyeres.2011.12.002. Epub 2012 Jan 3. PMID: 22245536; PMCID: PMC3334421.
7. Yang HS, Lee JB, Yoon YH, Lee JY. Correlation between spectral-domain OCT findings and visual acuity in X-linked retinoschisis. *Invest Ophthalmol Vis Sci*. 2014;55(5):3029–36. doi: 10.1167/jovs.14-13955. Epub 2014 May 8.
8. Duan C, Ding C, Sun X, Mao S, Liang Y, Liu X, et al. Retinal organoids with X-linked

retinoschisis RS1 (E72K) mutation exhibit a photoreceptor developmental delay and are rescued by gene augmentation therapy. *Stem Cell Res Ther.* 2024 May 31;15(1):152. doi: 10.1186/s13287-024-03767-4. PMID: 38816767; PMCID: PMC11140964.

9. van der Veen I, Heredero Berzal A, Koster C, et al. The road towards gene therapy for X-linked juvenile retinoschisis: a systematic review of preclinical gene therapy in cell-based and rodent models of XLRS. *Int J Mol Sci.* 2024;25:1267. doi: 10.3390/ijms25021267.



Visual Improvement After Secondary Retropupillary Iris-Claw IOL in Pediatric Ocular Trauma

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Introduction

Penetrating ocular trauma in children can affect the cornea, iris, and lens, causing corneal laceration, lens displacement, and traumatic cataract, requiring prompt surgical intervention [1,2]. Surgical wound repair and lensectomy with partial vitrectomy followed by appropriate postoperative care, including possible secondary intraocular lens (IOL) implantation, can achieve favorable visual outcomes while monitoring for amblyopia, strabismus, macular edema, glaucoma and other complications [1–3].

Case Presentation

A 10-year-old sustained a right-eye injury from a tile fragment, causing full-thickness corneal wound with iris prolapse, hyphema, and lens displacement. Corneal repair, lensectomy, and partial vitrectomy were performed, followed by topical and systemic therapy. After corneal sutures removal, a prescribed contact lens for aphakia was poorly tolerated (visual acuity 0.01; best-corrected visual acuity (BCVA) 0.7) and right-eye exotropia was noted. One month later, a retropupillary Artisan IOL was implanted. Later optical coherence tomography revealed postoperative cystoid macular edema which resolved with topical steroid and non-steroidal anti-inflammatory drugs. A few months later, BCVA improved from 0.1 to 0.6 in the right eye; the fellow eye remained 1.0.

Discussion

Management of pediatric penetrating eye injuries commonly includes lensectomy, partial vitrectomy [4]. When capsular

support is absent, iris-claw IOL provide an effective option for visual recovery [5]. However, studies report frequent lensectomy complications such as visual axis opacification, strabismus, and the need for additional procedures, with final visual outcomes often influenced by macular status [4,6]. Therefore, long-term monitoring of inflammation, intraocular pressure, and macular condition is essential [7].

Conclusions

This case shows that secondary retropupillary iris-claw IOL implantation can significantly improve vision after pediatric penetrating ocular trauma. Visual acuity increased from 0.1 during aphakia to 0.6 after secondary IOL implantation, while postoperative cystoid macular edema was successfully managed with topical therapy. Long-term follow-up is crucial to detect complications that may affect visual outcome.

References

1. Hapca MC, Muntean GA, Nemeş-Drăgan IA, Vesa ŞC, Nicoară SD. Visual outcomes of traumatic lens dislocations and subluxations managed by pars plana vitrectomy and lensectomy. *J Clin Med*. 2023 Nov 8;12(22):6981. doi: 10.3390/jcm12226981. PMID:38002596; PMCID: PMC10671993.
2. Zhou J, Ma X, Duan F, Liu M, Xie Y, Long C. Lens displacement and retinal injury in blunt eye trauma. *J Ophthalmol*. 2024 Oct 22;2024:1781997. doi: 10.1155/2024/1781997. PMID: 39473607; PMCID: PMC11521584.
3. Stahl ED, Sutherland DR, Repka MX, et al. Visual outcomes and complications over 5 years following lensectomy for childhood traumatic cataract. *JAMA Ophthalmol*. 2025 Nov 6. doi: 10.1001/jamaophthalmol.2025.4121.
4. Writing Committee for the Pediatric Eye Disease Investigator Group (PEDIG); Bothun ED, Repka MX, Dean TW, Gray ME, Lenhart PD, Li Z, et al. Visual outcomes and complications after lensectomy for traumatic cataract in children. *JAMA Ophthalmol*. 2021 Jun 1;139(6):647–53. doi: 10.1001/jamaophthalmol.2021.0980. PMID: 33956055; PMCID: PMC8209594.
5. Al-Dwairi R, Jammal HM, Al Qudah M, Alazmi H, Almutairi S, Aleshawi A. Iris-claw intraocular lens implantation in pediatric population: indications, outcomes, and a comparison with adult population. *J Clin Med*. 2025;14:1135. doi: 10.3390/jcm14041135.
6. Agarkar S, Mailankody S, Settu S, Srinivasan R, Raman R. Visual outcomes following cataract surgery with intraocular lens implantation in vitrectomized eyes among children. *Indian J Ophthalmol*. 2021 Aug;69(8):2078–81. doi: 10.4103/ijo.IJO_3570_20. PMID: 34304182; PMCID: PMC8482918.
7. Dericioğlu V, Sevik MO, Bağatur Vurgun E, Çerman E. Predictive factors of complications and visual outcomes after pediatric cataract surgery: a single referral center study from Türkiye. *Turk J Ophthalmol*. 2023 Oct 19;53(5):267–74. doi: 10.4274/tjo.galenos.2023.50951. PMID: 37867431; PMCID: PMC10599340.

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Abstracts

Experiences of Postpartum Women's and Obstetrician-Gynecologists of family centered teamwork in labor and delivery.

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Introduction

Teamwork during childbirth is extremely important in ensuring the safety of the mother and newborn and a positive birth experience (1,2). The WHO (2024) guidelines emphasize the importance of woman and family-centered care in optimizing the birth experience for women and their babies, using a holistic, human rights-based approach (3).

Aim

The aim of the study is to reveal Experiences of Postpartum Women's and Obstetrician-Gynecologists of family centered teamwork in labour and delivery.

Methods

A qualitative study was conducted using semi-structured in-depth interview method, based on Grounded Theory methodology. The study sought to address two main research questions: What are postpartum women's experiences of family-centered teamwork in labour and delivery? And what are the experiences of obstetricians-gynecologists of family-centered teamwork in labour and delivery? Participants (n=12) included a carefully selected groups of six postpartum women's who have given birth within the last month, but no more than one year ago, and six obstetricians-gynecologists who agreed to participate in the study, representing a range of clinical environments and collaboration practices. The sample size in both groups was determined by the principle of data saturation, whereby recruitment continued until no new categories or relevant conceptual insights emerged from the interviews. All informants were introduced to the study, including its purpose and significance.

Results

Grounded Theory analysis revealed three main categories, each consisting of clearly defined subcategories, reflecting the experiences of both postpartum women and obstetrician-gynecologists. Category 1: Building Trustful Teamwork was divided into the



subcategories of mutual respect, integration of professional roles, and alignment of medical safety with family needs. Category 2: Strengthening Autonomy in the Birth Process comprised the subcategories of preparedness and self-awareness, informed and shared decision-making, and respect for bodily integrity and personal choices, emphasizing empowerment as “returning childbirth into the woman’s own hands.” Category 3: Creating Safety in Vulnerability included the subcategories of emotional and psychological safety, protected physical and social space, and individualized family-centered care.

Conclusions

Teamwork in providing family-centered care has a significant impact in labour and delivery. This study highlights a core dichotomy: medical professionals prioritize optimal health outcomes, while families prioritize the birthing process and experience. Bridging this gap requires proactive and smooth cooperation between team members, clear communication, and family involvement to create a safe environment, reduce the stress of childbirth, and improve both maternal and neonatal safety alongside a respectful, satisfying birthing journey.

References

1. Fransen AF, van de Ven J, Banga FR, Mol BWJ, Oei SG. Multi-professional simulation-based team training in obstetric emergencies for improving patient outcomes and trainees' performance. *Cochrane Database Syst Rev*. 2020 Dec 16;12(12):CD011545. Available from: <https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD011545.pub2/full>
2. FIGO, ICM, IPA, IMBXO et. Al. The International Childbirth Initiative (ICI): 12 Steps to Safe and Respectful MotherBaby-Family Maternity Care. 2018-2020. [Internet] [cited 2025 January 23] Available from: <https://icichildbirth.org/initiative/>
3. World Health Organization (WHO). Transitioning to midwifery models of care: global position paper. Geneva. 2024. Available from: <https://www.who.int/publications/i/item/9789240098268>

Nursing students' experiences of integrating theoretical knowledge of skills into simulation training

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Introduction

The integration of nursing students' theoretical knowledge into simulation training is an important teaching method (1). Simulation training provides students with a realistic, risk-free environment in which they can apply the skills they have learned in the classroom to clinical scenarios, improving their decision-making and clinical assessment skills (2). Simulation improves technical skills, but also strengthens students' self-confidence and communication skills, preparing them for the challenges of real-world patient care (3).

Aim

To describe the experiences of nursing students of integrating theoretical knowledge into simulation-based training.

Methods

A qualitative study was conducted using semi-structured interviews. The data was analyzed using thematic analysis. 11 first-year nursing students who are learning nursing skills through simulation-based training participated in the study. The study was conducted in February – March 2025 at the LSMU Faculty of Nursing. Approval to conduct the study was obtained from the LSMU Bioethics Center 2025-BEC2-0221.

Results

Simulation-based training helps students apply theoretical concepts like patient assessment, nursing interventions, and decision-making in a controlled, risk-free environment. Analyzing the experiences of nursing students, the following themes were identified: "we would not learn by studying theory," self-confidence, and an adapted environment. The following sub-themes were identified: "theory is formal," practical mastery, high value, repetition helps



with confidence, feeling more courageous, better mastery, real ward environment, mannequins adapted for manipulation. Simulation training is important and useful for nursing students „< > simulations have contributed greatly to better teaching." (student 03). In the students' opinion, "we would not learn by studying theory alone." Simulations make it easier for students to acquire theoretical knowledge. Repeating simulations is very important in the learning process. "By doing it several times, you learn much faster and better" (student 09). This helps them feel more confident and assured. These experiences are reinforced by the adapted learning environment and mannequins. "< >I like it best when you come into the classroom and it looks like a real ward." (student 11). Simulation encourages active participation and critical thinking, making theoretical knowledge more meaningful and easier to retain.

Conclusions

Nursing students positively evaluated the simulation-based training. The mannequins, realistic ward environment, repetition of nursing procedures allowed better integration of theoretical knowledge into practical skills. Nursing students gained more self-confidence after the simulation-based training.

References

1. Mishra R, Hemlata, Trivedi D. Simulation-based learning in nursing curriculum – time to prepare quality nurses: a systematic review and meta-analysis. *Heliyon*. 2023;9(5):e16014. Available from: <https://pubmed.ncbi.nlm.nih.gov/37206022/>
2. Olaussen C, Steindal SA, Jelsness-Jørgensen LP, Aase I, Stenseth HV, Tvedt CR. Integrating simulation training during clinical practice in nursing homes: an experimental study of nursing students' knowledge acquisition, self-efficacy and learning needs. *BMC Nurs*. 2022;21(1):47. Available from: <https://pubmed.ncbi.nlm.nih.gov/35189889/> Paperpile+1
3. McTague K, Smith V, Melo P, Traynor M, Eustace-Cook J, McCabe C. Simulation-based education for nurse and midwife advanced practitioners: a scoping review. *J Healthc Simul*. 2025. <https://doi:10.54531/OWSG3320>

Educational Activities of Nurse Mentors in Teaching Students Safe Patient Positioning

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Introduction

Nurse mentors who teach safe and ergonomic patient positioning contribute to the development of students' practical skills and help prevent occupational injuries [1]. However, in clinical practice, insufficient attention is still paid to safe patient transfer and positioning [2,3].

Aim

To evaluate the educational activities of nurse mentors in teaching students safe patient positioning.

Methods

A quantitative, cross-sectional questionnaire survey was conducted at the Hospital of the Lithuanian University of Health Sciences Kaunas Clinics after obtaining bioethics approval No. 2025-BEC2-0657. The study included 183 nurse mentors who met the inclusion criteria defined by the researchers, i.e., nurses with at least 3 years of work experience who agreed to participate in the study and signed the informed consent form. Exclusion criteria were nurses with less than 3 years of work experience, those who did not agree to participate, or who did not sign the informed consent form. A questionnaire developed by the researchers was used for data collection. Data were analyzed using descriptive statistics, the χ^2 test, ANOVA, and Spearman's correlation. Results were considered statistically significant at $p < 0.05$.

Results

The mean length of work experience among nurses working as mentors was 6.80 ± 7.7 years. The majority of nurse mentors (84.7%) had attended training on safe patient positioning, while 15.3% had not. Assessment of mentors' educational activities showed that 77.6% of

nurses taught nursing students clinical skills very often/often, whereas 1.6% never taught them. Analysis of specific actions revealed that 63.4% of mentors incorrectly taught nursing students to use the upper body when changing a patient's position, and 56.3% incorrectly taught how to lift a patient who had slid down without using assistive devices. Nurses with more than 3 years of experience as nurse mentors statistically significantly more often correctly taught how to reposition a patient upward using assistive devices compared with those with less than 3 years of mentoring experience (37.3% vs. 25.9%; $p = 0.043$). Mentors who more frequently discussed students' experiences of patient positioning rated their own performance in teaching safe patient positioning more positively ($r = 0.424$, $p < 0.001$), as well as their ability to clearly explain procedures ($r = 0.197$, $p < 0.05$) and their activities in developing nursing students' clinical skills ($r = 0.195$, $p < 0.05$).

Conclusions

The majority of nurse mentors actively engaged in teaching students' clinical skills. However, some nurses incorrectly taught patient positioning techniques related to the use of the upper body and lifting patients without assistive devices. Nurse mentors who systematically provided feedback to students after patient positioning rated their educational competencies significantly higher and more effectively developed students' clinical skills.

References

1. Mikkonen K, Tomietto M, Cicolini G, Kaucic BM, Filej B, Riklikiene O, Juskauskienė E, Vizcaya-Moreno MF, Pérez-Cañaveras RM, De Raeve P, Kääriäinen M. Development and testing of an evidence-based model of mentoring nursing students in clinical practice. *Nurse Educ Today*. 2020;85:104272. doi:10.1016/j.nedt.2019.104272
2. Tuomikoski AM, Ruotsalainen H, Mikkonen K, Kääriäinen M. Nurses' experiences of their competence at mentoring nursing students during clinical practice: a systematic review of qualitative studies. *Nurse Educ Today*. 2020;85:104258.
3. Jobst S, Lindwedel U, Marx H, Pazouki R, Ziegler S, König P, Feuchtinger J. Competencies and needs of nurse educators and clinical mentors for teaching in the digital age: a multi-institutional, cross-sectional study. *BMC Nurs*. 2022;21(1):240.

Experiences of anaesthesia and intensive care nurses collaborating with team members in the operating room

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Introduction

Introduction. Anaesthesia nurses play a crucial role in the operating room, yet their contributions often remain insufficiently acknowledged (1). Interpersonal familiarity, psychological safety, and open communication are essential for effective teamwork and improved patient outcomes (2,3). Stress in the operating room negatively affects teamwork climate, and anaesthesia professionals are vulnerable to emotional strain and burnout (4,5).

Aim

The aim of this study was to explore the experiences of anaesthesia and intensive care nurses collaborating with operating room team members.

Methods

Methods. A qualitative study was conducted between May and December 2025 and included 14 anaesthesia and intensive care nurses. Data were collected through semi-structured individual interviews. All interviews were audio-recorded with participants' informed consent and transcribed by the researcher. Data were analysed using reflexive thematic analysis. Ethical approval was obtained from the LSMU Bioethics Centre (No. 2025-BEC2-0672).

Results

Results. Four subthemes emerged from the data analysis. Hierarchy. Professional hierarchy was experienced as contributing to nurses' invisibility in the workflow, and their work often remained unrecognized "...anaesthesiologists are often forgotten; everyone thanks each other, but a great deal depends on our team..." (N6). Motivation. Motivation was influenced by leadership communication and emotional support. Calm communication fostered a safer atmosphere "...the best motivation is a calm, non-commanding, non-raised tone" (N4). Mutual support and respect also enhanced motivation "...a positive attitude and a thank



you, a kind word—that is what motivates the most” (N5). Feedback. A lack of systematic feedback was a common experience “...there are no team meetings where we discuss what we do or what mistakes occur” (N1). Feedback mainly focused on errors “...doctors mostly talk about mistakes; they rarely speak about good work” (N2). Emotional climate. The leader’s emotional state was experienced as shaping the emotional climate of the team “if the doctor runs in and starts panicking, that negative aura spreads around the OR” (N3). Calm behaviour supported smoother workflow, while personal characteristics sometimes increased stress “...some give clear instructions on what to do next, while others create additional stress...” (N6).

Conclusions

Conclusions. Anaesthesia and intensive care nurses experienced collaboration in the operating room as shaped by a strong professional hierarchy, which often left them feeling like unequal team members. They described greater motivation and emotional safety when leadership communication was calm, respectful, and acknowledged their work. Nurses also reported a lack of systematic feedback. In addition, they experienced leaders’ emotional regulation as central to shaping the emotional climate of the operating room.

References

1. Lin MW, Papaconstantinou HT, White BA. Moving beyond teamwork in the operating room to facilitating mutual professional respect. *Proc (Bayl Univ Med Cent)*. 2023;36(1):45–53.
2. Hallet J, Jerath A, d’Empaire PP, Carrier FM, Turgeon AF, McIsaac DI, Idestrup C, Lorello G, Flexman A, Kidane B, Chan WC, Gombay A, Coburn N, Eskander A, Sutradhar R. Familiarity of the surgeon–anesthesiologist dyad and major morbidity after high-risk elective surgery. *JAMA Surg*. 2025;160(7):772–781.
3. McElroy C, Skegg E, Mudgway M, Murray N, Holmes L, Weller J, Hamill J. Psychological safety and hierarchy in operating room debriefing: reflexive thematic analysis. *J Surg Res*. 2024;295:567–573.
4. Yalçın Akgül G, Aksoy N. The relationship between organizational stress levels and patient safety attitudes in operating room staff. *J Perianesth Nurs*. 2021;36(5):499–506.
5. Selim J, Selim M, Demailly Z, Wable T, Clavier T, Besnier E, Dureuil B, Veber B, Djerada Z, Compere V. The perception of the anesthesiologist among the medical, paramedical and administrative staff. *Front Med (Lausanne)*. 2022;9:852888.

Relationships Between Hospitalized Patients' Expectations of Nursing Care, Hospitalization Experience, and Subjectively Assessed Health

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Introduction

Patients' expectations are a key factor shaping their perception of nursing care quality (1). They influence satisfaction, trust, and overall experience, and arise from previous encounters, personal beliefs, and sociocultural context (2). Clear communication, emotional support, and professional competence are central elements patients evaluate. Organizational factors such as workload, responsiveness, and ward environment also determine whether expectations are met (3,4).

Aim

To assess the relationships between hospitalized patients' expectations of nursing care and selected hospitalization characteristics (number of hospitalizations, type of ward accommodation) as well as patients' subjectively assessed health.

Methods

A cross-sectional study was conducted from April to September 2025 with 160 patients hospitalized in the Urology Department of the Hospital of the Lithuanian University of Health Sciences Kaunas Clinics. Patients' expectations of nursing care were assessed using the Patient Satisfaction with Nursing Care Quality Questionnaire (PSNCQQ), Laschinger HKS et al, 2005, (22 items, 7 subscales), permission is freely available. It was adapted to evaluate patients' expectations. Subjectively assessed health and hospitalization characteristics were collected using additional questions. Internal consistency was high (Cronbach's $\alpha = 0.929$). Mann-Whitney U and Kruskal-Wallis H tests were applied ($p < 0.05$). Ethical approval of LSMU Bioethics Center (BEC2-0532) was obtained to conduct the study.

Results

Patients in a single-bed ward expected better information provision (mean 4.25 ± 0.56).



Patients sharing a ward had the highest expectations for comfort and privacy (4.09 ± 0.63); however, no statistically significant differences were found. Patients hospitalized for the first time had higher expectations for overall nursing care than those hospitalized more times (4.16 ± 0.56 vs. 3.78 ± 0.57). Patients hospitalized ≥ 3 times had the lowest expectations for preparation of discharge (3.85 ± 0.85), comfort, and privacy (3.78 ± 0.81). Worse subjective health assessment was associated with higher expectations for information (4.28 ± 0.66), family involvement (4.40 ± 0.99), respect and care (4.36 ± 0.56), and preparation of discharge (4.35 ± 0.85). Excellent subjective health was associated with higher expectations for overall nursing care (4.26 ± 0.42 , 4.08 ± 0.57 , 3.87 ± 0.61).

Conclusions

Patients' expectations of nursing care were strongly associated with hospitalization characteristics and subjective health. Higher expectations were observed among first-time hospitalized patients and those reporting poorer subjective health, particularly in relation to information provision, respect and care, and discharge preparation. These findings highlight the importance of recognizing patients' expectations when planning and delivering nursing care in hospital settings.

References

1. Laferton JA, Kube T, Salzmann S, Auer CJ, Shedden-Mora MC. Patients' expectations regarding medical treatment: a critical review of concepts and their assessment. *Front Psychol.* 2017;8:233. <https://doi:10.3389/fpsyg.2017.00233>
2. Salma S. Enhancing patient satisfaction: a qualitative investigation of patients' expectations of nurses and nursing care. *Arch Nurs Care.* 2023;6(4):88-90. [https://doi:10.37532/oanc.2023.6\(4\).88-90](https://doi:10.37532/oanc.2023.6(4).88-90)
3. Lakin K, Kane S. People's expectations of healthcare: a conceptual review and proposed analytical framework. *Soc Sci.* 2022.
4. Guan T, Chen X, Li J, Zhang Y. Factors influencing patient experience in hospital wards: a systematic review. *BMC Nurs.* 2024;23:527. <https://doi:10.1186/s12912-024-02054-0>

Associations Between Nurses' Educational Level And Knowledge Of Urinary Incontinence In Older Women

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Introduction

Urinary incontinence is one of the most common chronic conditions among older women; however, it remains insufficiently recognized in primary health care (PHC) (1,2). In Lithuania, nurses' knowledge regarding available support options for older women with urinary incontinence in primary health care (PHC) remains insufficiently studied (4,5). Nevertheless, such knowledge is particularly important, as it enables not only timely recognition but also the implementation of urinary incontinence management measures. In international clinical practice, nurses follow current guidelines that allow them to independently provide services such as urinary incontinence assessment, patient counselling, and the application of conservative nursing interventions (3).

Aim

To assess the knowledge of primary health care nurses regarding urinary incontinence in older women and its management options, considering the nurses' educational level.

Methods

A quantitative study was conducted in 2025 in public and private primary health care institutions in Kaunas city. The study included 112 nurses. Data were collected using an author-developed questionnaire. Statistical analysis was performed using SPSS version 30.0. Survey data were collected electronically and analyzed using descriptive statistics, the chi-square (χ^2) test, and Spearman's rank correlation coefficient. Differences between study groups were considered statistically significant at $p < 0.05$.

Results

Among the respondents, 38.4% had completed non-university higher education, 28.6% held a university bachelor's degree, and 17.9% had a master's degree. When

assessing nurses' knowledge of urinary incontinence in older women, the most frequently identified risk factors were age (71.4%), urinary tract infections (60.7%), and pregnancy (59.8%). Nurses with a university-level education significantly more often identified pregnancy (73.1%), hysterectomy (50.0%), and unfavorable family history (59.6%) as risk factors for urinary incontinence. They also more frequently indicated the use of absorbent medical products (67.3%) as a management option compared to nurses with a lower level of education ($p < 0.05$).

Conclusions

Nurses with a university-level education more frequently recognized risk factors for urinary incontinence and identified a wider range of management options compared to nurses with a lower level of education.

References

1. Janse van Vuuren AC, Van Rensburg JA, Hanekom S. Practitioner's knowledge, attitudes, beliefs and practices towards urinary incontinence: Online Appendix 1. *South Afr J Physiother.* 2023;79(1):a1860. Available from: <https://doi.org/10.4102/sajp.v79i1.1860>
2. Yağmur Y, Gul S. Urinary incontinence in women aged 40 and older: its prevalence, risk factors, and effect on quality of life. *Niger J Clin Pract.* 2021;24:186–192. Available from: https://doi.org/10.4103/njcp.njcp_626_18.
3. Batmani S, Jalali R, Mohammadi M, Bokae S. Prevalence and factors related to urinary incontinence in older adults women worldwide: a comprehensive systematic review and meta-analysis of observational studies. *BMC Geriatr.* 2021 Mar 29;21(1):212. Available from: <https://doi.org/10.1186/s12877-021-02135-8>.
4. Patel UJ, Moureau MK, Neuner JM, Brown HW. Screening and treating urinary incontinence in primary care: a missed opportunity. *OBM Geriatr.* 2023;7(4). Available from: <https://doi.org/10.21926/obm.geriatr.2304252>.
5. Patel UJ, Moureau MK, Neuner JM, Brown HW. Screening and treating urinary incontinence in primary care: a missed opportunity. *OBM Geriatr.* 2023;7(4). Available from: <https://doi.org/10.21926/obm.geriatr.2304252>.
6. Serrano-Raya L, Esplugues A, Ferreros Villar I, Vallés-Murcia N, Muñoz Esteban P, Torres López MS, Turrión Martínez E, Errandonea García P, Nohales Alfonso FJ, González-Timoneda A. Prevalence and impact of urinary incontinence at 5–10 years after a singleton birth. *J Clin Med.* 2026;15(1):252. Available from: <https://doi.org/10.3390/jcm15010252>.

Nurses' perceptions of the use of telemedicine services in primary health care associations with age, digital literacy and experience.

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Introduction

The use of telemedicine services in primary healthcare plays a very important role. This has been particularly evident in the work of nurses during and after the COVID-19 pandemic – at that time, the demand for such services was quite high. These services are described as healthcare services provided entirely remotely using digital health technologies. Nurses in primary healthcare institutions use these services and are responsible for remote patient care, health education, and the coordination of services provided. Nurse satisfaction and the quality of services provided in Lithuania remain a little-studied area, despite the rapid growth in the use of remote technologies (1,2).

Aim

To assess nurses perceptions of telemedicine services in primary health care and associations with age, digital literacy and experience.

Methods

A quantitative study was conducted between May and October 2025 with primary care nurses who agreed to participate in the study (N = 117). The study assessed the perceptions of primary care nurses regarding the use of telemedicine services, age, digital literacy, and experience in using telemedicine. Correlation analysis was applied, and statistical significance was assessed using the significance level ($p < 0.005$).

Results

The results of the study show that the majority of respondents aged 20-39 were women and men. A total of 99 (85%) were women, 16 (14%) were men, and the remaining 2 (2%) did not want to disclose their gender. They rated their experience and the quality of



telemedicine services together (on a scale of 1–10, where 1 is the lowest score) with 6 points out of 10, the importance of digital writing – with 7 points out of 10. Nurses positively assessed the convenience of the healthcare systems used – high scores were given to the choice of system and ease of use ($M = 3.29$; $SD = 1.00$ out of 5 in System Usability Scale). Ease of use of the system demonstrated a weak negative correlation with age ($r = -0.20$; $p = 0.03$). Nurses' digital literacy was positively associated with service quality ($r = 0.39$; $p < 0.001$) and experience ($r = 0.50$; $p < 0.001$), with the strongest correlation observed between service quality and experience ($r = 0.67$; $p < 0.001$). The analysis of the study results showed that with age, the quality of telemedicine services decreases ($r = -0.30$; $p = 0.001$) and the use of telemedicine technologies ($r = -0.21$; $p = 0.024$).

Conclusions

Older primary care nurses have a predominantly negative view of the telemedicine system, their experience, and the quality of their services. Nurses' perceptions of the importance of digital literacy are positively related to their experience and quality assessment of the use of telemedicine services. Experience is one of the main factors determining nurses' perceptions of the quality of telemedicine services. The results of the study show that training nurses working in primary care settings on the importance of literacy and its use in daily practice improves the quality of telemedicine.

References

1. Vaughan, C., Hedden, L., Lukewich, J. et al. Nurses' experiences with virtual care during the COVID-19 pandemic: a qualitative study in primary care. *BMC Nurs* 23, 896 (2024). Available from: <https://doi.org/10.1186/s12912-024-02540-5>.
2. Yılmaz S, Hepokur Yıldırım ŞN, Kitiş Y, Kan A. Nurses' attitudes towards telehealth: The development and validation of the nurses' attitudes towards the use of telehealth scale. *J Clin Nurs*. 2025 Jun;34(6):2138-2148. doi: 10.1111/jocn.17369. Epub 2024 July. PMID: 39007220; PMCID: PMC12125535. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC12125535/>

Nursing students' satisfaction and self-confidence while learning in simulation methods

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Introduction

Students' satisfaction and self-confidence while learning in simulation methods provides opportunity to acquire skills and helps to achieve better learning outcomes such as satisfaction, critical thinking and self-confidence [1]. Students with better results are commonly more self-confident [2], more involved in tasks, enjoy the learning process, and are determined to reach their goals [3].

Aim

To examine nursing students' opinions about students' satisfaction and self-confidence who learned nursing clinical skills through simulation-based methods.

Methods

The study involved 72 first year LSMU nursing students, who learned nursing clinical skills through simulation-based method. The study was conducted between March and April 2025. Inclusion criteria; first year LSMU nursing students, no exclusion criteria were applied. The study used a standardized scale „Student Satisfaction and Self-Confidence in learning scale“ [4]. Students rated each statement on a 5-point scale from 1 (strongly disagree) to 5 (strongly agree). Permission to conduct the study was received from LSMU Bioethics center (Nr 2025-BEC2-0066). Numerical characteristics as mean, standard deviation values, Spearman correlation coefficient were used to describe sample data.

Results

Students evaluated as best statement that teaching methods used in this simulation were helpful and effective (mean= 4,26, SD=



7,12), the teaching materials used in this simulation were motivating and helped to learn (mean= 4,12, SD= 0,715), students mastered the content of the simulation activity, that was presented by lecturers (mean= 4,00, SD= 0,628), students were confident that they were developing the skills and obtaining the required knowledge from this simulation to perform necessary tasks in clinical setting (mean= 4,33, SD= 0,581). A negative, very weak, and statistically not significant correlation was found between satisfaction and mental effort invested ($r=-0.033$, $p=0.783$, $n=72$). Weak correlations were found between satisfaction and task interest and difficulty (accordingly, $r=0.221$, $p=0.062$, and $r=0.025$, $p=0.837$). A negative, very weak, and statistically insignificant correlation was found between self-confidence and mental effort invested ($r=-0.011$, $p=0.927$, $n=72$). Positive, weak, and statistically not significant correlations were found between self-confidence and task interest and difficulty (accordingly, $r=0.191$, $p=0.108$, and $r=0.059$, $p=0.625$). No statistically significant differences were found in this study.

Conclusions

The simulation method was evaluated by nursing students as useful and effective, which helps to perform nursing skills in clinical practice. Students' satisfaction and self-confidence while learning in simulation-based method was not significantly associated with effort, task interest and difficulty.

References

1. Bdiri Gabbouj, Saoussen, Chekib Zedini, and Walid Naija. Nursing students' satisfaction and self-confidence with simulation-based learning and its associations with simulation design characteristics and educational practices. *Advances in Medical Education and Practice* 2024. Available from: <https://doi.org/10.2147/AMEP.S477309>
2. Moneva J, Tribunalo SM. Students' Level of Self-confidence and Performance Tasks. *Students' Level of Self-confidence and Performance Tasks*. 2020 May 1;5(1):42–8. Available from: https://www.researchgate.net/profile/Jerald-Moneva/publication/343568936_Student
3. Hayat AA, Shateri K, Amini M, Shokrpour N. Relationships between academic self-efficacy, learning-related emotions, and metacognitive learning strategies with academic performance in medical students: a structural equation model. *BMC Medical Education*. 2020;20(1):76. Available from: <https://pubmed.ncbi.nlm.nih.gov/32183804/>
4. Pamela R. Jeffries, National League for Nursing. Student Satisfaction and Self-confidence in Learning ©, 2005. Available from: <https://www.nln.org/docs/default-source/uploadedfiles/default-document-library/instrument-2-satisfaction-and-self-confidence-in-learning.pdf>

Mothers' Experiences of Getting Involved in the Daily Procedures of Newborns' in the Neonatal Intensive Care Unit

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Introduction

The Neonatal Intensive Care Unit (NICU) is a specialized environment, where parental participation is important not only for the wellbeing of the newborn, but also for parents' own confidence and emotional health. Care in the medical facility often takes place in an environment filled with strict rules, which poses a big physical, emotional and psychological challenge not only for the patient's parents, but also for the healthcare professionals (1). Parental involvement leads towards better newborn health indicators, stronger emotional bond, reduced stress, a more positive experience during treatment and lastly, more successful long term parenting (2).

Aim

To describe mothers' experiences when it comes to their involvement towards daily care of the newborn in the NICU.

Methods

Study is a phenomenological semi-structured interview study conducted at the NICU of the Hospital of Lithuanian University of Health Sciences. Approval to conduct the study was obtained from the LSMU Bioethics Center (No. 2025-BEC2-0521). All mothers caring for their newborns at the NICU for at least one week between May and September 2025 were invited to participate. Mothers who did not speak Lithuanian or who did not wish to participate were excluded. In total, eight mothers were included in the study.



Results

Data analysis revealed the following result categories: Early engagement. Mothers while under the care of NICU stated that they were offered first contact with their newborn during the first day after giving birth, “<...> started participating pretty much on the very first day after birth...” (Mother 1). The mothers have also learned the required skills gradually. Further engagement. Mothers who ended up in the care of NICU had experienced complicated pregnancies or childbirth. “Once my health got better, I was instantly offered to take part towards the care” (Mother 8). While taking care of their newborns, mothers are gradually introduced to more responsibilities and tasks, gaining confidence in their abilities and having chance to stay with their newborns for longer periods. The father’s participation and adaptation in the environment of NICU highlights a practical and emotional support for the mother and their newborn. “The father was also fully integrated into all of the procedures, though he was quite scared in the beginning” (Mother 7). Emotions experienced by mothers. Mothers find close correlation of their emotions with the uncertainty that comes with taking care of their fragile newborn. “I mentioned that there was fear, lack of courage that you might do something wrong” (Mother 3). The opportunity to make contact with their newborn in the NICU strengthens motherhood and the emotional connection with the newborn.

Conclusions

Mothers are gradually introduced to the everyday procedures and care of their newborn. The involvement of mothers strengthens the bond with the newborn while building the foundation for their strong motherhood.

References

1. Paramos A, Ferreira C, Loureiro F, Charepe Z. Adolescent hope in the context of nursing care: A scoping review. *Journal of Pediatric Nursing: Nursing Care of Children and Families*. 2023 1;69:86–92.
2. Flacking R, Lehtonen L, Thomson G, Axelin A, Ahlqvist S, Hall Moran V. Closeness and separation in neonatal intensive care. *Acta Paediatrica*. 2021;110(4):1083–90.

Assessment of the Accessibility of Orthodontic Treatment in Alytus County: A Cross-Sectional Study (2025)

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Introduction

Orthodontic treatment is an important part of oral health care, having a significant impact on the function of the masticatory system, aesthetic appearance, and quality of life [1-3]. However, access to treatment in regions is often uneven and depends on the availability of specialists, financial resources, as well as organizational and geographical factors [4-6]. Despite this, region-specific data on orthodontic treatment accessibility in Lithuania, particularly in smaller counties such as Alytus County, remain limited.

Aim

To assess the accessibility of orthodontic treatment in Alytus County and to identify the main factors influencing treatment choice and service utilization.

Methods

Ethical approval was obtained from the Ethics Committee for Scientific Research of the Faculty of Medicine of Vilnius University (Approval No. (1.7 E) 150000-KT-627). A quantitative cross-sectional study was conducted between June and October 2025 using an anonymous online survey. The study included 284 residents of Alytus County who currently required or had previously required orthodontic treatment, either for themselves or for their children. Data were collected using an author-designed questionnaire. Statistical analysis was performed using IBM SPSS version 31.0, applying descriptive statistics, the χ^2 test, the Mann-Whitney test, and the two-proportion z-test. The level of statistical significance was set at $p < 0.05$.

Results

More than half of the respondents lived in Alytus city (54.4%, $n = 154$), while the remaining participants resided in other areas of Alytus County (45.6%, $n = 129$). Most received treatment in private clinics (71.2%, $n = 151$), while 22.2% ($n = 47$) used public institutions and 6.6% ($n = 14$) both. Limited or no choice of orthodontists was reported by 90.1% of respondents. Nearly one-fifth (19.4%) were aware of the need for treatment but did not plan to initiate it, mainly due to a shortage of specialists (66.2%) and high costs (49.3%). Among treated respondents, 64.8% received care in Alytus, although 57.3% of them were treated by

visiting specialists. Others sought treatment in other cities (22.3%) or abroad, exclusively in Poland (12.9%). Waiting times did not differ significantly by treatment location or institution type ($p > 0.05$), but scheduling difficulties were greater in public institutions ($p < 0.01$). City residents reported shorter travel times (<30 min) than county residents ($z = -5.45$, $p < 0.001$), whereas county residents reported longer travel times ($z = 2.06-4.35$, $p < 0.05$); however, transportation problems were reported rarely (46.7%) or not at all (43.9%) by most respondents. Lower cost was the main reason for choosing treatment abroad (100%).

Conclusions

Orthodontic treatment accessibility in Alytus County is limited due to a shortage of specialists and high treatment costs. Treatment choices are mainly influenced by financial, organizational, and service availability factors. Although about half of the residents receive treatment in Alytus, many services are provided by visiting orthodontists, while the remaining residents choose treatment in other cities or abroad.

References

1. Yang Z, Jiang M. Orthodontic treatment impact on quality of life in adults. *Int Dent J*. 2025;75(Suppl 1):105384. DOI:10.1016/j.identj.2025.105384
2. Mohammed H, Morsi A, Wafaie K, Daniel BK, Farella M. Patients' perspectives of the long-term impact of orthodontic treatment: a qualitative study. *Angle Orthod*. 2025 Mar 1;95(2):205-211. DOI: 10.2319/031424-216.1.
3. Nayak PP, Mitra S, Pai J B, Prabhakar RV, Kshetrimayum N. Mapping accessibility to oral health care in coastal India - a geospatial approach using a geographic information system (GIS). *F1000Res*. 2022;11:366. DOI:10.12688/f1000research.75708.2.
4. Mseke EP, Jessup B, Barnett T. Impact of distance and/or travel time on healthcare service access in rural and remote areas: a scoping review. *J Transp Health*. 2024;37:101819. DOI:10.1016/j.jth.2024.101819.
5. Chandrakiran R, Naveena MSJV, Mirinal S. Comparison of patient satisfaction between public dental healthcare centres and private dental clinics in Mauritius. *J Med Case Rep Case Series*. 2023;4(7). DOI:10.38207/JMCRCS/2023/MAY04070544.
6. Saxena V, Deheriya M, Datla A. Bibliometric analysis of dental tourism: a global perspective. *Int J Travel Med Glob Health*. 2023;11(2):286. DOI:10.30491/IJTMGH.2023.387742.1349.

Assessment of Patients' Knowledge About Antibiotic Use and Self-Medication in Upper Respiratory Tract Infections

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Introduction

Irrational antibiotic use and the growing antimicrobial resistance are among the greatest global threats to public health. Lithuania has one of the highest rates of antimicrobial drug use in hospitals in the European Union, exceeding the European average by 1.4 times [1]. One of the main reasons for the irrational use of antibiotics is poor public knowledge [2-4]. A Eurobarometer survey revealed that as many as 40 percent of respondents believe that antibiotics kill viruses [5]. Another important reason for the irrational use of antibiotics is self-medication with antibacterial drugs, i.e. individuals, based on their own experience and knowledge, use antibiotics without consulting a doctor for a diagnosis or prescription [7]. Self-medication is also closely related to non-compliance with doctor's instructions, which directly promotes the development of antibiotic resistance [8]. There are only a few studies in Lithuania that assess the public's knowledge about antibiotic use for treating upper respiratory tract infections and self-medication.

Aim

The aim of this study was to evaluate patients' knowledge about antibiotic use and self-medication in upper respiratory tract infections.

Methods

Study was conducted in primary health care institutions in Kazlų Rūda municipality in May–July 2024. The research instrument was an anonymous questionnaire consisting of 11 questions, in which respondents were asked to provide demographic data and answer questions about antibiotic use and behavior during their use. Descriptive and comparative statistical data analysis was performed using IBM SPSS Statistics 29.0. Results were considered statistically significant as $p < 0.05$.

Results

As many as 90.0% of respondents over the age of 79 believe that antibiotics kill viruses, and 100% of respondents in the same age group agreed that antibiotics alleviate flu symptoms. A significant gender difference was observed: men (39.2%) are more likely to stop taking antibiotics once they feel better than women (14.6%). It was observed that as many as one-third of middle-aged and younger respondents keep antibiotics in their home medicine cabinet, while older respondents do this less frequently.

Conclusions

Public knowledge about the use of antibiotics for the treatment of upper respiratory tract infections is insufficient. The most important factor in the irrational use of antibiotics remains self-medication in various groups of society, including independent and inappropriate use of antibiotics and incorrect handling of drug residues. The problem of irrational antibiotic use highlights the need to educate the public about responsible antibiotic use, through various educational programs and involving doctors and pharmacists, who are the first line of consultation regarding antibiotic use.

References

1. Higienos institutas. Antimikrobinių vaistinių preparatų vartojimas 2021 m. 2022.
2. Miyano S, Htoon TT, Nozaki I, Pe EH, Tin HH. Public knowledge, practices, and awareness of antibiotics and antibiotic resistance in Myanmar: The first national mobile phone panel survey. *PLOS ONE*. 2022;17(8):e0273380.
3. Antwi AN, Stewart A, Crosbie M. Fighting antibiotic resistance: a narrative review of public knowledge, attitudes, and perceptions of antibiotics use. *Perspect Public Health*. 2020;140(6):338–350.
4. David JC, Piednoir E, Delouvée S. Knowledge and perceptions of antibiotic resistance in the French population. *Infect Dis Now*. 2022;52(5):306–310.
5. European Commission. EU action on antimicrobial resistance. Brussels: European Commission; 2022.
6. Sachdev C, Anjankar A, Agrawal J. Self-medication with antibiotics: an element increasing resistance. *Cureus*. 2022;14(10):e30844.
7. Baracaldo-Santamaría D, Trujillo-Moreno MJ, Pérez-Acosta AM, Feliciano-Alfonso JE, Calderon-Ospina CA, Soler F. Definition of self-medication: a scoping review. *Ther Adv Drug Saf*. 2022;13:1–15.

Associations Between Forward Head Posture and Neck/Upper Limbs Functional Status in Massage Therapists

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Introduction

Massage therapists are at a high risk of experiencing work-related musculoskeletal complaints [1,2]. Optimal body posture is essential for musculoskeletal health, and its discrepancies can be related to neck pain and functional status [3,4]. The most commonly reported complaint of massage therapists is pain in the neck region followed by pain in the shoulder region, upper back, lower back, etc. [1,2].

Aim

The aim is to evaluate head and neck posture, neck/upper limbs functional status and their relationships in massage therapists.

Methods

A cross-sectional study was conducted. The study was approved by the LSMU Bioethics Center (No. 2025-BEC2-0777). Inclusion criteria: massage therapists aged 28-45 years, working full-time for at least 5 years and have not experienced a neck, shoulder or arm injury in the past year. A total of 18 women (age 36 ± 4.7 (29 - 45) years; height 1.69 ± 9.5 (1.54 - 1.86) meters; weight 67 ± 9.4 (51 - 84) kilograms; BMI 23.6 ± 2.7 (19.8 - 29.7) volunteered to participate. The participants were given a questionnaire to find out their work experience and workload. Neck functional status was assessed via the Neck Disability Index (NDI), whereas shoulder and upper limbs functional status was evaluated via the Disability of the Arm, Shoulder, and Hand (DASH) questionnaire. The head posture was assessed by measuring craniovertebral angle (CVA) using a goniometer. CVA lower than 50° implicates a forward head posture [5]. IBM SPSS Statistics 30.0.0.0 statistical analysis software package was used to perform data analysis. To assess the dependence of two quantitative variables, when the data satisfied the assumption of normality, the Pearson correlation coefficient (r) was used. The significance level was $\alpha=0.05$. Quantitative variables are presented as mean $\pm$ standard deviation and range.

Results

The CVA of participants was 46 ± 3.2 (40-50) degrees: 15 women (83.3%) had a forward head posture, only 3 women (16.7 %) had an optimal head posture. The NDI was 11.4 ± 7.05 (3-26) points. Only 4 women (16.7%) did not have neck disability, 10 women (55.6%) suffered from mild disability, 5 women (27.8%) had moderate neck disability. DASH questionnaire results were 20.24 ± 7.3 (9.2-35.5) points (the higher scores indicating greater disability). Inverse, medium strong relationships were found between the CVA and DASH ($r=-0.693$; $p=0.001$) and between the CVA and NDI ($r=-0.679$; $p=0.002$). The direct, strong relationship was found between DASH and NDI ($r=0.864$; $p<0.001$).

Conclusions

Forward head posture is common among women and is associated with greater functional disability of the neck, shoulders, and upper limbs. Neck dysfunction appears to be closely linked to reduced functional status of the upper extremities.

References

1. Sirbu E, Varga MG, Rata AL, Amaricai E, Onofrei RR. Work-related musculoskeletal complaints in massage practitioners. *Work*. 2022 Jul 15;72(3):901–7.
2. Barraclough W, Baskwill A, Higgs C, Neilson S, Wilcox D. A survey of Canadian massage therapists' experiences of work-related pain. *Int J Ther Massage Bodywork*. 2022 Sep 2;15(3):18–26.
3. Rani B, Paul A, Chauhan A, Pradhan P, Dhillon MS. Is neck pain related to sagittal head and neck posture? A systematic review and meta-analysis. *Indian J Orthop*. 2023 Jan 18.
4. Mahmoud NF, Hassan KA, Abdelmajeed SF, Moustafa IM, Silva AG. The relationship between forward head posture and neck pain: a systematic review and meta-analysis. *Curr Rev Musculoskelet Med*. 2019 Nov 26;12(4):562–77.
5. Kamel M, Moustafa IM, Kim M, Oakley PA, Harrison DE. Alterations in cervical nerve root function during different sitting positions in adults with and without forward head posture: a cross-sectional study. *J Clin Med*. 2023;12(5):1780.

**Paediatrics | Case
Report | Oral**

Abstracts

Beyond the syndrome: *Bacillus cereus* sepsis in Prader-Willi patient as a reflection of rare disease care challenges

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Introduction

Prader-Willi syndrome (PWS) is a disabling multisystem disorder characterized by hyperphagia and medical complications [1]. Hypothalamic dysfunction and temperature dysregulation may obscure fever, and patients often do not present with typical symptoms, delaying infection recognition and increasing the risk of rapid deterioration [2, 3]. This case highlights *Bacillus cereus* skin-source transmission via compulsive skin-picking in PWS, causing rare but life-threatening soft-tissue infection, underscoring early multidisciplinary management and sepsis.

Case Presentation

A 17 year-old with a known diagnosis of PWS presents to the ER with progressive erythema, swelling and pain of the lower extremity consistent with phlegmonous infection. Six months prior, a scratch from habitual skin picking did not heal and was managed conservatively. On presentation, local findings rapidly worsened- increasing erythema, edema, and fluctuation, prompted urgent surgical intervention. During anesthesia induction, intubation was complicated by hypoxemia, desaturation and bradycardia. Postoperatively, the patient remained sedated and mechanically ventilated and was transferred to the ICU with suspected sepsis and acute hypoxemic respiratory failure. In the ICU, empiric broad-spectrum i/v antibiotics were initiated for severe soft tissue infection. She remained intubated requiring close monitoring, completing a 7 day ICU stay with gradual improvement. Blood cultures grew *Bacillus cereus* sensitive to vancomycin. Wound cultures grew *S. aureus*. Antibiotics were adjusted, leading to stabilization and full recovery.

Discussion

Dermatillomania is common in PWS patients yet progression to sepsis is not [4]. Case reports note persistent self-excoriation wounds but rarely document progression to

sepsis [5]. Reduced pain perception, behavioral rigidity, and apparent wound healing can delay diagnosis, causing severe complications. Isolation of *Bacillus cereus*, a rare invasive pathogen, is also notable.

Conclusions

This case highlights that patients with rare diseases may present with atypical infection symptoms and unusual pathogens, which can be overlooked, supporting early empiric therapy, including vancomycin, when severe.

References

1. Luccarelli, J. (2022). Demographics and medical comorbidities among hospitalized patients with Prader-Willi Syndrome: A National Inpatient Sample analysis. *American Journal of Medical Genetics Part A*, 188A: 2899–2907. <https://doi.org/10.1002/ajmg.a.62901>
2. Butler MG, Manzardo AM, Heinemann J, Loker C, Loker J. Causes of death in Prader-Willi syndrome: Prader-Willi Syndrome Association (USA) 40-year mortality survey. *Genet Med*. 2017 Jun;19(6):635-642. doi: 10.1038/gim.2016.178. Epub 2016 Nov 17. PMID: 27854358; PMCID: PMC5435554.
3. Liselotte Van Loo, Annick Vogels, Anne Rochtus, Behavioral Changes in Patients With Prader-Willi Syndrome Can Mask Severe Physical Illness, *JCEM Case Reports*, Volume 1, Issue 1, January 2023, luac034, <https://doi.org/10.1210/jcemcr/luac034>
4. Joyce Whittington, Anthony Holland, Developing an understanding of skin picking in people with Prader-Willi syndrome: A structured literature review and re-analysis of existing data, *Neuroscience & Biobehavioral Reviews*, Volume 112, 2020, Pages 48-61, ISSN 0149-7634, <https://doi.org/10.1016/j.neubiorev.2020.01.029><https://doi.org/10.1016/j.neubiorev.2020.01.029>.
5. Warnock JK, Kestenbaum T. Pharmacologic Treatment of Severe Skin-Picking Behaviors in Prader-Willi Syndrome: Two Case Reports. *Arch Dermatol*. 1992;128(12):1623–1625. doi:10.1001/archderm.1992.04530010061009

Diagnostic Challenges in Pediatric Post-Traumatic Osteomyelitis: A Case Report

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Introduction

Post-traumatic osteomyelitis (PTO) is defined as an infection of bone that develops at the site of an injury, open fractures, or other traumatic events. The condition typically results from bacterial contamination of bone tissue [1]. This case highlights a rare presentation of acute PTO after a minor domestic injury in a pediatric patient, underlining the importance of early recognition to prevent disease progression.

Case Presentation

A 6-year-old boy injured his right foot on broken glass in a hot tub. The wound was cleaned, sutured and antibiotic therapy was started. After 9 days the foot became swollen and purulent discharge appeared in the wound. A pediatric surgeon performed wound incision, debridement and irrigation. Additionally, a pus sample was taken and a drain was inserted. Unfortunately, the wound failed to heal, continued to ooze and the foot stayed swollen. X-ray revealed an irregular cortical outline in the medial cuneiform, raising concern for possible destructive changes. Pus culture results were positive for *Pseudomonas aeruginosa*, targeted antibiotic therapy was started. CT scan was performed, which demonstrated erosions of the medial cuneiform and confirmed the diagnosis of acute PTO. Following surgical intervention, targeted antibiotic therapy and rehabilitation, the patient became asymptomatic, the wound healed by secondary intention and only minimal limping was observed.

Discussion

Open fractures and surgical wound sites are the most common causes of PTO [1]. However, this case demonstrates that even minor domestic injuries may also lead to significant bone infection. MRSA is usually associated with PTO [2], but in cases where trauma is water-related, *Pseudomonas aeruginosa* may be involved, as illustrated in this case report. Identifying PTO early can be challenging, as symptoms like swelling, tenderness and delayed wound healing are nonspecific and may be mistaken for soft tissue infection. Besides clinical evaluation and laboratory testing, imaging results are a key complement to diagnose PTO [3].

Conclusions

This case demonstrates that PTO can develop even after minor domestic injuries in

pediatric patients. Further investigation required when symptoms persist after minor domestic trauma to ensure early diagnosis and better clinical outcomes.

References

1. Yang J. , Yao J. , Wu Z. , Zeng D. , Zheng L. , Dong C. et al.. Current opinions on the mechanism, classification, imaging diagnosis and treatment of post-traumatic osteomyelitis. Chinese Journal of Traumatology 2021;24(6):320-327.
2. Jorge L. , Chueire A. , Fucuta P. , Machado M. , Oliveira M. , Nakazone M. et al.. Predisposing factors for recurrence of chronic posttraumatic osteomyelitis: a retrospective observational cohort study from a tertiary referral center in Brazil. Patient Safety in Surgery 2017;11(1).
3. Dobaria DG, Cohen HL. Osteomyelitis Imaging. [Updated 2023 Aug 6]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK594242/>

Recurrent Equinovarus Foot Deformity in a Child With Klinefelter Syndrome

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Introduction

Klinefelter syndrome (KS) is the most common sex chromosome aneuploidy in males, and it affects approximately 1 in 660. [1]. This syndrome's characterizations include endocrine abnormalities such as decreased androgen production, reduced testicular volume, azoospermia, and reduced phallic size. [2]. Although clubfoot is not a typical feature of the syndrome, decreased muscle tone and ligamentous laxity may contribute to treatment resistance or recurrence of foot deformities, as demonstrated in our case.

Case Presentation

A 5-year-old boy with a genetically confirmed diagnosis of Klinefelter syndrome was referred to our clinic for further assessment because of ongoing problems with his gait and a recurring deformity of the right foot. During the neonatal period, he developed hyperbilirubinemia, hypoglycemia, and a bilateral intraventricular hemorrhage. From birth, he had a marked bilateral equinovarus foot deformity. In infancy, he underwent serial casting and subsequently an Achilles tendon tenotomy, which provided good initial correction. Over time the deformity gradually reappeared, resulting in worsening gait instability and reduced ability to bear weight on that foot.

Discussion

Children with Klinefelter syndrome often have noticeably lower muscle tone. Many of them end up reaching the usual motor milestones a bit later, sometimes only by a few months but enough for parents or clinicians to notice. Issues with balance or coordination also come up fairly often, and these can influence how the child moves as they grow. [3]. Because their



neuromotor development isn't as quick or as steady as in other children, rehabilitation after orthopedic treatment can take longer. It usually takes consistent work before the child settles into a gait that feels stable and comfortable. [4]. Long-term outcomes in individuals with Klinefelter syndrome are influenced by mental health, and life expectancy is slightly reduced compared with the general population. Continuous, interdisciplinary care provides the best opportunity to optimize overall health and quality of life [5].

Conclusions

This case highlights the challenges of treating recurrent clubfoot in children with Klinefelter syndrome. This unique case shows that individualized, multidisciplinary care and long-term follow up are required to achieve optimal functional outcomes.

References

1. Frixou M;Moffat C;Tseretopoulou X;Ahmed SF;Lucas-Herald AK; A systematic review of core outcomes reported in boys and men with klinefelter syndrome [Internet]. U.S. National Library of Medicine; [cited 2025 Dec 9].
2. 1. Samango-Sprouse C;Brooks MR;Counts D;Hamzik MP;Song S;Powell S;Sadeghin T;Gropman AL; A longitudinal perspective of hormone replacement therapies (hrts) on neuromotor capabilities in males with 47,XXY (Klinefelter syndrome) [Internet]. U.S. National Library of Medicine; [cited 2025 Dec 9].
3. Ross JL, Roeltgen DP, Kushner H, Zinn AR, Reiss A, Bardsley MZ, McCauley E, Tartaglia N. Behavioral and social phenotypes in boys with 47,XYY syndrome or 47,XXY Klinefelter syndrome. *Pediatrics*. 2012 Apr;129(4):769-78. doi: 10.1542/peds.2011-0719. Epub 2012 Mar 12. PMID: 22412026; PMCID: PMC3356148.
4. Davis S, Howell S, Wilson R, Tanda T, Ross J, Zeitler P, Tartaglia N. Advances in the Interdisciplinary Care of Children with Klinefelter Syndrome. *Adv Pediatr*. 2016 Aug;63(1):15-46. doi: 10.1016/j.yapd.2016.04.020. PMID: 27426894; PMCID: PMC5340500.
5. Los E, Leslie SW, Kadam SJ, et al. Klinefelter Syndrome. [Updated 2025 May 5]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK482314/>

Juvenile Polyposis Syndrome Complicated by Severe Anemia – Clinical Case Analysis

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Introduction

Juvenile polyposis syndrome (JPS) is a rare inherited disorder characterized by multiple hamartomatous gastrointestinal polyps and an increased risk of colorectal and gastric cancer. In some patients, pathogenic SMAD4 variants lead to a combined JPS-hereditary haemorrhagic telangiectasia presentation. Diagnosis can be delayed because symptoms often overlap with more common childhood conditions.[1,2]

Case Presentation

A 6-year-old girl was admitted with severe anaemia (Hb 50 g/L) and fever, after experiencing a similar episode at age 4. Initial findings suggested pyelonephritis, but anaemia persisted despite treatment. Laboratory tests revealed iron deficiency, and faecal calprotectin levels were elevated, with a positive faecal occult blood test. Colonoscopy identified multiple intestinal polyps, and histology showed inflammatory mucosal fragments with mixed infiltrates, crypt abscesses, fibroblasts, and sparse capillaries. Subsequent genetic analysis identified a likely pathogenic heterozygous SMAD4 variant, c.1052A>G (p.Asp351Gly), confirming a diagnosis of JPS. The patient's iron-deficiency anaemia was attributed to chronic gastrointestinal bleeding from the polyps. She received intravenous iron supplementation, and long-term surveillance and management plans were initiated.

Discussion

This case shows that JPS can first present as unexplained severe anaemia in childhood.



SMAD4-related JPS carries higher bleeding and neoplasia risk, and may coexist with hereditary hemorrhagic telangiectasia (HHT), necessitating evaluation for vascular malformations.[3] Early recognition and regular endoscopic monitoring are essential for preventing complications and guiding ongoing management in children with JPS.

Conclusions

Unexplained severe anaemia in children may indicate underlying JPS. Identification of polyps and SMAD4 mutation enables targeted management with iron supplementation, polyp removal, ongoing endoscopic surveillance, and family genetic counselling.

References

1. Hashimoto Y, Yokoyama K, Kumagai H, Okada Y, Yamagata T. Juvenile polyposis syndrome-hereditary hemorrhagic telangiectasia associated with a SMAD4 mutation in a girl. *Clinical Journal of Gastroenterology*. 2020 Sep 17;13(6):1096–101.
2. Rud K, Smith-Simmer K, Weiss J, Garcia K. Parents' perspectives of non-informative germline genetic testing in children with Juvenile Polyposis Syndrome. *Journal of genetic counseling* [Internet]. 2025 Dec;34(6):e70140. Available from: <https://pubmed.ncbi.nlm.nih.gov/41250152/>
3. Hermann R, Shovlin CL, Kasthuri RS, Serra M, Eker OF, Bailly S, et al. Hereditary haemorrhagic telangiectasia. *Nature Reviews Disease Primers*. 2025 Jan 9;11(1).

Unmasking Pediatric Spontaneous Pneumomediastinum: a Case Report of Multimodal Diagnostic Approach

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Introduction

Spontaneous pneumomediastinum (SPM) is a benign condition defined as the presence of air in the mediastinum, not precipitated by trauma or iatrogenic causes, and further categorized as primary or secondary [1,2]. We describe a pediatric case of secondary SPM presenting with acute retrosternal pain and odynophagia, highlighting the importance of multidisciplinary diagnostics.

Case Presentation

A 13-year-old boy came to the emergency department with sudden pain in the throat while swallowing and breathing in. Patient was afebrile, reported an upper respiratory tract infection a week earlier, with no other significant medical history. Examination showed vesicular breathing, no crackles or stridor, no tonsillar swelling or throat erythema. Initial two-view X-ray of the chest and neck showed linear air pockets in the lower neck and upper mediastinum, leading to IV-contrast CT scan that confirmed pneumomediastinum without mediastinitis or other identifiable cause. A second CT with oral contrast ruled out an esophageal rupture. Later a tracheal tear with unclear cause was identified by an otorhinolaryngologist. Patient's condition remained stable, follow-up X-rays showed a non-progressing pneumomediastinum.

Discussion

Primary SPM occurs in healthy children with no pulmonary conditions, whereas secondary SPM can be associated with viral respiratory infections, which can cause tracheal tears due to increased intrathoracic pressure, as it may have been the case here [1,3]. About 70% of patients present with retrosternal chest pain, often worsened by breathing or swallowing [4]. Diagnosis is confirmed by chest X-ray, showing linear gas patterns in the mediastinum, whereas CT helps to exclude esophageal injury [5]. An otorhinolaryngologist may identify tracheal tears, as it was observed in our patient, which may help to differentiate and diagnose SPM



as secondary [6]. Treatment is generally conservative, consisting of observation, oxygen therapy if needed, pain control and bed rest [7,8].

Conclusions

This case highlights the diagnostic challenge of SPM in pediatric patients. It emphasizes the value of a multimodal approach in order to diagnose and differentiate primary and secondary SPM.

References

1. Noorbakhsh KA, Williams AE, Langham JJW, Wu L, Krafty RT, Furtado AD, et al. Management and Outcomes of Spontaneous Pneumomediastinum in Children. *Pediatr Emerg Care* [Internet]. 2021 Dec 1 [cited 2026 Jan 25];37(12):E1051–6. Available from: <https://pubmed.ncbi.nlm.nih.gov/31464878/>
2. Leinert JL, Perez Ortiz A, Rafat N. Spontaneous Pneumomediastinum in Children with Viral Infections: Report of Three Cases Related to Rhinovirus or Respiratory Syncytial Virus Infection. *Children (Basel)* [Internet]. 2022 Jul 1 [cited 2026 Jan 25];9(7). Available from: <https://pubmed.ncbi.nlm.nih.gov/35884024/>
3. Talwar A, Rajeev A, Rachapudi S, Khan S, Singh V, Talwar A. Spontaneous pneumomediastinum: A comprehensive review of diagnosis and management. *Intractable Rare Dis Res* [Internet]. 2024 [cited 2026 Jan 25];13(3):138–47. Available from: <https://pubmed.ncbi.nlm.nih.gov/39220281/>
4. Iteen AJ, Bianchi W, Sharman T. Pneumomediastinum. *StatPearls* [Internet]. 2023 May 1 [cited 2026 Jan 25]; Available from: <https://www.ncbi.nlm.nih.gov/books/NBK557440/>
5. Spontaneous pneumomediastinum in previously healthy pediatric patients: A case series - ClinicalKey [Internet]. [cited 2026 Jan 25]. Available from: <https://www.clinicalkey.com/#!/content/playContent/1-s2.0-S2213576624000824?returnurl=https%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS2213576624000824%3Fshowall%3Dtrue&referrer=https%2F%2Fwww.semanticscholar.org%2F>
6. Talwar A, Rajeev A, Rachapudi S, Khan S, Singh V, Talwar A. Spontaneous pneumomediastinum: A comprehensive review of diagnosis and management. *Intractable Rare Dis Res* [Internet]. 2024 [cited 2026 Jan 25];13(3):138. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11350202/>
7. Ojha S, Gaskin J. Spontaneous pneumomediastinum. *BMJ Case Rep* [Internet]. 2018 [cited 2026 Jan 25];2018. Available from: <https://pubmed.ncbi.nlm.nih.gov/29440243/>

8. Alemu BN, Yeheyis ET, Tiruneh AG. Spontaneous primary pneumomediastinum: is it always benign? J Med Case Rep [Internet]. 2021 Dec 1 [cited 2026 Jan 25];15(1). Available from: <https://pubmed.ncbi.nlm.nih.gov/33761988/>



A Rare Case of Pulmonary Embolism in a Paediatric Patient

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Introduction

Pulmonary embolism (PE) is rare in children, with 3.5–6 PE-related hospitalisations per 100,000 children [1,2]. We present a rare case of life-threatening PE in a child with Prader-Willi syndrome (PWS).

Case Presentation

A 17-year-old girl with PWS and comorbid morbid obesity (175 kg), arterial hypertension (AH), type 2 diabetes mellitus (DM), and obstructive sleep apnoea (OSA) presented with acute dyspnoea, cyanosis, and cough and was found to be tachypnoeic with severe hypoxaemia (SpO₂ 60%). Arterial blood gas revealed respiratory acidosis, and chest X-ray was unremarkable. D-dimer was markedly elevated (10 559 mg/l), and TnI 290 ng/l, NT-proBNP 3 870 pg/ml indicated possible myocardial injury. Lower-limb ultrasound found no deep vein thrombosis (DVT). CT imaging and ultrasound was not feasible because of the patient's body habitus. PE was suspected based on the clinical presentation and elevated D-dimer levels. Transthoracic echocardiography (TTE) revealed grade I pulmonary hypertension, with signs of right ventricular pressure overload. Following initiation of Fraxiparine, D-dimer levels decreased to 556 mg/l, with normalization of TnI and NT-proBNP. Repeat TTE showed no progression of chamber dilation and the patient's respiratory status improved.

Discussion

Diagnosing PE in children is challenging, as clinical features and risk factors often differ from adults, leading to frequent underdiagnosis [3]

. PWS is associated with an increased thromboembolic risk. Obesity, the strongest prothrombotic factor, impairs fibrinolysis



and increases fibrinogen, von Willebrand factor, and factor VIII levels, promoting thrombus formation. [4]. In PWS, the risk of PE or DVT is approximately 5-fold higher compared with obesity alone [5]. DM and AH in PWS promote hypercoagulable state, while hypoxaemia from OSA further raises thrombotic risk [4,5]. Together, these overlapping risk factors likely created a markedly hypercoagulable state that contributed to PE despite the patient's young age. Early recognition of PE and timely diagnosis are crucial, as they may be life-saving.

Conclusions

PWS and its associated comorbidities significantly increase the risk of PE even in children. Early recognition and treatment are essential, as undiagnosed or untreated PE can be fatal.

References

1. Wolf S, Valerio L, Kucher N, Konstantinides SV, Klaassen ILM, van Ommen CH, et al. Acute pulmonary embolism in children and adolescents in the USA (2016 and 2019): a nationwide retrospective cohort study. *The Lancet Respiratory Medicine*. 2025;13(5):393–402 doi:10.1016/S2213-2600(24)00412-0.
2. Carpenter SL, Richardson T, Hall M. Increasing rate of pulmonary embolism diagnosed in hospitalized children in the United States from 2001 to 2014. *Blood Adv*. 2018;2(12):1403–1408 doi:10.1182/bloodadvances.2017013292.
3. Stein PD, Fowler SE, Goodman LR, Gottschalk A, Hales CA, Hull RD, et al. Multidetector computed tomography for acute pulmonary embolism. *N Engl J Med*. 2006;354(22):2317–2327 doi:10.1056/NEJMoa052367.
4. Hotoleanu C. Association between obesity and venous thromboembolism. *Med Pharm Rep*. 2020;93(2):162–168 doi:10.15386/mpr-1372.
5. Butler MG, Oyetunji A, Manzardo AM. Age Distribution, Comorbidities and Risk Factors for Thrombosis in Prader-Willi Syndrome. *Genes (Basel)*. 2020;11(1):67. doi:10.3390/genes11010067 doi:10.3390/genes11010067.

Conservative Treatment of Severe Pediatric Renal Trauma: A Grade V Injury Case

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Introduction

Traffic-related blunt trauma is the leading cause of pediatric renal injuries, yet grade V lesions remain rare and often challenging to manage [1]. We present a grade V renal rupture successfully treated nonoperatively.

Case Presentation

A 12-year-old boy fell from an electric scooter and presented with abdominal and nasal pain, without loss of consciousness. Initial head and chest X-rays were unremarkable. Abdominal CT revealed a grade V left renal laceration with a large perirenal hematoma, contrast extravasation suspicious for pelvi-ureteric junction injury, and a splenic contusion. Hemodynamically stable, he was transferred to LSMUL KK with gross hematuria. Angiography showed a thrombosed segmental renal artery without active bleeding; embolization was not indicated. Ultrasound confirmed a sizable hematoma with preserved perfusion of both renal poles. On day 2, cystoscopy with retrograde pyelography showed no bladder or definite ureteral injury; a double-J stent and Foley catheter were placed. During hospitalization, fever and elevated inflammatory markers required antibiotic escalation. Serial ultrasound showed gradual hematoma liquefaction and stable renal perfusion. Clinical improvement occurred by day 10. The ureteral stent was removed on day 14, and the patient was discharged after 15 days. At one-month outpatient follow-up, ultrasound revealed a persistent perirenal fluid collection. As differentiation between liquefied hematoma and urinoma remained uncertain, percutaneous drainage was performed. Clear urine was obtained, a drain was left in situ,



and the kidney was re-stented. Drain output progressively decreased, and no signs of systemic inflammation were observed during outpatient follow-up.

Discussion

Nonoperative management of high-grade pediatric renal trauma is increasingly supported in hemodynamically stable patients [2]. Careful monitoring and timely imaging are crucial for detecting delayed complications while preserving renal function. Ultrasound follow-up limits radiation exposure and enables safe surveillance [3].

Conclusions

This case highlights that even grade V renal trauma can be managed nonoperatively in hemodynamically stable pediatric patients when supported by vigilant monitoring, appropriate imaging, timely drainage, and prompt management of complications.

References

1. Palinrungi MA, Faruk M, Christeven R. Traumatic kidney injury: a 6-year retrospective study in childhood and adolescence. *Res Rep Urol*. 2023;15:415-24. doi:10.2147/RRU.S424273.
2. Gander R, Asensio M, Royo GF, Aguilera M, Molino JA, Guillén G, et al. Nonoperative management of pediatric high-grade renal injuries: outcomes and complications. *J Pediatr Surg Open*. 2024;5:100088. doi:10.1016/j.yjpso.2023.100088.
3. Ringen AH, Fatland A, Skaga NO, Gaarder C, Naess PA. Pediatric renal trauma: 17 years of experience at a major Scandinavian trauma center. *Trauma Surg Acute Care Open*. 2023;8(1):e001207. doi:10.1136/tsaco-2023-001207

WAGR Syndrome Presenting With Early Aniridia, Wilms Tumour, and Endocrine Involvement: A Case Report

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Introduction

WAGR syndrome is a rare genetic disorder caused by a deletion on chromosome 11 that includes the PAX6 and WT1 genes. It has an estimated prevalence of approximately 1 in 500,000 live births and is associated with a characteristic phenotype that may include aniridia, an increased risk of Wilms tumour (nephroblastoma), and endocrine involvement [1].

Case Presentation

In this case, we report a 4-year-old girl with WAGR syndrome, initially diagnosed with congenital aniridia in early infancy. Due to the increased risk of Wilms tumour, regular oncological surveillance, consisting of three-monthly examinations, was started at 4 months of age, in alignment with current recommendations. At approximately 1 year of age, an abdominal MRI revealed bilateral renal changes suspicious for nephroblastoma. As a result, neoadjuvant chemotherapy with vincristine and dactinomycin was commenced following the UMBRELLA SIOP2016 protocol. At nearly 2 years of age, the patient underwent surgical resection of a right renal mass. Histopathology confirmed a high-risk, blastemal-type Wilms tumour without anaplasia. Follow-up imaging showed no evidence of disease progression. At 4 years of age, endocrinological evaluation revealed secondary hypothyroidism, based on repeated biochemical measurements demonstrating low free thyroxine (FT4 9.79 pmol/L) and inappropriately low thyroid-stimulating hormone (TSH 0.63 mU/L) concentrations. Growth assessment indicated that the patient's height was within the lower-normal range for age, whereas the body mass index exceeded the 97th percentile. Levothyroxine replacement therapy was initiated. The patient remains under ongoing multidisciplinary follow-up, including oncological, ophthalmological, and endocrinological care.

Discussion

Aniridia is the earliest clinical manifestation of WAGR syndrome and may prompt early recognition of the associated risk of nephroblastoma, which develops in approximately half of affected patients during early childhood [1,2]. Timely treatment according to international protocols may further improve outcomes in children with Wilms tumour [3].

Conclusions

This case demonstrates how early identification of WAGR syndrome enables structured oncological surveillance, timely treatment of Wilms tumour, and coordinated long-term multidisciplinary follow-up.

References

1. Hall J, Corton M, Fries FN, Obst J, Grünauer-Kloevekorn C, Seitz B, Waizel MDV, Jávorszky E, Tory K, Maka E, Amini M, Suiwal S, Stachon T, Szentmáry N. A comprehensive analysis of congenital aniridia and differential diagnosis: genetic insights and clinical symptoms. *Ophthalmol Ther*. May 2025; 14(5):835-856.
2. Duffy KA, Trout KL, Gunckle JM, Krantz SM, Morris J, Kalish JM. Results from a registry of patients with WAGR syndrome: characteristics of the WAGR spectrum and recommendations for care management. *Front Pediatr*. 2021 Dec 14; 9:733018.
3. Jhaveri HF, Sarantos N, Aitelli A, Kaplan S, Routh JC. Current clinical and surgical insights in the investigation and treatment of Wilms tumor (nephroblastoma). *Curr Opin Pediatr*. 2025 Oct 1; 37(5):488-494.

Severe multidrug intoxication mimicking autoimmune encephalitis in an 11-year-old boy

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Introduction

Autoimmune encephalitis (AE) is an inflammatory brain disorder that presents with a flu-like prodrome and neurological dysfunction [1]. This pediatric case describes suspected AE in the context of severe multidrug intoxication and seizures.

Case Presentation

An 11-year-old boy presented with acute agitation, confusion, and a Glasgow Coma Scale score of 9, requiring sedation. He had experienced upper respiratory symptoms three weeks prior. Viral encephalitis was suspected. Despite denials by the patient and his mother, urine toxicology revealed significant exposure to multiple substances, including opioids, benzodiazepines, barbiturates and marijuana, suggesting undisclosed intake. After initial treatment temporary clinical improvement was observed. However, ten days post-admission, the patient developed a pronounced tremor, raising suspicion of autoimmune encephalitis (AE). This differential diagnosis was thoroughly investigated. Subsequent comprehensive testing, including repeated cerebrospinal fluid analysis and extensive antibody panels (neuronal surface antigens, anti-MOG, anti-aquaporin-4), yielded negative results, effectively excluding AE.

Discussion

In children, AE may mimic infectious, demyelinating, and other neurological disorders, including seizures and movement abnormalities [2]. Although the patient met these criteria, AE was excluded, and symptoms were more likely attributable to severe drug intoxication. E-cigarette use should also be considered, as adolescents commonly use



them and these devices may contain harmful substances, including class I narcotics [3]. Various substances are known to induce neuronal hyperexcitability, potentially resulting in seizures [4].

Conclusions

Severe multidrug intoxication can mimic AE in children, highlighting the need for thorough history-taking and toxicological evaluation. Ensuring patient cooperation during history collection is crucial, as undisclosed substance use may mask the true etiology of symptoms. Awareness of e-cigarette use is also important, as these devices may introduce neurotoxic substances contributing to neurological manifestations.

References

1. Vova JA, Howarth RA. Evaluation, Treatment, and Outcomes of Viral and Autoimmune Encephalitis in Children. *Pediatr Clin North Am*. 2023 Jun;70(3):429–444.
2. Hardy D. Autoimmune Encephalitis in Children. *Pediatr Neurol*. 2022 Jul;132:56–66.
3. Donnie Trisfian. Narcotics found in vape liquids, UGM professor calls for stricter regulations and public awareness [Internet]. Universitas Gadjah Mada; 2025 Sep 29.
4. Aljefri A, Alkhateeb A, Alkhaibari A, Gabban R, Alamin O, Alribh F, et al. Exploring the Major Triggers of Seizures Due to Drug Overdose and Their Corresponding Countermeasures. *Journal of Healthcare Sciences*. 2023;[Volume and Issue]:667–673.

Unraveling the Rasopathy: Cardiac Involvement in a Rare Case of Costello Syndrome

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Introduction

Costello syndrome is a rare RASopathy due to activating germline mutations in HRAS proto-oncogene leading to dysregulation of RAS/MAPK pathway and multisystemic manifestations, especially arrhythmias and hypertrophic cardiomyopathy [1,2]. We report a rare clinical case of Costello syndrome in which genetic testing established definitive diagnosis.

Case Presentation

A 25-year-old male patient was referred to a geneticist because of hypertrophic cardiomyopathy. He has had health issues since infancy - premature birth, developmental delay, intellectual disability, feeding difficulties and facial dysmorphism, with Denohue syndrome initially suspected. Later, gait abnormalities, slow growth developed and at 6 years of age growth hormone therapy was initiated. He was also diagnosed with high-grade myopia and enuresis. Cardiac problems began at 6 years of age following influenza, presenting with paroxysmal tachycardia and hypertrophy of the ventricular septum. Cardiac magnetic resonance imaging at 19 years of age confirmed findings characteristic of



hypertrophic cardiomyopathy with signs of myocardial fibrosis and pericardial effusion, without evidence of left ventricular outflow tract obstruction at rest. Dysmorphic features included a high forehead, narrow chin, macrostomia, thick converging eyebrows, restricted elbow extension, dysplastic feet, low-set posteriorly rotated ears, multiple dark nevi, and pectus excavatum. Next-generation sequencing using a cardiac disease gene panel identified a pathogenic heterozygous HRAS gene variant (NM_005343.4:c.34G>A, p.Gly12Ser), confirming the diagnosis of Costello syndrome.

Discussion

Reviewing patient's medical history is essential when an inconclusive diagnosis has been present. In this case, Donohue syndrome was suspected from infancy; however, this diagnosis did not fit the clinical picture in adulthood. During the transition from pediatric to adult care, the cardiologist recognized that the cardiac phenotype could not be explained by the previously suspected syndrome, prompting further genetic investigation.

Conclusions

This case highlights the possibility of inaccurate diagnoses in the era before advanced genetic testing and underscores the importance of reevaluating patients with multisystem involvement, particularly during transitions in care.

References

1. Gripp KW, Morse LA, Axelrad M, Chatfield KC, Chidekel A, Dobyns W, et al. Costello syndrome: Clinical phenotype, genotype, and management guidelines. *Am J Med Genet A*. 2019;179(9):1725–44.
2. Bardawil T, Khalil S, Bergqvist C, Abbas O, Kibbi AG, Bitar F, et al. Genetics of inherited cardiocutaneous syndromes: a review. *Open Heart*. 2016;3(2):e000442.

Infection-Triggered PANS/PANDAS With Severe OCD, Incontinence and Cognitive Decline in a 13-Year-Old Girl: A Case Report

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Introduction

Pediatric acute-onset neuropsychiatric syndrome (PANS) and pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections (PANDAS) feature abrupt-onset obsessive-compulsive symptoms and/or severe eating restriction with acute neuropsychiatric changes[1,2].

Case Presentation

Over 1 year a 13.5-year-old girl developed OCD, social withdrawal, anxiety, urinary incontinence, sleep disturbance, eating disorder and cognitive decline. On admission she showed marked anxiety, psychomotor slowing with rigid posture, mild left ptosis and slow, sparse speech. Limb strength, reflexes and coordination were normal, but pelvic organ control was impaired. Tests showed elevated antistreptolysin-O titre (589 kIU/L), mildly increased IgM, positive Mycoplasma pneumoniae IgM and low-titre ANA. Inflammatory markers, thyroid profile and biochemistry were normal. Head CT showed cerebral atrophy, lumbar spine MRI and EEG were normal. Rheumatologic, endocrine and immunology assessments found no alternative diagnosis, supporting suspected PANDAS/PANS. She received two courses of high-dose IV methylprednisolone, azithromycin, benzodiazepines, NSAIDs, an SSRI and low-dose atypical antipsychotics. After treatment, communication, affect, sleep and nocturnal enuresis improved, but daytime incontinence, OCD symptoms and cognitive slowing persisted. Intravenous immunoglobulin and tonsillectomy were planned.

Discussion

PANS/PANDAS are rare post-infectious immune-mediated syndromes, with incidence ~1 in 11 765 children per year[3].

Current models propose cross-reactive antibodies to basal ganglia after streptococcal or other infections, but this remains debated[2,4,5]. They present with abrupt onset OCD and/or food restriction plus diverse neuropsychiatric symptoms[1,6–8]. Diagnosis requires multidisciplinary assessment to rule out alternative systemic disorders[1,9]. Management is multimodal (CBT, SSRIs, $\pm$ antibiotics, corticosteroids, IVIG or tonsillectomy) with limited evidence and variable outcomes, requiring tailored follow-up[1,2,7,8].

Conclusions

This case shows infection-triggered PANS/PANDAS with partial response to therapy, underscoring diagnostic complexity and need for early, individualised care.

References

1. Grandinetti R, Mussi N, Pilloni S, Ramundo G, Miniaci A, Turco E, et al. Pediatric acute-onset neuropsychiatric syndrome and pediatric autoimmune neuropsychiatric disorder associated with streptococcal infections: a delphi study and consensus document about definition, diagnostic criteria, treatment and follow-up. *Front Immunol* [Internet]. 2024 [cited 2025 Dec 10];15:1420663. Available from: <https://pmc-ncbi-nlm-nih-gov.ezproxy.dbazes.lsmuni.lt/articles/PMC11540630/>
2. Wilbur C, Bitnun A, Kronenberg S, Laxer RM, Levy DM, Logan WJ, et al. PANDAS/PANS in childhood: Controversies and evidence. *Paediatr Child Health* [Internet]. 2018 May 1 [cited 2025 Dec 10];24(2):85. Available from: <https://pmc-ncbi-nlm-nih-gov.ezproxy.dbazes.lsmuni.lt/articles/PMC6462125/>
3. Wald ER, Eickhoff J, Flood GE, Heinz M V., Liu D, Agrawal A, et al. Estimate of the incidence of PANDAS and PANS in 3 primary care populations. *Front Pediatr* [Internet]. 2023 Feb 8 [cited 2025 Dec 11];11:1170379. Available from: <https://pmc-ncbi-nlm-nih-gov.ezproxy.dbazes.lsmuni.lt/articles/PMC10551157/>
4. Arcilla CK, Singla R. Pediatric Autoimmune Neuropsychiatric Disorders Associated With Streptococcal Infections (PANDAS). *StatPearls* [Internet]. 2024 Aug 11 [cited 2025 Dec 11]; Available from: <https://www-ncbi-nlm-nih-gov.ezproxy.dbazes.lsmuni.lt/books/NBK606088/>
5. Bellanti JA. The PANDAS/PANS disorders. Is it time for more allergist-immunologists to get involved? *Allergy Asthma Proc*. 2023 Sep 1;44(5):296–305.
6. Łojek P, Rzeszutek M. PANS and PANDAS – symptoms beyond OCD and tics – a systematic review. *J Psychiatr Res*. 2025 Jul 1;187:144–53.
7. Cocuzza S, Maniaci A, La Mantia I, Nocera F, Caruso D, Caruso S, et al. Obsessive-Compulsive Disorder in PANS/PANDAS in Children: In Search of a Qualified Treatment-A Systematic Review and Metanalysis. *Children* (Basel)

[Internet]. 2022 Feb 1 [cited 2025 Dec 10];9(2). Available from: <https://pubmed-ncbi-nlm-nih-gov.ezproxy.dbazes.lsmuni.lt/35204876/>

8. Rea I, Guido CA, Spalice A. Clinical Features in Patients With PANDAS/PANS and Therapeutic Approaches: A Retrospective Study. *Front Neurol* [Internet]. 2021 Sep 28 [cited 2025 Dec 10];12:741176. Available from: <https://pmc-ncbi-nlm-nih-gov.ezproxy.dbazes.lsmuni.lt/articles/PMC8505529/>

9. Prato A, Gulisano M, Scerbo M, Barone R, Vicario CM, Rizzo R. Diagnostic Approach to Pediatric Autoimmune Neuropsychiatric Disorders Associated With Streptococcal Infections (PANDAS): A Narrative Review of Literature Data. *Front Pediatr* [Internet]. 2021 Oct 27 [cited 2025 Dec 10];9:746639. Available from: <https://pmc-ncbi-nlm-nih-gov.ezproxy.dbazes.lsmuni.lt/articles/PMC8580040/>



Late-onset coronary aneurysm in a child with Kawasaki disease: a case report

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Introduction

Kawasaki disease (KD) is an acute systemic vasculitis that mainly affects children under five years old [1]. One of the most serious complications of KD is the development of a coronary artery aneurysm (CAA), which is linked to long-term cardiac outcomes [2]. We present a case of KD with a late-onset coronary artery aneurysm in a pediatric patient.

Case Presentation

A 2-year-old female patient was hospitalized with persistent fever and non-exudative bilateral conjunctivitis. Despite initial antibiotic treatment, the fever remained high and inflammatory markers worsened. Additional typical mucocutaneous symptoms of KD developed and the diagnosis of KD was confirmed. Echocardiography showed no coronary artery dilation. The patient received IVIG 2 g/kg and aspirin 50 mg/kg. The patient's condition improved, and she was discharged. Four years after KD diagnosis, echocardiography revealed a possible aneurysm measuring up to 5 mm in the distal part of the left coronary artery. CT angiography confirmed a 7 × 8 mm fusiform aneurysm in the anterior interventricular branch (segment 6) and a possible 4 mm dilatation in the circumflex branch (segment 11). She was prescribed aspirin 100 mg daily. Regular cardiac follow-up, with imaging, is planned to monitor the CAA.

Discussion

In patients with KD, CAAs typically appear within the first weeks after diagnosis. In rare cases, CAAs may arise much later,

manifesting as a delayed complication, even years after the acute phase [3]. Another case of late-onset CAA has been reported to develop > 5 years after KD [4]. Similarly to our case, CAA did not exceed 8 mm or a z-score of 10, and aspirin therapy was prescribed. Current guidelines advise long-term monitoring with electrocardiography and echocardiography at 2, 4–6 weeks, and 1 year after KD diagnosis [5]. Therefore, guideline-directed cardiac follow-up remains essential, and extended surveillance may be required to identify late-onset CAA formation.

Conclusions

This case illustrates that CAA may develop years after KD despite initially normal coronary findings. Regular and prolonged cardiac monitoring plays a key role in detecting delayed coronary changes.

References

1. Kuo HC. Diagnosis, Progress, and Treatment Update of Kawasaki Disease. *Int J Mol Sci* [Internet]. 2023 Sep 1 [cited 2025 Oct 7];24(18). Available from: <https://pubmed.ncbi.nlm.nih.gov/37762250/>
2. Crean A, Benson L, Shah A, Han K, Lesser J, McCrindle BW. Imaging the delayed complications of childhood Kawasaki disease. *F1000Res* [Internet]. 2022 [cited 2026 Jan 25];11:147. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10036956/>
3. Yalta K, Yalta T, Yetkin E, Ozturk C. Late Coronary Aneurysm Formation after [Internet]. 2021 Jul 1 [cited 2025 Oct 8];51(10). Available from: <https://pubmed.ncbi.nlm.nih.gov/34494409/>
4. Bucher I, Cook S, Brahim Mathiron A. Case Report: Late coronary complication of Kawasaki disease. *Front Pediatr*. 2025 Mar 4;13:1527714.
5. Jone PN, Tremoulet A, Choueiter N, Dominguez SR, Harahsheh AS, Mitani Y, et al. Update on Diagnosis and Management of Kawasaki Disease: A Scientific Statement From the American Heart Association in the Young; Council on Cardiovascular and Stroke Nursing; Council on Cardiovascular Radiology and Intervention; and Council on Clinical Cardiology. *Circulation* [Internet]. 2024 [cited 2025 Oct 7];150:481–500. Available from: www.ahajournals.org/journal/circ

The Hidden Injury: Delayed Discovery of Traumatic Diaphragmatic Hernia in a Child

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Introduction

Traumatic diaphragmatic hernia (TDH) is a rare pediatric injury (<1% of trauma cases). Left-sided defects are more common but may be overlooked, particularly when initial imaging is negative. Delayed diagnosis increases the risk of visceral herniation, respiratory compromise, and life-threatening complications [1].

Case Presentation

An 11-year-old girl presented with severe respiratory distress, abdominal pain, and persistent vomiting. She was initially treated for suspected pneumonia; however, chest X-ray revealed herniation of the stomach into the right thoracic cavity. Medical history revealed severe polytrauma with predominant head injury following a motor vehicle accident two years earlier, with an initially unremarkable thoracic CT scan. In the preceding months, the patient experienced recurrent self-limiting episodes of vomiting and abdominal pain. The patient was transferred to a tertiary center where emergency laparotomy revealed herniation of a markedly distended stomach containing approximately 4 liters of gastric contents, along with the left hepatic lobe, through a 5-cm diaphragmatic defect. Primary diaphragmatic repair was performed. Postoperatively, the patient developed right lung consolidation, suspected to be aspiration pneumonia, requiring high-flow oxygen therapy. Broad-spectrum antibiotics were initiated. The patient was discharged in good condition 9 days postoperatively and remained asymptomatic at follow-up.

Discussion

Traumatic diaphragmatic rupture in children is uncommon and often clinically occult,

particularly in polytrauma patients where associated injuries dominate initial management. Respiratory symptoms are frequently nonspecific, and normal breath sounds or oxygen saturation do not exclude diaphragmatic injury [2]. Small tears may remain undetected on initial imaging and enlarge over time, allowing delayed herniation of abdominal viscera months or years after trauma. From a pediatric surgical standpoint, timely recognition is critical, as left-sided defects carry a high risk of gastric or intestinal incarceration, necrosis, and perforation [2,3]. Once diagnosed, surgical repair should not be delayed to prevent life-threatening complications [4].

Conclusions

In pediatric patients with respiratory symptoms and a history of high-energy blunt trauma, TDH should be considered to avoid delayed diagnosis and prevent life-threatening complications.

References

1. Theodorou CM, Jackson JE, Beres AL, Leshikar DE. Blunt Traumatic Diaphragmatic Hernia in Children: A Systematic Review. *Journal of Surgical Research*. 2021; 268:253–62.
2. Marzona F, Parri N, Nocerino A, Giacalone M, Valentini E, Masi S, et al. Traumatic diaphragmatic rupture in pediatric age: review of the literature. *Eur J Trauma Emerg Surg*. 2019; 45(1):49–58.
3. Njem JM, Ugwu BT, Dung ED, Awodi J. Traumatic diaphragmatic hernia with intestinal obstruction in a child: a case report. *J West Afr Coll Surg*. 2018; 8(1):100-109.
4. Lu J, Wang B, Che X, Li X, Qiu G, He S, Fan L. Delayed traumatic diaphragmatic hernia: A case-series report and literature review. *Medicine (Baltimore)*. 2016; 95(32):e4362.

Against the Odds: Successful Union After Open Pediatric Metatarsal Bone Loss

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Introduction

Open metatarsal fractures with posttraumatic segmental bone loss in children are rare and carry a higher risk of infection, nonunion, and metatarsalgia. Forefoot fractures account for approximately 60% of pediatric foot fractures, most commonly resulting from direct or indirect trauma. These injuries are usually grade III according to the Gustilo-Anderson classification due to contamination and soft tissue damage, making treatment particularly challenging in the presence of bone loss. Nevertheless, adolescents retain a high potential for biological healing. (1)

Case Presentation

A 15-year-old boy sustained a high-energy trauma to his left foot following a motorcycle accident. Examination revealed a 4 x 5 cm dorsolateral wound exposing the shaft of the fifth metatarsal. During surgery, a segmental defect was identified, extensive irrigation and debridement were performed. The distal fragment was stabilized at the fourth metatarsal using a bridging K-wire, followed by primary suture. Despite extensive contamination and bone loss, healing was uneventful: there was no infection, osteomyelitis, or wound breakdown. Radiographs showed progressive bone formation and subsequent union. At the two-year follow-up, the patient was pain-free, fully weight-bearing, and returned to unrestricted activity.

Discussion

Segmental bone loss in pediatric metatarsals is rare, current literature generally recommends staged reconstruction, bone grafting, external fixation, or induced

membrane techniques. (2) However, K-wire stabilization may provide sufficient mechanical stability while preserving the biologic environment in selected cases. (3) This case is characterized by spontaneous union despite extensive contamination, absence of bone grafting, definitive intermetatarsal bridge fixation, and primary wound closure in a high-risk setting. The regenerative capacity of the pediatric periosteum likely contributed to healing despite the adverse conditions.

Conclusions

Severe open fractures of the metatarsal bones with segmental bone loss in adolescents may heal without reconstructive procedures. Routine grafting may not be necessary in all cases, if careful debridement, stable fixation and monitoring remain essential.

References

1. Horner K, Tavarez M. Pediatric Ankle and Foot Injuries. 2016.
2. Samaila EM, Ditta A, Negri S, Leigheb M, Colò G, Magnan B. Central metatarsal fractures: A review and current concepts. Vol. 91, Acta Biomedica. Mattioli 1885; 2020. p. 36–46.
3. Zhang S, Yang K, Wang Q, Hou J, Zang H, Luo S, et al. Treatment of Fractures of Metatarsal Shaft Using a Cemented K-wire Frame. Journal of Foot and Ankle Surgery. 2021 Jan 1;60(1):42–6.

EBV-Negative, CMV-Positive B-Lymphoblastic Lymphoma in a Pediatric Heart Transplant Recipient: A Case Report

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Introduction

Post-transplant lymphoproliferative disorder (PTLD) is a rare but potentially life-threatening complication after solid organ transplantation [1]. Although PTLD is commonly associated with Epstein-Barr virus (EBV), EBV-negative cases are usually more aggressive and tend to occur several years after transplantation [2]. We report a case of EBV-negative B-lymphoblastic lymphoma (BLL) presenting as PTLD in a pediatric heart transplant recipient.

Case Presentation

A 7-year-old boy presented with fever and pneumonia. Physical examination revealed facial asymmetry and a firm, non-tender ~3x2 cm mass in the right mandible. His medical history included orthotopic heart transplantation at 6 months of age due to dilated cardiomyopathy and severe heart failure (initial ejection fraction (EF) 35%). He had received long-term immunosuppressive therapy with cyclosporine and mycophenolate mofetil. Cardiac function improved (EF 85%), but recurrent infections persisted. Cytomegalovirus (CMV) IgG was positive in infancy, and one year after transplantation elevated CMV IgG with negative IgM confirmed CMV infection. EBV serology was negative. Histopathological analysis of the mandibular biopsy confirmed BLL, consistent with monomorphic PTLD with a high proliferation index (Ki67 ~80%). The patient was referred for pediatric oncologist treatment.

Discussion

PTLD development is associated with EBV infection and prolonged

immunosuppression. BLL is among the more frequently reported PTLT subtypes in pediatric patients [3]. EBV negative PTLT typically presents 7-10 years after transplantation and is often more aggressive [4]. Although CMV is not oncogenic, its co-infection has been linked to immune dysregulation and increased PTLT risk [3].

Conclusions

This case emphasizes the importance of maintaining a high level of suspicion for PTLT even in EBV seronegative transplant recipients, particularly when new masses or clinical changes occur years after transplantation.

References

1. Gross TG, Rubinstein JD. Post-transplant lymphoproliferative disease in children, adolescents, and young adults. *Hematological Oncology*. 2023;41:48–56.
2. Afify ZAM, Taj MM, Orjuela-Grimm M, Srivatsa K, Miller TP, Edington HJ, et al. Multicenter study of pediatric Epstein-Barr virus-negative monomorphic post solid organ transplant lymphoproliferative disorders. *Cancer*. 2023;129:780–9.
3. Liu Y, Wang BC, Zuppan CW, Chau P, Fitts J, Chinnock R, et al. Relationship of Post-Transplant Lymphoproliferative Disorders (PTLT) Subtypes and Clinical Outcome in Pediatric Heart Transplant Recipients: A Retrospective Single Institutional Analysis/Experience of 558 Patients. *Cancers (Basel)*. 2023;15:976–6.
4. Fulchiero R, Amaral S. Post-transplant lymphoproliferative disease after pediatric kidney transplant. *Frontiers in Pediatrics*. 2022;10.

**Obstetrics &
Gynaecology,
Neonatology | Case
Report | Oral**

Abstracts

Infertility Treatment for a Patient with Kallmann Syndrome: A Case Report

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Introduction

Kallmann syndrome is a genetic disorder characterized by hypogonadotropic hypogonadism (HH) and anosmia [1]. Deficiency of gonadotropin-releasing hormone (GnRH) leads to insufficient secretion of luteinizing hormone (LH) and follicle-stimulating hormone (FSH); therefore, gonadal steroidogenesis and gametogenesis are impaired. Consequently, Kallmann syndrome often leads to infertility [2].

Case Presentation

A 26-year-old woman was consulted for infertility treatment. The patient was diagnosed with HH at the age of 13 and has been using hormone replacement therapy ever since. Ultrasound examination revealed a small uterus (~5 x 2 cm) and ovaries (~1 cm in diameter). Hormone analysis demonstrated low LH and FSH levels. The patient's partner was a healthy 27-year-old man; semen analysis showed normospermia. After unsuccessful ovulation induction and intrauterine insemination, it was decided to proceed with in vitro fertilization (IVF). Ovarian stimulation (OS) was performed using a GnRH antagonist protocol (Follitropin alfa 200 IU, Lutropin alfa 75 IU, Cetorelix 0.25 mg, recombinant hCG 250 µg 36 hours before oocyte retrieval). Ovarian puncture was performed, but no oocytes were retrieved. After the procedure, urticaria of unclear etiology developed. It was treated with antihistamines, glucocorticoids, and omalizumab for 9 months. Thereafter, a second OS cycle was performed using a GnRH antagonist and dual trigger protocol (Follitropin alfa 300 IU, Lutropin alfa 75 IU, Cetorelix 0.25 mg, hCG 10,000 IU 34 hours and Triptorelin 0.2 mg 40 hours before oocyte retrieval). 19 oocytes were retrieved, 8 embryos were fertilized, 4 of which developed into blastocysts and were cryopreserved on day 5 post-fertilization. Endometrial preparation was initiated with estradiol and progesterone according to the recommended protocol. The



first cryo-embryo transfer did not result in pregnancy, but after the second transfer, a baby boy weighing 3,705 grams was delivered at 39 weeks of gestation.

Discussion

Kallmann syndrome occurs in approximately 1 out of 125,000 females [3]. Therefore, it is not surprising that evidence regarding optimal infertility treatment strategies for women with Kallmann syndrome remains limited.

Conclusions

This case highlights the importance of individualized IVF strategies in patients with Kallmann syndrome.

References

1. Swee DS, Quinton R, Maggi R. Recent advances in understanding and managing Kallmann syndrome. *FacRev.* 2021 Apr 13;10:37. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC8130407/>.
2. Kumar Yadav R, Qi B, Wen J, Gang X, Banerjee S. Kallmann syndrome: Diagnostics and management. *Clinica Chimica Acta.* 2025 Jan 15;565:119994. Available from: <https://www-sciencedirect-com.ezproxy.dbazes.lsmuni.lt/science/article/pii/S0009898124022472>.
3. Żak N. Kallmann Syndrome - causes, symptoms, treatment - review of literature. *Quality in Sport.* 2024 Aug 26;21:54089. Available from: <https://apcz.umk.pl/QS/article/view/54089>.

HELLP Syndrome Following Cesarean Section for Severe Preeclampsia: A Case Report

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Introduction

HELLP syndrome is a severe variant of preeclampsia, characterized by hemolysis, elevated liver enzymes, and low platelet count [1]. The condition can progress rapidly, leading to significant complications. This case highlights the importance of rapid diagnosis and postpartum monitoring.

Case Presentation

A primigravida at 31+0 weeks was admitted to LSMU Kaunas Clinics with high blood pressure (165/110 mmHg), neurologically intact. No primary hypertension was detected. Ultrasound showed a transverse fetus with estimated weight below the 10th percentile and impaired uteroplacental perfusion. Laboratory tests revealed elevated ALT, AST, LDH, thrombocytopenia, and undetectable haptoglobin, confirming severe preeclampsia and HELLP syndrome. An urgent category II Cesarean was performed for HELLP syndrome. A male infant (1448 g) was delivered with an Apgar score of 8 and 9. Postpartum high blood pressure persisted despite treatment. Rising liver enzymes indicated active disease. Postpartum upper abdominal ultrasound showed no abnormalities. Enzymes were normalized by day 9 postpartum.

Discussion

HELLP syndrome may develop rapidly and occasionally presents without classic symptoms, emphasizing the importance of laboratory evaluation in hypertensive patients [1]. In this case, high blood pressure and laboratory tests confirmed HELLP syndrome, leading to



urgent Cesarean delivery. Postpartum liver enzymes rose, suggesting the disease may persist. Careful observation of laboratory parameters and blood pressure during the initial 48–72 hours postpartum is crucial for detecting complications such as hepatic injury, coagulopathy, hemolysis, acute renal failure, or intracranial bleeding, thereby facilitating timely intervention [2]. Early detection of postpartum elevation reduces the risk of serious maternal morbidity. Although recovery is generally reached, women with HELLP syndrome remain at increased risk for long-term hypertension and recurrence in subsequent pregnancies [3].

Conclusions

Timely management of high blood pressure during pregnancy is vital, as it can lead to preeclampsia, eclampsia, and HELLP syndrome. This case shows how quickly HELLP syndrome can develop and emphasizes the necessity of early laboratory testing and postpartum monitoring to prevent serious maternal morbidity [2].

References

1. Gestational Hypertension and Preeclampsia: ACOG Practice Bulletin, Number 222. *Obstet Gynecol.* 2020 Jun;135(6):e237-e260. doi: 10.1097/AOG.0000000000003891. PMID: 32443079.
2. Shah FA, Guez G, Patel N, Patel BB. Complicated Post-Partum HELLP Syndrome Causing Acute Renal Failure and a Spontaneous Acute Subdural Hematoma. *Cureus.* 2021 Feb 8;13(2):e13233. doi: 10.7759/cureus.13233. PMID: 33728182; PMCID: PMC7947262.
3. Bucher V, Mitchell AR, Gudmundsson P, Atkinson J, Wallin N, Asp J, Sennström M, Hildén K, Edvinsson C, Ek J, Hastie R, Cluver C, Bergman L. Prediction of adverse maternal and perinatal outcomes associated with pre-eclampsia and hypertensive disorders of pregnancy: a systematic review and meta-analysis. *EClinicalMedicine.* 2024 Sep 27;76:102861. doi: 10.1016/j.eclinm.2024.102861. PMID: 39391014; PMCID: PMC11465897.

Navigating Pregnancy with LQTS: How Risk and Comorbidities Impact Management and Delivery - a Report of Two Clinical Cases

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Introduction

Long QT syndrome (LQTS) is the most common cardiac channelopathy, marked by prolonged ventricular repolarization and increased risk of arrhythmias, syncope and sudden cardiac death (SCD) [1, 2]. Labour and delivery raise arrhythmic risk via pain, adrenergic surges, and anaesthetics. Guidelines address LQTS in pregnancy, but data on associated comorbidities is limited [3]. LQT2 and LQT3 carry higher cardiac event (CE) risk, LQT2 also has increased post partum risk [2].

Case Presentation

We compare two pregnancies with LQTS (30 and 35 yo, resp.), both without cardiac arrest, syncope, sustained arrhythmias or ICD, managed by a multidisciplinary team. Both resulted in healthy, normal weight neonates (Apgars 9, 10). Case 1: Genetically confirmed LQTS1 (QTc 481 ms). FH: No reported CEs. Comorbidities (C): Heart failure (HF) NYHA II (EF 48%), left atrial dilation (LAD). mWHO: III Pregnancy features (PF): Metoprolol 25 mg/d. Progressing LAD. Holter: 9109 SVE, 131 VE, 1 SVT episode. SGA fetus. Nadroparin for VTE prophylaxis. Symptoms (S): Exertional fatigue, palpitations, presyncope. Delivery (D): Oxytocin induced vaginal delivery (VD) at 41 weeks with remifentanyl (neuraxial anesthesia contraindicated due to LMWH). Discharged on metoprolol and LMWH. Case 2: Clinically diagnosed LQTS (QTc 466 ms), no genetic testing. Managed with metoprolol 95 mg. FH: SCD (paternal aunt), HF (father). C: Obesity (c. II). mWHO: II-III PF: Metoprolol 95 mg/d. GD (White A2); Holter: 12 SVE, 2 VE. S: None. D: Planned cesarean section (CS) at 39 weeks under spinal anesthesia. Discharged on metoprolol, genetic evaluation planned.



Discussion

Propranolol and nadolol are preferred in LQTS pregnancy to prevent Torsades de Pointes [3], yet metoprolol was used in both cases despite differing comorbidities. VD is generally preferred [3], but CS was chosen in case 2 following shared decision making. VTE prophylaxis in case 1 reflected underlying HF. These differences highlight the need for individualized decisions, routine genetic evaluation, and more robust LQTS pregnancy guidelines.

Conclusions

Pregnancy in LQTS requires multidisciplinary care. Despite higher risk in case 1, it was managed more conservatively than case 2 (VD vs CS), featuring lower arrhythmic burden and unconfirmed genotype. Both cases had favorable maternal and neonatal outcomes with different management strategies.

References

1. Taylor C, Stambler BS. Management of long QT syndrome in women before, during, and after pregnancy. *US Cardiology Review* [Internet]. 2021 May 20;15:e08. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11664762/>
2. Marcinkeviciene A, Rinkuniene D, Puodziukynas A. Long QT Syndrome Management during and after Pregnancy. *Medicina* [Internet]. 2022 Nov 21;58(11):1694. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC9696301/>
3. De Backer J, Haugaa KH, Hasselberg NE, De Hosson M, Brida M, Castelletti S, et al. 2025 ESC Guidelines for the management of cardiovascular disease and pregnancy. *European Heart Journal* [Internet]. 2025 Aug 29;46(43):4462–568. Available from: <https://doi.org/10.1093/eurheartj/ehaf193>

Selective Fetoreduction by Umbilical Cord Coagulation in a Monochorionic Diamniotic Twin Pregnancy with Type II Selective Fetal Growth Restriction: A case report

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Introduction

Selective fetal growth restriction (sFGR) is a serious complication of monochorionic diamniotic (MCDA) twin pregnancies and results from unequal placental sharing and intertwin vascular anastomoses [1]. Type II sFGR is characterized by persistently abnormal umbilical artery Doppler findings and is associated with a high risk of intrauterine demise of the growth-restricted twin and hemodynamic injury to the co-twin [2]. In early-onset severe cases with worsening Doppler findings, management may include close ultrasound surveillance or invasive fetal interventions, such as umbilical cord coagulation and selective fetoreduction, in order to reduce the risk to the normally growing co-twin [3].

Case Presentation

A naturally conceived MCDA twin pregnancy was diagnosed in the first trimester. At 16–17 weeks of gestation, significant growth discordance (27%) was detected. Twin B showed severe fetal growth restriction, oligohydramnios, absent umbilical artery end-diastolic flow, and reversed ductus venosus flow, consistent with type II sFGR. Twin A had normal growth and Doppler findings. Given the poor prognosis of twin B and the increased risk to the co-twin, selective fetoreduction was chosen after multidisciplinary counseling and informed consent. Fetoscopic umbilical cord coagulation of twin B was performed at 18+4 weeks of gestation without complications. Follow-up demonstrated stable maternal condition and normal ultrasound findings in the surviving twin.

Discussion

Type II sFGR carries a high risk of sudden fetal demise and secondary neurological injury to the co-twin due to shared placental circulation. Selective fetoreduction by umbilical cord coagulation interrupts intertwin vascular connections and may reduce adverse outcomes when prognosis of the growth-restricted fetus is poor [1,2].



Conclusions

Selective fetoreduction by umbilical cord coagulation is an effective management option in MCDA pregnancies complicated by severe type II sFGR. In the present case, the procedure was performed without complications and was followed by a favorable short-term outcome of the surviving co-twin, with stable ultrasound and Doppler findings. Early diagnosis, careful monitoring, and individualized counseling are essential to optimize outcomes in such high-risk pregnancies.

References

1. Mazer Zumaeta A, Gil MM, Rodríguez-Fernández M, Carretero P, Ochoa JH, Casanova MC, et al. Selective Fetal Growth Restriction in Monochorionic Diamniotic Twins: Diagnosis and Management. Vol. 4, Maternal-Fetal Medicine. Wolters Kluwer Health; 2022. p. 268–75.
2. Pape K, Khalil A, Mustafa HJ. Selective Fetal Growth Restriction in Monochorionic Twins: Updates and New Directions. Clin Obstet Gynecol [Internet]. 2025 Dec 1 [cited 2025 Dec 17];68(4):565–70. Available from: https://journals.lww.com/clinicalobgyn/fulltext/2025/12000/selective_fetal_growth_restriction_in.17.aspx
3. Tsikouras P, Antsaklis P, Nikolettos K, Kotanidou S, Kritsotaki N, Bothou A, et al. Diagnosis, Prevention, and Management of Fetal Growth Restriction (FGR). J Pers Med [Internet]. 2024 Jul 1 [cited 2026 Jan 26];14(7). Available from: <https://pubmed.ncbi.nlm.nih.gov/39063953/>

Amniotic Band Syndrome Managed with Prenatal Fetoscopy and Postnatal Surgical Release – A Case Report

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Introduction

Amniotic Band Syndrome (ABS) is a rare congenital condition caused by fibrous amniotic strands that entangle fetal parts, potentially leading to deformation, vascular compromise, or intrauterine amputation. Management of ABS with severe constrictive bands is challenging and requires a multidisciplinary, individualized approach. We present a rare case of isolated ABS affecting the fetal lower limb, managed via selective prenatal fetoscopy and planned postnatal surgical release.

Case Presentation

A 30-year-old primigravida was diagnosed with isolated ABS affecting the right lower limb at 25 weeks and 2 days of gestation. Ultrasound revealed significant edema of the right foot and ankle distal to a severe constrictive band across the lower leg. Doppler confirmed preserved arterial flow but suggested impaired venous and lymphatic outflow. Given the high risk of amputation, a fetoscopic release was recommended. At 25 weeks and 5 days, fetoscopy was performed. An amniotic strand encircling the umbilical cord was successfully released, which was a critical, potentially life-saving intervention. However, the constrictive band on the right leg was found to be deeply embedded, and safe division without incising the fetal skin was unfeasible, leading to the procedure's discontinuation. Weekly surveillance confirmed stable blood flow, and the pregnancy was continued until 34 weeks, when a planned Cesarean delivery was performed due to breech presentation. A female neonate (2500 g) was delivered.

Discussion

This case demonstrates the complex balance between preventing limb loss and optimizing fetal maturity in severe ABS. While fetoscopy is a curative option, its limitations become apparent when bands are deeply embedded. The preserved blood flow was key, allowing



pregnancy continuation to 34 weeks and optimizing neonatal outcomes. Immediate postnatal surgical release of the constrictive band by plastic surgeons was performed on the first day of life.

Conclusions

Effective management of complex ABS requires accurate prenatal diagnosis, rigorous multidisciplinary consultation, and a tailored strategy. Selective fetoscopic intervention combined with optimized delivery timing and immediate postnatal surgical release proved crucial for a positive outcome in this rare congenital anomaly.

References

1. Rogelio Cruz-Martínez, Ramiro Díaz, Miguel Martínez-Rodríguez, Early release of amniotic bands using a 1.0-mm fetoscope, *American Journal of Obstetrics and Gynecology*, Volume 224, Issue 6, 2021, Pages 620-621, ISSN 0002-9378, <https://doi.org/10.1016/j.ajog.2021.02.019>.
2. Ferrer-Marquez, F., Peiro, J.L., Tonni, G. and Ruano, R. (2024), Fetoscopic Release of Amniotic Bands Based on the Evidence—A Systematic Review. *Prenatal Diagnosis*, 44: 1231-1241. <https://doi.org/10.1002/pd.6636>
3. Lamrissi A, Mourabbih M, Ouajih O, Jalal M, Fichtali K, Bouhya S. Amniotic band syndrome: A case report. *Int J Surg Case Rep*. 2022 Jun;95:107096. doi: 10.1016/j.ijscr.2022.107096. Epub 2022 Apr 21. PMID: 35567876; PMCID: PMC9112021.

Prenatally Diagnosed Cervical-Mediastinal Cystic Hygroma With Neonatal Airway Compression: A Case Report

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Introduction

Cystic hygroma (macrocytic lymphangioma) is a rare congenital lymphatic malformation, usually arising in the cervical, clavicular or axillary regions. Large cervical lesions may extend into the mediastinum, leading to significant airway or vascular compression. Intervention is indicated in cases of respiratory compromise, infection or notable aesthetic concerns [1,2].

Case Presentation

A female infant was delivered at 37 weeks by elective caesarean section due to rapidly enlarging antenatally detected right cervical-mediastinal cystic mass. Although NIPT indicated increased risk for trisomy 16, amniocentesis confirmed a normal karyotype. Infant's weight at birth was 2202 g, Apgar scores were 6 and 8. Soon after birth, she developed severe respiratory distress caused by tracheal deviation and mediastinal compression, leading to initiation of nCPAP support. Ultrasound and CT imaging revealed a multiloculated macrocytic lesion extending from the right neck into the upper mediastinum, displacing the trachea, superior vena cava, and subclavian vessels. Laboratory tests showed coagulopathy, which required correction with cryoprecipitate and fibrinogen. At 15 days of age, complete surgical excision of the cervical component of the cystic hygroma was performed. Histopathology report confirmed cystic lymphangioma. Recovery was uneventful.

Discussion

Most cystic hygromas are detected prenatally or at birth, typically arising in the posterolateral neck. Mediastinal extension is rare but increases the risk of neonatal airway

obstruction. Early airway evaluation, correction of coagulopathy and timely surgical management are essential elements of care. Prognosis after complete excision is favorable, but close follow-up is needed due to recurrence risk [3,4].

Conclusions

Prenatal diagnosis is important for ensuring coordinated perinatal airway management, early surgical intervention, and optimal neonatal outcomes in cervical-mediastinal cystic hygromas.

References

1. Shadrack M, Naburi H, Msangi NS, Mkoma I, Mungia AM, Bokhary Z. Giant neonatal cystic hygroma with delayed airway obstruction: A case report of emergency surgery in a resource-limited setting. *Int J Surg Case Rep.* 2025 Oct;135:111835.
2. Yakıştıran B, Altınboğa O, Canpolat E, Çakar EŞ, Çelen Ş, Çağlar AT, et al. Analysis of cystic hygroma diagnosed in the first trimester: Single-center experience. *Journal of the Turkish German Gynecology Association.* 2020;21(2):107–10.
3. Borugă VM, Szilagyı DN, Prodea M, Mogoantă CA, Budu VA, Trandafir CM, et al. Cystic hygroma of the neck – case report. *Romanian Journal of Morphology and Embryology.* 2021 Jul 1;62(3):845–8.
4. Huang S, Wang Z, Chan Y, Jiang T. Airway Management of an Infant With Giant Neck Macro-Cystic Hygroma Utilizing a High-Flow Nasal Cannula. *Cureus.* 2023 Oct 12.

Stepwise Management of Postabortion Hemorrhage with Successful Bilateral Uterine Artery Embolization: Case Report

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Introduction

Severe hemorrhage is a rare but life - threatening complication after pregnancy termination. Rapid identification and stepwise management are critical to preserve maternal health and fertility.

Case Presentation

In December 2025, a 29-year-old woman was admitted for pregnancy termination due to fetal anomalies. Ultrasound revealed a large pericardial mass compressing the right atrium, causing hydropericardium and ascites. After multidisciplinary consultation, the patient decided to undergo medical termination. Following intravaginal administration of misoprostol, the patient miscarried and uterotonics were administered. Due to heavier than expected post - miscarriage bleeding, an examination was performed, during which additional placental tissue was removed from the vagina. As hemorrhage persisted, vacuum aspiration and uterine curettage were performed. However, bleeding continued and despite uterotonics, a Bakri balloon and local hemostatic measures, including packing with gauze soaked in adrenaline and tranexamic acid, hemostasis was not achieved. As the hemorrhage continued, the patient was transferred for endovascular management. Bilateral uterine artery embolization (UAE) with resorbable particles controlled the hemorrhage. Total blood loss was 2,2 l. The patient required multiple transfusions and supportive therapy. She was stabilised and discharged home with recommendations for follow-up.

Discussion

Postabortion hemorrhage is rare, affecting less than 1% of cases [1]. Hemorrhage after



miscarriage frequently arises from retained products of conception, uterine atony, uterine trauma or perforation, abnormal placentation, vascular anomalies, infection and coagulopathies [2]. Management is stepwise: assess the possible cause, use uterotonics and uterine massage, apply intrauterine tamponade (Foley or Bakri balloon) and escalate to UAE or hysterectomy if needed [3]. UAE effectively controls hemorrhage while preserving fertility [4]. Hemorrhage prevention includes pre-abortion hemoglobin assessment, drug availability and preparation for transfusion or higher-level referral [5].

Conclusions

This case highlights severe hemorrhage after miscarriage, successfully managed with bilateral UAE. Early recognition and multidisciplinary management are essential for patient stabilization and recovery.

References

1. Kerns JL, Brown K, Siripanth Nippita, Steinauer J. Society of Family Planning Clinical Recommendation: Management of hemorrhage at the time of abortion. *Contraception*(Stoneham). 2024 Jan 1;129:110292-2. Available from: <https://pubmed.ncbi.nlm.nih.gov/37739302/>
2. Tan Y, Li S, Xu H, Wang S. High-risk factors for massive haemorrhage in medical abortion patients with missed miscarriage. *BMC Pregnancy Childbirth*. 2024 Sep 9;24 (1). Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11382378/>
3. Bridwell R, Long B, Montrieff T, Gottlieb M. Post-abortion complications: A Narrative Review for Emergency Clinicians. *Western Journal of Emergency Medicine*. 2022 Oct 23;23(6). Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC9683756/>
4. Elbiss H, Al Awar S, Koteesh J, Khair H, Maki S, Abdalla DH, et al. Uterine artery embolization in the management of postpartum hemorrhage. *World Journal of Emergency Surgery*. 2025 Jan 23;20(1). Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11755801/>
5. Ipas. Postabortion hemorrhage: Prevention and management [Internet]. Chapel Hill (NC): Ipas; c2023 [cited 2025 Dec 14]. Available from: <https://www.ipas.org/clinical-update/english/postabortion-care/postabortion-hemorrhage-prevention-and-management/>

Accidentally Diagnosed Low-Grade Endometrial Carcinoma Following Vaginal Hysterectomy for Pelvic Organ Prolapse: A Case Report

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Introduction

Pelvic organ prolapse (POP) affects a substantial proportion of postmenopausal women, with symptomatic prevalence of 3–6%, and surgical intervention rates of 6–18%, most commonly in those aged 60–69 years [1]. Vaginal hysterectomy remains the preferred surgical approach for uterine prolapse [2]. Incidental endometrial carcinoma during POP surgery is rare, occurring in only 2.8% of hysterectomies performed for presumed benign indications [3]. We report a case of early-stage, low-grade endometrioid adenocarcinoma incidentally diagnosed after vaginal hysterectomy for symptomatic POP.

Case Presentation

A 67-year-old postmenopausal woman was admitted to the gynecology department with symptomatic stage II uterine prolapse and lower urinary tract symptoms, including nocturia, weak urinary stream, and increased daytime urinary frequency. She reported no abnormal bleeding or pelvic pain. Transvaginal ultrasound revealed a normal-sized, anteverted uterus with a thin, homogeneous endometrium measuring 2 mm. The patient underwent vaginal hysterectomy with bilateral salpingo-oophorectomy and anterior vaginal wall repair. The postoperative course was uneventful. Histopathology showed a low-grade (G1) endometrioid adenocarcinoma of the uterine body, with invasion limited to less than half of the myometrium (pT1a) and no lymphovascular space invasion. The malignancy was considered radically removed. The patient was referred to an oncogynecologist. CT of the chest, abdomen, and pelvis showed no metastases; therefore, no adjuvant therapy was recommended.

Discussion

Endometrial carcinoma may be incidentally present in patients undergoing hysterectomy for presumed benign indications. The absence of typical symptoms and normal preoperative findings poses a diagnostic challenge. Vaginal hysterectomy may provide definitive treatment for selected early-stage, low-grade endometrial cancers, highlighting the importance of routine histopathological examination.

Conclusions

Comprehensive histopathological assessment remains essential, even when surgery is done for benign indications and symptoms are absent. Early-stage, low-grade tumors may be managed with hysterectomy alone, potentially obviating the need for additional radiotherapy.

References

1. Collins S, Lewicky-Gaupp C. Pelvic Organ Prolapse. *Gastroenterol Clin North Am* [Internet]. 2022 Mar 1 [cited 2025 Dec 14];51(1):177–93. Available from: <https://www.sciencedirect.com/science/article/abs/pii/S088985532100738X>
2. Tolstrup CK, Lose G, Klarskov N. The Manchester procedure versus vaginal hysterectomy in the treatment of uterine prolapse: a review. *Int Urogynecol J* [Internet]. 2017 Jan 1 [cited 2025 Dec 14];28(1):33–40. Available from: <https://pubmed.ncbi.nlm.nih.gov/27485234/>
3. Gruner M, Tewari S, M MY, Propst K, AlHilli M. Incidence and Outcomes of Occult Uterine Cancer in Uteri Removed for Prolapse. *Int Urogynecol J* [Internet]. 2025 Nov 1 [cited 2025 Dec 18];36(11). Available from: <https://pubmed.ncbi.nlm.nih.gov/41085693/>

Congenital intestinal malrotation. A Case Report.

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Introduction

Congenital intestinal malrotation (CIM) is a gastrointestinal defect caused by abnormal rotation of the midgut during embryogenesis. Although it may remain asymptomatic, CIM can lead to intestinal obstruction which may result in acute or chronic intermittent gastrointestinal symptoms. Early diagnosis and treatment are essential to prevent severe complications, such as midgut volvulus and small bowel necrosis. [1]

Case Presentation

The patient was born via spontaneous vaginal delivery at 37 weeks of gestation, cried immediately after delivery and had a birth weight of 3530 g. Apgar scores were 9 and 9 at 1 and 5 minutes, respectively. The neonate passed meconium shortly after birth. During pregnancy, the mother received routine antenatal care, including ultrasonography examinations. The patient was the third child of three siblings. 10 minutes after birth, the newborn showed signs of respiratory insufficiency, which resolved after 5 hours of CPAP therapy. A 1-day-old neonate presented to the emergency department with complaints of vomiting, especially after breastfeeding. The emesis consisted of breast milk and was yellow-green in color. Congenital intestinal malrotation was suspected, prompting an abdominal X-ray, which revealed reduced bowel gas. An upper gastrointestinal (UGI) study with water-soluble contrast was performed, demonstrating intestinal obstruction. The patient underwent an urgent open Ladd's procedure, during which findings characteristic of CIM were observed. The postoperative course was uncomplicated, and the patient's condition steadily improved. The neonate was discharged from the hospital after 12 days.

Discussion

Symptomatic intestinal malrotation in newborns is estimated to occur in approximately 1 in 6000 live births. Sudden onset of bilious vomiting is a key point in neonatal intestinal obstruction, and malrotation should always be suspected until proven otherwise. Bilious



emesis should raise strong clinical suspicion for CIM, an UGI contrast study is the examination of choice and remains as gold standard for intestinal malrotation. [2]

Conclusions

This case underscores the importance of early recognition, timely surgical treatment and multidisciplinary care in ensuring favorable outcomes for neonate intestinal malrotation.

References

1. Alani M, Rentea RM. Midgut Malrotation [Internet]. PubMed. Treasure Island (FL): StatPearls Publishing; 2023 [cited 2025 Dec 16]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK560888/>
2. Brandt ML, Finck C. Intestinal malrotation in children. UpToDate [Internet]. 2025 Apr 10 [cited 2025 Dec 16].

Hysteroscopy-associated tumor cell dissemination: a case report.

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Introduction

Hysteroscopy is a highly accurate diagnostic procedure that allows direct visualization of the uterine cavity and targeted endometrial biopsy under visual control [1]. However, concerns have been raised regarding the potential risk of malignant cell dissemination into the peritoneal cavity due to increased intrauterine pressure during the procedure [1, 2].

Case Presentation

A 40-year-old woman underwent hysteroscopy with myoma resection and uterine curettage for heavy menstrual bleeding. Histopathology revealed well-differentiated endometrioid adenocarcinoma. However, the patient presented for further oncological management only eight months later, as she had not been informed of the malignant histopathological findings at the institution where the primary hysteroscopic procedure was performed. Contrast-enhanced computed tomography of the chest, abdomen, and pelvis showed no evidence of distant metastatic disease. A total laparoscopic hysterectomy with bilateral salpingo-oophorectomy and sentinel lymph node biopsy was planned. Intraoperatively, the peritoneum of the pouch of Douglas was covered with friable tissue deposits suspicious for peritoneal tumor implantation, therefore, the procedure was converted to laparotomy. Histopathology confirmed endometrioid adenocarcinoma in the uterus (<50 % myometrial invasion) and pouch of Douglas. No sentinel lymph node metastases were identified. The tumor was staged as FIGO IIIB. Following multidisciplinary team discussion, concurrent chemoradiotherapy was initiated and is ongoing.



Discussion

In this case, peritoneal implantation suggests possible hysteroscopy-related transtubal dissemination, especially with delayed definitive treatment. Experimental in vitro studies indicate that hysteroscopy may disseminate functionally viable malignant cells capable of extracellular matrix adhesion [2]. Similarly, hysteroscopy has been linked to an increased risk of positive peritoneal cytology and disease upstaging in patients undergoing hysteroscopy compared with those who did not [3, 4].

Conclusions

This clinical case raises the question of possible tumour spreading into the peritoneal cavity during hysteroscopy procedures, especially prolonged ones. It highlights the importance of future clinical trials aimed at evaluating the clinical relevance of tumour cells detected in peritoneal washings.

References

1. Pivazyan L, Nakhapetyan E, Seregina V, Yurkanova M. Whether hysteroscopy contributes to intraperitoneal cell dissemination, progression and recurrence in endometrial cancer: Systematic review and meta-analysis. *Eur J Obstet Gynecol Reprod Biol.* 2025;313:114573.
2. Du Y, Xu Y, Qin Z, Sun L, Chen Y, Han L, Zheng A. The Oncology Safety of Diagnostic Hysteroscopy in Early-Stage Endometrial Cancer: A Systematic Review and Meta-Analysis. *Front Oncol.* 2021;21;11:742761.
3. Dong H, Wang Y, Zhang M, Sun M, Yue Y. Whether preoperative hysteroscopy increases the dissemination of endometrial cancer cells: A systematic review and meta-analysis. *J Obstet Gynaecol Res.* 2021;47(9):2969-2977.
4. Markowska A, Baranowski W, Pityński K, Chudecka-Głaz A, Markowska J, Sawicki W. Metastases and Recurrence Risk Factors in Endometrial Cancer-The Role of Selected Molecular Changes, Hormonal Factors, Diagnostic Methods and Surgery Procedures. *Cancers (Basel).* 2023;29;16(1):179.

Prenatal diagnosis of a rare congenital adrenogenital syndrome.

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Introduction

Congenital adrenal hyperplasia (CAH) is an autosomal recessive endocrine disorder most commonly caused by pathogenic variants in the CYP21A2 gene, leading to 21-hydroxylase deficiency and excess androgen production [1]. Prenatal diagnosis of CAH remains complicated [2].

Case Presentation

33-year-old with a history of cesarean section for twin delivery at 36 weeks of gestation, presented for routine first-trimester screening at 12 weeks. Ultrasound examination revealed increased fetal nuchal translucency (5.5 mm) and absence of the nasal bone. At 15 weeks of gestation, invasive prenatal testing via amniocentesis was performed, followed by exome sequencing. Genetic analysis identified the parents as a carrier of a pathogenic CYP21A2 variant. Using Sanger sequencing and multiplex ligation-dependent probe amplification (MLPA), the fetus was diagnosed with CAH. At 21 weeks of gestation, detailed fetal ultrasound demonstrated clitoral hypertrophy. Multidisciplinary team counseling was conducted. Maternal prenatal glucocorticoid therapy was not initiated due to the advanced gestational age. A multidisciplinary delivery and neonatal management plan was established, including delivery at a tertiary care center and immediate multidisciplinary postnatal care. Labor was induced at 39 weeks of gestation and female neonate was born (Apgar scores 8, 10).

Discussion

Abnormal ultrasound findings during pregnancy should prompt comprehensive genetic testing to identify rare fetal conditions and allow appropriate pregnancy surveillance and delivery planning [2,3]. Non-invasive



prenatal testing allows early determination of fetal sex, but chorionic villus sampling and amniocentesis remains the gold standard [4].

Conclusions

Prenatal diagnosis of CAH remains challenging, particularly when parental carrier status is unknown prior to pregnancy. Early identification is crucial for appropriate prenatal counseling, pregnancy surveillance, delivery planning, and neonatal management.

References

1. El-Maouche D, Arlt W, Merke DP. Congenital adrenal hyperplasia. *The Lancet*. 2017 Nov;390(10108):2194-210.
2. Yoon JH, Hwang S, Kim JH, Kim GH, Yoo HW, Choi JH. Prenatal diagnosis of congenital adrenal hyperplasia due to 21-hydroxylase deficiency through molecular genetic analysis of the CYP21A2 gene. *Ann Pediatr Endocrinol Metab*. 2024 Feb 29;29(1):54-9.
3. Xu L, Lin W, Cai L, Huang H, Liang J, Li L, et al. Efficacy and safety of prenatal dexamethasone treatment in offspring at risk for congenital adrenal hyperplasia due to 21-hydroxylase deficiency: A systematic review and meta-analysis. *Clin Endocrinol (Oxf)*. 2020 Feb;92(2):109-23.
4. Okpaise OO, Ahn H, Tonni G, Ruano R. Prenatal diagnosis and in utero treatment of congenital adrenal hyperplasia: An up-to-date comprehensive review. *Prenat Diagn*. 2024 May 6;44(5):635- 43.

Prenatal Diagnosis of Mosaic Trisomy 14 Presenting with Uncommon Physical Anomalies

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Introduction

Mosaic Trisomy 14 is a rare chromosomal disorder. While the complete form is lethal, mosaicism allows for fetal survival and is associated with growth restriction, dysmorphism, and heart or central nervous system (CNS) abnormalities. This case describes a rare presentation of mosaicism with multiple structural anomalies detected on a detailed ultrasound.

Case Presentation

A 40-year-old woman (G3P2) was referred for consultation due to advanced maternal age and increased risk of fetal chromosomal abnormalities, despite the earlier ultrasound being normal. A detailed fetal ultrasound at 18+2 weeks of gestation revealed multiple structural anomalies. Key findings included left-sided congenital diaphragmatic hernia (CDH) with intrathoracic stomach and mediastinal shift of the heart to the right. CNS evaluation demonstrated partial agenesis of the septum pellucidum, and biometric assessment showed femur shortening. Amniocentesis was performed. Cytogenetic analysis revealed a female karyotype with Mosaic Trisomy 14 (mos47,XX,+14[6]/46,XX[17]). Fluorescence in situ hybridization confirmed three signals for the IGH locus (14q32) in 14% of interphase nuclei. Following the diagnosis, the parents elected to terminate the pregnancy at 19 weeks. Post-mortem examination confirmed left-sided herniation of the stomach, spleen, and intestinal loops into the pleural cavity, dextroposition of the heart, agenesis of the septum pellucidum, and femoral abnormalities.

Discussion

Mosaic Trisomy 14 typically presents with growth restriction, limb shortening, craniofacial dysmorphism, and congenital heart or CNS anomalies. [1–3] This case demonstrates several typical features; however, the presence of CDH is infrequent and has only been reported twice previously. [4,5] Early detailed ultrasound was crucial for identifying multisystem anomalies, while invasive karyotype testing confirmed the diagnosis and guided clinical decision-making. The combination of anomalies indicated a poor prognosis, consistent with published reports.

Conclusions

This case highlights the vital role of a detailed prenatal ultrasound in directing genetic testing. It expands the phenotypic spectrum of Mosaic Trisomy 14 by demonstrating a rare association with CDH and reinforces the importance of comprehensive prenatal evaluation.

References

1. Chen CP, Wu FT, Wang LK, Pan YT, Lee MS, Wang W. High-level mosaic trisomy 14 at amniocentesis in a pregnancy associated with congenital heart defects and intrauterine growth restriction on fetal ultrasound. *Taiwanese journal of obstetrics and gynecology*. 2023 Jul 1;62(4):594–6.
2. Asadi S. A Comprehensive and Clinical Review of Chromosome 14 Mosaic Trisomy Syndrome. *Pediatrics & Neonatal Biology Open Access*. 2023;8(1).
3. Eventov-Friedman S, Frumkin A, Bar-Oz B, Raas-Rothschild A. Mosaic Trisomy 14 in a Newborn with Multiple Malformations: When Chromosomal Microarray is a Clue to Diagnosis. *The Israel Medical Association journal : IMAJ* [Internet]. 2015 Jul;17(7):459–60. Available from: <https://pubmed.ncbi.nlm.nih.gov/26357728/>
4. Conley L. Prenatal Detection of Mosaic Trisomy 14 Secondary to Sonographic Findings. *Journal of Diagnostic Medical Sonography* [Internet]. 2024 Mar 27;40(5):514–8. Available from: <https://www.sdms.org/docs/default-source/jdmspdf/prenatal-detection-of-mosaic-trisomy-14.pdf?sfvrsn=2>
5. Safarulla A, Jones A. Trisomy 14 with diaphragmatic hernia. *Journal of Clinical Neonatology* [Internet]. 2016 [cited 2025 Dec 7];5(3):199. Available from: https://journals.lww.com/jocn/fulltext/2016/05030/trisomy_14_with_diaphragmatic_hernia.12.aspx

Rectovaginal defect following a postpartum fourth-degree perineal tear: treatment and surgical challenges

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Introduction

Perineal injury is common in vaginal delivery with 4% to 11% of women experiencing an obstetrical sphincter trauma [1]. Fourth-degree perineal tears disrupt the anal sphincter and anorectal mucosa, potentially causing complications like rectovaginal fistula or defect if not properly repaired [2]. Commonly associated with fourth-degree perineal tears, rectovaginal defect remains challenging to manage and often requires multistep surgical strategy including infection control, fecal diversion, and delayed definitive repair to optimize healing and functional outcomes [3, 4].

Case Presentation

A 33-year-old female patient suffered fourth-degree obstetric perineal tear during vaginal delivery on November 16, 2024. The patient underwent anal sphincter suture due to anal sphincter damage; however, her postoperative course was complicated by fecal discharge through the vagina, a rectovaginal fistula subsequently occurred, requiring reoperation. On December 21, 2024 a diverting loop sigmoid colostomy was formed. Due to clinically obvious huge rectovaginal fistula, sphincter sutures were removed and two months later repeated sphincteroplasty was performed. The patient is scheduled for stoma reversal in January 2026.

Discussion

The patient underwent multistep surgical management to control local infection, protect damaged perineal tissues, and facilitate recovery of anal sphincter function. As a common practice, a temporary loop sigmoid colostomy was created to divert feces, relieve

perineal pain, and reduce contamination of the vaginal tissues. This was followed by delayed sphincteroplasty to restore stool continence[4].

Conclusions

This case highlights the importance of prevention measures during vaginal delivery to reduce the risk of fourth- degree perineal lacerations and their associated complications, including anal sphincter injury and rectovaginal fistulas or defects. Preventive measures include antenatal perineal massage, optimized maternal positioning during labor, and maintenance of fetal head flexion during crowning [1]. Although episiotomy and forceps-assisted delivery may be indicated, they are associated with increased perineal trauma [1]. This case also highlights the value of multistep approach to optimize healing, preserve continence, and achieve favorable functional outcomes.

References

1. Schmidt PC, Fenner DE. Repair of episiotomy and obstetrical perineal lacerations (first-fourth). *Am J Obstet Gynecol*.2024;230(3 Suppl):S1005–S1013. DOI: 10.1016/j.ajog.2022.07.005. Epub 2023 May 9.
2. Gery Lamblin, Maïti de Boisredon, Léonie Picard, Anthony Atallah, Jerome Massardier, Gautier Chene, Erdogan Nohuz, Fourth degree perineal tears: Surgical repair technique in 10 steps, *Journal of Gynecology Obstetrics and Human Reproduction*, Volume 50, Issue 9, 2021, DOI: 10.1016/j.jogoh.2021.102151
3. Dawes AJ, Jensen CC. Rectovaginal fistulas secondary to obstetrical injury. *Clin Colon Rectal Surg*.2020;34(1):28–39. DOI: 10.1055/s-0040-1714284.
4. Maeda K, Wada N, Shida A. Treatment of rectovaginal fistula. *J Anus Rectum Colon*. 2023;7(2):52–62. DOI: 10.23922/jarc.2023-007

Large Ovarian Sex Cord-Stromal Tumor Mimicking Malignancy in a Postmenopausal Woman: A Case Report

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Introduction

The detection of an extra-ovarian mass in postmenopausal women raises concern for malignancy. Especially when large solid tumors with pathological vascularization are present, often prompting radical surgical intervention. Ovarian sex cord-stromal tumors are rare neoplasms, accounting for approximately 7% of primary ovarian tumors and less than 8% of malignant neoplasms.[1] Nevertheless, these tumors can clinically and radiologically mimic malignant epithelial ovarian cancer.[2] We present a case of a large ovarian mass initially suspected to be malignant, later identified as a sex cord-stromal tumor.

Case Presentation

A 57-year-old postmenopausal woman presented with right-sided lower abdominal pain and menstrual resembling bleeding. Contrast-enhanced CT revealed a large solid right ovarian mass (19×15×14.7 cm) with pathological vascularization, without evidence of metastases. Due to suspected ovarian malignancy, the patient underwent total hysterectomy, bilateral salpingo-oophorectomy, omentectomy, and peritoneal biopsies. Frozen section and final histopathology confirmed a sex cord-stromal tumor with typical microscopic features, including small uniform cells arranged in cords and trabeculae, without malignant characteristics or capsular invasion. The postoperative course was uneventful.

Discussion

Sex cord-stromal tumors are uncommon ovarian neoplasms that can present with nonspecific clinical and radiological features similar to those of epithelial ovarian cancer. In this case, the combination of large tumor size, solid morphology, abnormal vascularization, and

postmenopausal bleeding posed a substantial diagnostic difficulty. As preoperative imaging was unable to distinguish benign from malignant pathology, the final diagnosis was confirmed by histopathological analysis after surgical exploration, emphasizing the essential role of histology in patient management.

Conclusions

Large ovarian sex cord-stromal tumors can closely resemble malignant ovarian neoplasms in peri- and postmenopausal women. Comprehensive surgical staging is appropriate when malignancy cannot be excluded preoperatively. An accurate diagnosis plays a key role in correctly interpreting clinical and imaging results. Recognizing this differential diagnosis ensures appropriate patient care.

References

1. Sertic M, Devins KM, Oliva E, Lee SI, Kilcoyne A. Sex Cord-Stromal Tumors of the Ovary. *Radiol Clin North Am* [Internet]. 2023 Jul 1 [cited 2025 Dec 20];61(4):595–608. Available from: <https://pubmed.ncbi.nlm.nih.gov/37169426/>
2. Young RH. Ovarian sex cord-stromal tumours and their mimics. *Pathology* [Internet]. 2018 Jan 1 [cited 2025 Dec 21];50(1):5–15. Available from: <https://pubmed.ncbi.nlm.nih.gov/29132723/>

Vascular Malformation in a Newborn: A Case of Spontaneous Regression

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Introduction

Massive vascular malformations (VM) are exceptionally rare and may cause severe circulatory and respiratory failure with uncertain outcomes, making treatment particularly challenging [1].

Case Presentation

A full-term newborn was transferred to the tertiary level Neonatal Intensive Care Unit at 9 hours of life due to a large cervical mass extending toward the shoulder, chest, and back. The mass was soft, heterogeneous, tender, with prominent superficial veins and regional edema. Echocardiography demonstrated right-sided chamber dilatation with pericardial effusion, marked diastolic flow reversal in the descending thoracic aorta, and a significantly dilated vein draining from the left upper limb and left cervical region into the superior vena cava (SVC). These findings are suggestive of a possible steal phenomenon. CPAP was initiated for respiratory support, and dobutamine was started to manage systemic hypotension. Imaging showed an extensive vascular malformation of the left cervical and upper thoracic subcutaneous tissues, supplied by branches of the left subclavian and external carotid arteries, without intracranial or mediastinal extension. Given stable improvement and spontaneous decrease in lesion size, neither embolisation nor surgical intervention was performed.

Discussion

Congenital peripheral VM may cause significant hemodynamic compromise in neonates due to high-flow shunting ("steal" phenomenon), leading to respiratory and cardiovascular instability, as seen in this case [2]. Early diagnosis requires multimodal imaging, while management is individualized based on symptoms, lesion extent, and available interventions [3]. Symptomatic VMs are usually treated with embolization or surgery, though spontaneous regression may occur [2].



Conclusions

Large congenital VMs may present early with life-threatening complications [2]. Comprehensive imaging and multidisciplinary evaluation are essential [3]. Conservative management may be appropriate when clinical stability and spontaneous regression are observed [1].

References

1. Eberson SN, Desai SB, Metry D. A Basic Introduction to Pediatric Vascular Anomalies. *Semin Intervent Radiol*. 2019 Jun;36(2):149–60.
2. López Gutiérrez JC, Pozo Losada J, Gómez Tellado M. Vascular anomalies in childhood. Review and update. *Anales de Pediatría (English Edition)*. 2024 Oct 1;101(4):278–85.
3. El-Ghanem M, Kass-Hout T, Kass-Hout O, Alderazi YJ, Amuluru K, Al-Mufti F, et al. Arteriovenous Malformations in the Pediatric Population: Review of the Existing Literature. *Interv Neurol [Internet]*. 2016 Sep 1 [cited 2025 Dec 16];5(3–4):218. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC5075815/>

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Abstracts

The Most Commonly Consumed Beverages Among Orthodontic Patients Interacting With Color Changes of Orthodontic Appliances: A Pilot Questionnaire Study

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Introduction

Nowadays, orthodontic patients are increasingly choosing aesthetic braces, retainers or aligners that change their color over time, making an impact on patient satisfaction and treatment outcomes [1,2]. Previous studies have shown that these color changes can originate from the consumption of daily beverages [3-6]. However, there were no studies focusing on orthodontic patients, thus this topic has not been thoroughly investigated.

Aim

The aim of this self-reported and collected survey data was to identify the most commonly consumed beverages among orthodontic patients interacting with color changes of orthodontic appliances.

Methods

To find out what beverages were most commonly consumed, a pilot questionnaire study was conducted. The questionnaires were anonymous and consisted of 17 closed-ended questions with possible answers, age, and gender. The inclusion criteria for participants: participants older than 18, currently having orthodontic appliances (braces, aligners, retainers). The questionnaire listed the most popular beverages consumed in previous studies and provided possible answers about the frequency of consumption of these drinks, e.g., once a day, once a week, etc. The questionnaire was posted in a Facebook group "BRACKETS! And everything related to teeth!" for 3 weeks. The power analysis with G*Power (Version 3.1.9.2) statistical software was used to determine the minimal sample size 378. IBM SPSS 28.0.1.1 was used for numerical analysis. A chi-square test was used to determine the difference in the prevalence of used beverages between the genders. A value of $p < 0.05$ was considered significant.



Results

The survey was attended by 415 respondents from Lithuania: 234 women (56.38%) and 181 (43.62%) men ($P=0.09$). The results of the study showed that cappuccino (23.40%) and black coffee (10.80%), black (8.00%) and green (9.40%) tea were most commonly consumed at least once a day. Meanwhile, Coca-Cola (36.40%), orange juice (15.40%), Fanta (9.10%), apple juice (8.50%), dark beer (4.10%) and red wine (2.20%) were most commonly consumed at least once a week. Carrot, beetroot, tomato juice and matcha were the least commonly consumed during the week (about 2%). Females consumed cappuccino ($P=0.01$), green tea ($P=0.01$), all juices (P varied from 0.01 to 0.02) and red wine ($P=0.03$) statistically significantly more often than men. While men consumed black coffee ($P=0.01$), black tea ($P=0.01$) and dark beer ($P=0.01$) more often than females. The results correspond with the findings of previous studies that found black and green tea, black coffee, and Coca-Cola to be the most popular [7-10]. A novelty of our research was that new beverages (cappuccino and dark beer) were included in this survey.

Conclusions

The most commonly consumed beverages among orthodontic patients were coffee, tea, and Coca-Cola. Therefore, these beverages should be included in future studies to evaluate their effects on the discoloration of esthetic orthodontic appliances.

References

1. Ziuchkovski JP, Fields HW, Johnston WM et al. Assessment of perceived orthodontic appliance attractiveness. *Am J Orthod Dentofacial Orthop* 2008; 133(4 Suppl): 68–78.
2. Tsomos G, Ludwig B, Grossen J et al. Objective assessment of patient compliance with removable orthodontic appliances: a cross-sectional cohort study. *Angle Orthod* 2014; 84(1): 56–61.
3. Inami T, Tanimoto Y, Minami N. Color stability of laboratory glass-fiber-reinforced plastics for esthetic orthodontic wires. *Korean J Orthod* 2015; 45(3): 130–135.
4. Ardeshtna AP, Vaidyanathan TK. Color changes of orthodontic elastomeric module materials exposed to in vitro dietary media. *J Orthod* 2009; 36(3): 177–185.
5. Fernandes AB, Ruellas AC, Araújo MV et al. Assessment of exogenous pigmentation in colourless elastic ligatures. *J Orthod* 2014; 41(2): 147–151.
6. Zafeiriadis AA, Karamouzou A, Athanasiou AE et al. In vitro spectrophotometric evaluation of Viverra clear thermoplastic retainer discolouration. *Aust Orthod J* 2014; 30(2): 192–200.
7. Raquel Abalo Coffee and Caffeine Consumption for Human Health 2021 *Nutrients* 2021, 13(9), 29.

8. Rochat, C.; Eap, C.B.; Bochud, M.; Chatelan, A. Caffeine Consumption in Switzerland: Results from the First National Nutrition Survey MenuCH. *Nutrients* 2019, 12, 28.
9. Amarra MS. Intake of added sugar in Malaysia: a review. *Asia Pac J Clin Nutr.* 2016.
10. Boulton J , Hashem MK, Jenner KJ, Lloyd-Williams, Bromley H , Capewell S. How much sugar is hidden in drinks marketed to children? A survey of fruit juices, juice drinks and smoothies . *BMJ Open.* 2016 Mar 23;6(3):e010330. doi: 10.1136/bmjopen-2015-010330.



Antibiotic prescription awareness for the treatment of endodontic pathology: a survey among dental students

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Introduction

Evidence based guidelines recommend local endodontic treatment as the primary approach for most endodontic infections. However, several studies have reported inappropriate use of systemic antibiotics for non indicated endodontic conditions. Therefore, assessing dental students understanding of antibiotic use in endodontics is important for identifying knowledge gaps and improving undergraduate education.

Aim

The primary aim was to assess dental students' understanding of antibiotic use in endodontics. The secondary aim was to compare the survey responses according to year of study and study programme (Lithuanian and international).

Methods

An anonymous questionnaire based survey assessing knowledge of antibiotic use in endodontics was conducted among all fourth and fifth year dental students (n = 258) at the Lithuanian University of Health Sciences. Descriptive statistics and comparisons between study groups were performed using SPSS.

Results

71 students participated in the survey (response rate 27.5%), including 39 international (54,9%) and 32 Lithuanian (45,1%) students. Overall, 32.4% of participants correctly identified indications of antibiotic use in endodontics, with fifth year students performing significantly better (44,1%) than fourth year students (21,6%), ($p = 0.043$). Correct antibiotic selection and dosages for patients with and without penicillin allergy exceeded 90% in both study years and study programmes.



Conclusions

Undergraduate fourth and fifth year dentistry students showed good knowledge of antibiotic selection and dosing. However, notable gaps were identified in recognizing appropriate indications of antibiotic use in endodontics. These findings are consistent with results from surveys conducted among students in other countries. Fifth year students showed better understanding of antibiotic indications compared with fourth year students, where no relevant differences were observed between Lithuanian and international students.

References

1. Segura-Egea JJ, Gould K, Şen BH, et al. European Society of Endodontology position statement: the use of antibiotics in endodontics. *Int Endod J*. 2018;51(1):20–25.
2. Martín-Jiménez M, Martín-Biedma B, López-López J, et al. Dental students' knowledge regarding the indications for antibiotics in endodontics. *Int Endod J*. 2017;50(2):140–149.
3. Salvadori M, Audino E, Venturi M, et al. Antibiotic prescribing for endodontic infections: a survey of dental students in Italy. *Int Endod J*. 2019;52(1):128–135.
4. Ahmadi H, Ebrahimi A, Ghorbani A. Antibiotic therapy in dentistry: a review. *Int J Dent*. 2021;2021:6667624.

The Effect of Consumed Beverages on the Color Changes of Transparent Orthodontic Straightening Aligners: In Vitro Study

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Introduction

Nowadays, orthodontic patients are seeking orthodontic treatment with esthetic appliances[1]. Currently, clear orthodontic aligners are one of the most popular methods of straightening crowded teeth. The aligners should usually be in the mouth for at least 20 hours per day for 12-14 days and then they should be changed to the other set of aligners [2]. Previous studies found that the color stability of other orthodontic appliances (ceramic braces, ligatures etc.) can be affected by the drinks consumed as they can have contact in the mouth from 1 to 2 hours per day totally, causing discoloration and unesthetic view of orthodontic appliance, thus minimizing the patient comfort [3,4]. However, the color changes of aligners were not yet evaluated.

Aim

The aim of this in vitro study was to evaluate the influence of consumed drinks on the color changes of clear orthodontic aligners.

Methods

This in vitro study was conducted in the department of orthodontics of Lithuanian University of Health Sciences. The power analysis with G*Power (Version 3.1.9.2) statistical software was used to determine the sample size. The sample size calculation showed that 7 specimens were needed in each group. Thus, the study group consisted of 77 aligners which were divided into 11 groups of 7. The control group samples were immersed in the distilled water, while the other groups were the following: Coca-Cola, apple juice, black tea, red wine, green tea, dark beer, Fanta, orange juice, cappuccino and black coffee. As the purpose of this study was focused only on the finding of possible color changes of orthodontic aligners, the other factors such as abrasion and temperature were excluded for further investigation. All sample groups were



kept in the dark, at room temperature (23 C), stored in 100 ml containers. The color changes of the samples were measured with a standard colorimeter (data color, Color Reader Pro) 3 times: before immersion, after 12 hours and after 7 days [5-8]. IBM SPSS 28.0.1.1 was used for statistical analysis. The statistical significance of the effects of different solutions on clear orthodontic aligners was tested using one-way and two-way dispersive analysis (ANOVA). The difference in results between variables was considered statistically significant when $p < 0.05$.

Results

The results showed that all solutions after 12 hours caused clinically visible and statistically significant color changes compared to the control group ($p < 0.05$). The smallest color changes, compared to the control distilled water group, were seen in the dark beer, apple juice, orange juice, cappuccino, Fanta, Coca-Cola groups (ΔE varied from 1.25 to 1.33). The green tea and red wine samples changed slightly more (ΔE varied from 1.72 to 1.82). The largest change after twelve hours was observed in the black coffee ($\Delta E = 3.78$) and black tea ($\Delta E = 2.68$) groups. After 7 days, the color changes were statistically significant in all groups ($p < 0.05$). The apple, orange juice, and Coca-Cola groups showed a slight change in the color of the orthodontic aligners (ΔE varied from 1.51 to 1.53), while the color changes intensified in all other groups. The most significant changes were seen in the black coffee ($\Delta E = 5.2$) and the black tea ($\Delta E = 3.93$) groups.

Conclusions

Pigments present in beverages caused the color changes of the clear orthodontic aligners even after 12 hours and 7 days. The most significant changes of color were detected in the black coffee and black tea groups. The clinical recommendations should be the following: to take out clear aligners when consuming such drinks and to choose better green tea or cappuccino instead of black coffee or tea.

References

1. Ziuchkovski JP, Fields HW, Johnston WM et al. Assessment of perceived orthodontic appliance attractiveness. *Am J Orthod Dentofacial Orthop* 2008; 133(4 Suppl): S68–S78.
2. Tsomos G, Ludwig B, Grossen J et al. Objective assessment of patient compliance with removable orthodontic appliances: a cross-sectional cohort study. *Angle Orthod* 2014; 84(1): 56–61.
3. Dietschi D, Campanile G, Holz J et al. Comparison of the color stability of ten new-generation composites: an in vitro study. *Dent Mater* 1994; 10(6): 353–362.
4. Ardeshtna AP, Vaidyanathan TK. Color changes of orthodontic elastomeric module

materials exposed to in vitro dietary media. J Orthod 2009; 36(3): 177–185.

5. Kim SH, Lee YK. Measurement of discoloration of orthodontic elastomeric modules with a digital camera. Eur J Orthod 2009; 31(5): 556–562.
6. Fernandes AB, Ruellas AC, Araújo MV et al. Assessment of exogenous pigmentation in colourless elastic ligatures. J Orthod 2014; 41(2): 147–151.
7. Johnston WM. Color measurement in dentistry. J Dent 2009; 37(Suppl 1): e2–e6.
8. Zafeiriadis AA, Karamouzos A, Athanasiou AE et al. In vitro spectrophotometric evaluation of
9. Vivera clear thermoplastic retainer discolouration. Aust Orthod J 2014; 30(2): 192–200.

Subjective and Objective Periodontal Health in Individuals with Intellectual Disabilities Compared to the General Population

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Introduction

Individuals with intellectual disabilities are known to have poorer periodontal health than the general population [1]. Effective prevention depends on early recognition of periodontal diseases, making caregivers' awareness of periodontal health a crucial factor for improving outcomes. However, discrepancies between caregiver-perceived and dentist-assessed oral health have been reported in individuals with intellectual disabilities [2].

Aim

To assess the association between caregivers' perception of periodontal health and the proportion of teeth with periodontal pockets in individuals with intellectual disabilities compared to the general population.

Methods

Following approval from the Bioethics Committee (No. 2019/10-1162-652) and written informed consent from caregivers, a cross-sectional convenience sample study was conducted. Subjective periodontal health perception (ordinal scale 1-6) and sociodemographic data were obtained from caregiver-reported responses using the validated WHO (2013) adult oral health questionnaire [3] Lithuanian version. Clinical data were collected 2023 - 2025 from adults with intellectual disabilities treated under general anesthesia at Vilnius University



Hospital Santaros Clinics, Zalgiris Clinic. Periodontal probing was performed by a single calibrated examiner, with probing depths ≥ 4 mm classified as periodontal pockets and expressed as the percentage of affected teeth. A matched control group from the general population was derived from a previous National Oral Health Survey in Lithuania, with one-to-one matching by sex and closest age using the MatchIt package (v4.2.3) in R software. In this group, perceived periodontal health was assessed by the participants themselves. Statistical analysis was performed using IBM SPSS Statistics 26, Kendall's tau coefficient. $p < 0.05$ was considered statistically significant.

Results

The study included 60 individuals with intellectual disabilities, 36 were male (60.0%), mean age ($\pm$ SD) 31 ± 8 years. In individuals with intellectual disabilities, periodontal pocketing ($27.8\% \pm 31.6$) was not significantly associated with caregiver-reported periodontal health assessment (Kendall's $\tau = 0.16$, $p > 0.05$), whereas in the control group, a higher proportion of periodontal pockets ($20.1\% \pm 24.7$) was moderately associated with poorer self-perceived periodontal health (Kendall's $\tau = 0.31$; $p < 0.05$).

Conclusions

In individuals with intellectual disabilities, subjective periodontal health assessment was not associated with the proportion of periodontal pockets, whereas in the general population subjective perception more accurately reflected periodontal status. This discrepancy suggests limitations in caregiver recognition of periodontal disease and highlights the importance of improving caregiver awareness to support early identification and prevention.

References

1. [1] Ward LM, Cooper SA, Hughes-McCormack L, Macpherson L, Kinnear D. Oral health of adults with intellectual disabilities: a systematic review. *Journal of Intellectual Disability Research*. 2019;63(11):1359–1378.
2. [2] Cho SM, Song J, Chang J. Differences between caregiver-perceived and dentist-assessed oral health status of patients with intellectual disabilities. *Community Dent Health*. 2019;36(4):255–261.
3. [3] World Health Organization. Oral health surveys: basic methods. 5th ed. Geneva: World Health Organization; 2013. p. 111–114. Available from: <https://apps.who.int/iris/handle/10665/97035>.

Prevalence of Maxillary Sinus Septa in the Lithuanian Population

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Introduction

The maxillary sinus septum (MSS) is a cortical bony projection of varying height, width, and shape within the maxillary sinus (MS) cavity, dividing it into more than one compartment [1–3]. The prevalence of MSS in different populations ranges from 13% to 70% [4,5], and as many as 26.4% to 69.1% of these cases occur in the area of the first and/or second molars [1]. This anatomical structure on the floor of the MS may be associated with sinus membrane perforation during sinus floor elevation procedures, whether performed using osseodensification [6] or via a lateral window [7] approach for maxillary sinus augmentation for dental implant placement in the posterior teeth region. It can be most reliably detected using Cone Beam Computed Tomography (CBCT) [8].

Aim

The present study aimed to investigate how frequently maxillary sinus septa occur on the maxillary sinus floor in a Lithuanian population, as assessed by CBCT.

Methods

The study included 120 patients who were selected for a retrospective analysis of CBCT scans obtained at the Clinic of Dental and Maxillofacial Orthopedics of the Hospital of the Lithuanian University of Health Sciences. The number of MSS on the right and left sides was evaluated on CBCT images. The study protocol was approved by the LSMU Bioethics Centre, approval No. 2025-BEC2-0264. Statistical analysis was performed using SPSS software, with a p-value of < 0.05 considered statistically significant. The analysis included the Wilcoxon matched-pairs signed-ranks test, Cohen's kappa coefficient (κ), the Mann–Whitney U test, and Spearman's rank correlation coefficient (ρ).



Results

Among the 120 patients whose CBCT images were analyzed, a total of 130 MSS were detected, representing 54.2% of cases, whereas 45.8% of patients presented without septa. The results showed that, in the overall study population, the distribution of MSS across the various tooth groups was as follows: 13.3% ($p=0.553$) in the first premolar region, 20% ($p=0.517$) in the second premolar region, 25% ($p=0.294$) in the first molar region, 16.7% ($p=0.019$) in the third molar region, and the most commonly observed in the second molar region at 33.3% ($p=0.535$). The prevalence of sinus septa in the region of the maxillary third molars was significantly higher in the male group (14.5%) than in the female group (5.5%), $p = 0.019$. It was found that the presence of MSS in the region of the first premolars on the right side (10.0%) was significantly higher than on the left side (3.3%), $p = 0.038$. In the regions of the other examined teeth, the occurrence of MSS did not differ significantly between the right and the left sides of the maxilla.

Conclusions

CBCT analysis showed that more than half of the Lithuanian population has MSS, most frequently located near the roots of the second maxillary molars. These anatomical characteristics emphasize the importance of radiographic evaluation when planning surgical procedures in the maxillary posterior teeth region.

References

- [1] Bonanthaya K, Panneerselvam E, Manuel S, Kumar V V., Rai A, Samson J, et al. Oral and Maxillofacial Surgery for the Clinician. *Oral and Maxillofacial Surgery for the Clinician* 2021;1–2008. <https://doi.org/10.1007/978-981-15-1346-6>.
- [2] Mirdad A, Alaqeely R, Ajlan S, Aldosimani MA, Ashri N. Incidence of maxillary sinus septa in the Saudi population. *BMC Med Imaging* 2023;23. <https://doi.org/10.1186/S12880-023-00980-0>.
- [3] Nelke K, Diakowska D, Morawska-Kochman M, Janeczek M, Pasicka E, Łukaszewski M, et al. The CBCT Retrospective Study on Underwood Septa and Their Related Factors in Maxillary Sinuses—A Proposal of Classification. *J Pers Med* 2023;13. <https://doi.org/10.3390/JPM13081258>.
- [4] Mularczyk C, Welch K. Maxillary Sinus Anatomy and Physiology. *Otolaryngol Clin North Am* 2024;57:991–1006. <https://doi.org/10.1016/j.otc.2024.07.004>.
- [5] Altayar BA, Al-Tayar B, Lin W, Al-wesabi SN, Al-shujaa EA, Sakran K, et al. Cone-beam computed tomographic analysis of maxillary sinus septa among Yemeni population: a cross-sectional study. *BMC Oral Health* 2023 23:1 2023;23:466-. <https://doi.org/10.1186/S12903-023-03124-6>.
- [6] Mazor Z, Gaspar J, Silva R, Pohl S, Gandhi Y, Huwais S, et al. Maxillary sinus membrane perforation rate utilizing osseodensification-mediated transcrestal sinus floor elevation: A multicenter clinical study. *Clin Implant Dent*

<https://doi.org/10.1111/CID.13368>;JOURNAL:JOURNAL:17088208;PAGE:STRING:ARTICLE/CHAPTER.

7. [7] Salgar N. Osseodensified Crestal Sinus Window Augmentation: An Alternative Procedure to the Lateral Window Technique. *Journal of Oral Implantology* 2021;47:45-55. <https://doi.org/10.1563/AAID-JOI-D-19-00288>.

8. [8] Verma R, Dua N, Gupta R, Jain M, . M, Gupta M, et al. Evaluation of Maxillary Sinus Septa Using Cone Beam Computed Tomography (CBCT): A Retrospective Study. *Cureus* 2024;16. <https://doi.org/10.7759/CUREUS.68157>.

The Effect of a Mouth Rinse Containing 905 ppm Fluoride on the Mechanical Properties of 0.014" NiTi Orthodontic Archwires: A Pilot Study

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Introduction

Fluoride-containing mouth rinses are routinely used in orthodontics to prevent enamel demineralization and caries. However, fluoride exposure can degrade the protective titanium oxide layer on NiTi archwires, promoting corrosion and altering their mechanical behavior [1]. In vitro studies indicate that fluoride may reduce mechanical properties such as yield strength and unloading forces of NiTi wires, potentially impairing tooth movement and prolonging orthodontic treatment [2,3]. Therefore, this study aimed to investigate the effect of a 905 ppm fluoride mouth rinse on the mechanical performance of 0.014" diameter NiTi orthodontic archwires [1].

Aim

To evaluate the effect of a 905 ppm fluoride-containing mouth rinse on the mechanical properties of 0.014" diameter NiTi orthodontic archwires.

Methods

A total of 35 0.014" diameter NiTi orthodontic archwires were used and randomly assigned into three groups. The experimental group (n = 15) was immersed in a 905 ppm fluoride-containing mouth rinse for 1, 1.5, or 2 hours under magnetic stirring to simulate the rinsing process, and subsequently stored in artificial saliva for 10, 15, or 20 days to reflect short-term intraoral aging. The control group (n = 15) was stored in artificial saliva for the same durations without fluoride exposure, allowing isolation of the fluoride effect from storage conditions. A baseline group (n = 5) was not exposed to any solution and served as a reference for the initial mechanical properties of the wires. All specimens in the experimental and control groups were maintained at 37 °C throughout the study to simulate intraoral temperature.



Mechanical properties were assessed by tensile testing using a universal 10 kN tension-compression testing machine equipped with a 250 N load cell. Statistical analysis was performed using SPSS version 29.0, with intergroup comparisons conducted using the Mann-Whitney U test ($p < 0.05$).

Results

The mechanical properties analysis showed no significant differences in force at archwire breakage between groups ($p = 0.740$). However, wires exposed to the fluoride-containing mouth rinse followed by storage in artificial saliva (1 h + 10 days and 2 h + 20 days) exhibited a significant reduction in elasticity compared to wires stored only in artificial saliva for 10 days, decreasing to 51.4% ($p = 0.047$) and 45.3% ($p = 0.016$), respectively. Similar reductions in elasticity after fluoride exposure have been reported in previous studies and may have clinical relevance by affecting the delivery of continuous orthodontic forces.

Conclusions

The applied force at archwire breakage was unaffected. However, exposure to fluoride-containing mouth rinses led to a significant reduction in wire elasticity compared with wires stored solely in artificial saliva. This reduction in elasticity may be clinically relevant in orthodontic practice.

References

1. Makrygiannakis MA, Gkinosati AA, Kalfas S, Kaklamanos EG. The effect of fluoride mouthwashes on orthodontic appliances' corrosion and mechanical properties: a scoping review. *Hygiene*. 2025;5(2):23. doi:10.3390/hygiene5020023.
2. Mane P, Ganiger CR, Pawar R, Phaphe S, Ronad YA, Valekar S, et al. Effect of fluoride on mechanical properties of NiTi and CuNiTi orthodontic archwires: an in vitro study. *Dental Press J Orthod*. 2021;26(2):e212020. doi:10.1590/2177-6709.26.2.e212020.oar. PMID:33950083; PMCID:PMC8103903.
3. Mohammadian M, Shahbazpey Sh, Hosseinabadi A. The effects of 0.2% sodium fluoride and Persica mouthwashes on flexural strength of nickel-titanium orthodontic wires. *J Craniomaxillofac Res*. 2025;12(1):46-53. doi:10.18502/jcr.v12i1.19672.

Assessment of Orthodontic Mini-Implant Use in Orthodontic Practice among Lithuanian Orthodontists Attending the “Next-Generation Aligner Orthodontics” Conference: A Pilot Study

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Introduction

In recent decades, skeletal anchorage devices have become increasingly important in orthodontics by reducing reliance on patient compliance and improving treatment precision. First introduced by Kanomi in 1997, orthodontic mini-implants are small titanium anchorage devices that provide additional support and enable precise control of various tooth movements [1-3]. In Lithuania, published data on the clinical use of orthodontic mini-implants and orthodontists' perspectives remain limited, highlighting the need for further research [4,5].

Aim

To assess the clinical use and professional perspectives regarding orthodontic mini-implants among Lithuanian orthodontists attending the “Next-Generation Aligner Orthodontics” conference.

Methods

An anonymous survey was conducted by distributing paper-based questionnaires to orthodontists attending the “Next-Generation Aligner Orthodontics” conference. The questionnaire was designed based on previously published studies and was administered in Lithuanian. Data were analyzed using IBM SPSS Statistics for Windows, Version 29.0.

Results

Of the 84 orthodontists attending the conference, 52 (62%) completed the questionnaire, including 45 females (86.5%) and 7 males (13.5%), all using mini-implants. Most worked in the private sector (84.6%) and were based in Vilnius (65.4%). Orthodontists with >20 years of experience reported improved treatment effectiveness ($p = 0.016$) and efficacy in molar distalization ($p = 0.004$), but not faster treatment ($p = 0.069$). Less experienced (<5

years) used mini-implants for anterior retraction, while more experienced (>20 years) disagreed ($p = 0.005$); both <5 and >20 years considered indirect anchorage useful for space closure ($p = 0.038$). Forestadent mini-implants were most used, with no significant difference ($p = 0.164$). Common complications were implant loss (86.5%), soft tissue overgrowth (75%), patient discomfort (61.5%), and implant displacement (53.8%). Experienced clinicians (>20 years) reported better outcomes with mini-implants ($p = 0.060$), and informing patients resulted in moderate anxiety (VAS 4–6) in 55.8% of cases.

Conclusions

Most surveyed Lithuanian orthodontists use mini-implants in clinical practice, with experience influencing their preferred applications and perceived treatment effectiveness. Common complications include implant loss, soft tissue overgrowth, and patient discomfort, while informing patients generally results in moderate anxiety (VAS 4–6).

References

1. Jiman PA, Prodan D, Moldovan M, Muntean A, Sarosi C, Tarmure V, et al. New and recovered temporary anchorage devices, in vitro assessment of structural and surface properties. *Materials*. 2021;14:6271. doi:10.3390/ma14216271
2. Tarigan S. The orthodontic mini-implants failures based on patient outcomes: systematic review. *Eur J Dent*. 2023;18(2):417–29. doi:10.1055/s-0043-1772249
3. Tao T, Jiang R, He K, He X, Zhang M, Wu Z, et al. Artificial intelligence-assisted determination of available sites for palatal orthodontic mini implants based on palatal thickness through CBCT. *Orthod Craniofac Res*. 2023;26(3):491–9. doi:10.1111/ocr.12634
4. Kalibataite R. Pacientų, gydomų ortodontiniais mini implantais, patiriamo skausmo bei diskomforto įvertinimas [master's thesis]. Lietuvos sveikatos mokslų universitetas; 2020.
5. Geguzyte J. Mini implantų naudojimas Lietuvos ortodontų klinikineje praktikoje [master's thesis]. Lietuvos sveikatos mokslų universitetas; 2020.

Color Stability and Mass Changes of High-Translucency Polished Zirconia After Exposure to Mouth Rinses: A Pilot Study

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Introduction

Zirconia is a frequently used material in restorative dentistry due to its excellent optical and mechanical properties [1,2]. Within the complex oral environment, restorative materials are exposed to various interventions that affect their properties and overall longevity [3,4]. Patients often use oral hygiene mouthwashes that not only have an excellent antimicrobial effect but can also change the optical and mechanical properties of ceramic restorations. Despite short contact time (~60s), repeated long-term use can alter the mentioned properties [5]. This is particularly relevant for high-translucency zirconia used in esthetic zones, where color stability is crucial [6]. However, limited studies exist regarding the long-term exposure of different mouth rinses on this restorative material.

Aim

To evaluate the effect of different mouth rinses on the color stability and mass changes of high-translucency polished zirconia.

Methods

Five polished high-translucency zirconia (AiZir, Aidite Technology Co.) discs were fabricated (Ø11 mm × 2 mm). Baseline color of all specimens was determined using a spectrophotometer VITA Easyshade V (VITA Zahnfabrik). A single tooth color evaluation setting mode was selected to establish the original shade (A2) and obtain CIELAB data (L, a, b). The mass of

each specimen was measured using a precision scale ABP 100-5DM Analytical Balance (KERN & Sohn). Zirconia discs were immersed in 15 mL of mouth rinse: Listerine Cool Mint, Listerine Cool Mint Mild Taste, Eludril Classic, 0.2% chlorhexidine; one specimen was chosen as a control. A continuous 24-hour immersion period was chosen to simulate long-term exposure to mouthrinse [6]. All specimens were placed into an incubator at 37 ± 1 °C. After 24 hours, the color and mass were remeasured. ΔE value was calculated and converted into NBS units for clinical relevance. This study does not fully replicate clinical conditions such as cyclic exposure, mechanical loading, or surface adjustments. Due to the pilot study design with one specimen per group, results were analyzed descriptively without statistical analysis.

Results

Eludril caused an observable alteration in color ($\Delta E = 1.57$), whereas 0.2% chlorhexidine caused only a slight change ($\Delta E = 0.48$). Listerine with alcohol produced a greater alteration ($\Delta E = 5.6$) than alcohol-free Listerine, which showed only a trace change ($\Delta E = 0.23$). No meaningful mass changes were detected. Any slight differences were within the expected weighing error.

Conclusions

Within the limitations of this pilot study, an alcohol-containing mouth rinse caused the greatest color change in high-translucency polished zirconia, while other rinses produced minimal alterations. No relevant mass changes were observed. These findings are preliminary and should be interpreted with caution. Further studies with larger sample sizes and statistical analysis are required.

References

1. Nistor L, Grădinaru M, Rîcă R, Mărășescu P, Stan M, Manolea H, et al. Zirconia Use in Dentistry - Manufacturing and Properties. *Curr Health Sci J*. 2019;45(1):28.
2. Shi HY, Pang R, Yang J, Fan D, Cai H, Jiang HB, et al. Overview of Several Typical Ceramic Materials for Restorative Dentistry. *Biomed Res Int*. 2022 Jul 18;2022:8451445.
3. Alakkad T, Fergani O, Abulhamail L, Tajuddin A, Ashy Y, Munshi L, et al. The Impact of Saliva and Oral Microbiome on Restorative Dental Materials. *Journal of Healthcare Sciences*. 2023;3(12):752–757.
4. Makwana SL, Vaishnav K, Joshi R, Patel TH, Vora NN, Sachde NH, et al. The Surface Deterioration of Prefabricated Zirconia Crowns on Exposure to Acidulated Phosphate Fluoride Gel: An In Vitro Study. *Cureus*. 2024 Aug 7;16(8):e66371.
5. Aparna J, Dr KS M. Effect of Mouthrinses on Discolouration of CAD-CAM Manufactured

Temporary Restorative Materials. Journal of Population Therapeutics and Clinical Pharmacology. 2022;29(1):168–77.

6. Lee JH, Kim SH, Yoon HI, Yeo ISL, Han JS. Colour Stability and Surface Properties of High-translucency Restorative Materials for Digital Dentistry after Simulated Oral Rinsing. Eur J Oral Sci. 2020 Apr 1;128(2):170–80.



Oral Health-Related Quality of Life in Edentulous Patients

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Introduction

Complete edentulism remains prevalent among older adults and is associated with impaired mastication, nutritional limitations, psychosocial distress, and reduced oral health-related quality of life (OHRQoL) [1-3,6]. Recent evidence indicates that oral function, dental appearance, and self-esteem are major determinants of well-being in edentulous individuals [4,5,7,8].

Aim

To evaluate oral health-related quality of life in edentulous patients using the Geriatric Oral Health Assessment Index (GOHAI).

Methods

A prospective observational study was conducted in Lithuania among edentulous patients aged ≥ 60 years requiring full-arch prosthetic treatment in one jaw. Inclusion criteria were age over 60 years, need for a prosthesis in one jaw, ability to understand the questions, and informed consent to participate. Ethical approval was obtained from the Biomedical Research Ethics Committee of the Lithuanian University of Health Sciences (Approval No. 2024-bec2-1230). Oral health-related quality of life was assessed using the Geriatric Oral Health Assessment Index (GOHAI), with scores classified as good (57-60), moderate (51-56), or poor (≤ 50) [9]. Statistical analysis was performed using IBM SPSS Statistics 30.0 with $p < 0.05$ considered significant.



Results

The study included 124 edentulous patients (64 women, 60 men; mean age 69.6 ± 5.3 years). The mean GOHAI score was 39.68 ± 3.55 , indicating a markedly reduced oral health-related quality of life. Most participants demonstrated low GOHAI scores, with the highest observed score being 45 (43 in 16.1% of patients, 41 in 10.5%), while no participant achieved moderate or high OHRQoL levels. Among GOHAI domains, the pain and discomfort domain showed the lowest score of 6.39 ± 1.348 . The highest scores were observed in the physical function domain, with a score of 17.87 ± 2.416 . The psychosocial domain demonstrated a score of 15.42 ± 1.74 . 58.1% of the participants reported being rarely satisfied with their dental appearance, while 38.7% stated they were never satisfied with their oral appearance. Gender-wise analysis revealed no significant difference in GOHAI scores between women and men. The physical function domain score was higher in men (men: 19.03 ± 2.343 ; women: 16.78 ± 1.939), while pain and discomfort domain score was higher in women (women: 7.19 ± 1.220 ; men: 5.53 ± 0.873).

Conclusions

This study revealed a significantly low oral health-related quality of life among edentulous patients. The absence of moderate or high OHRQoL scores further emphasizes the severity of the condition. Many patients were dissatisfied with their dental appearance. Gender analysis showed that men had lower oral pain-related quality of life. These findings highlight the need for interventions targeting both functional and aesthetic aspects of oral health in edentulous individuals.

References

1. Şen SC, Atagün ÖS, Ustaoglu G, Yildiz ZH. Assessment of oral health-related quality of life and its association with periodontal status in geriatric patients. *BMC Oral Health*. 2025 Nov 29;26:15. doi:10.1186/s12903-025-07432-x.
2. Linn TT, Khaohoen A, Thu KM, Rungsiyakull P. Oral-Health-Related Quality of Life in Elderly Edentulous Patients with Full-Arch Rehabilitation Treatments: A Systematic Review. *J Clin Med*. 2024;13(12):3391. doi:10.3390/jcm13123391
3. Assis WC, Oliveira MC, Mendes HJ, Casotti CA. Impact of edentulism on oral and systemic health in older adults. *Bratislava Med J*. 2025;126:629–636. doi:10.1007/s44411-025-00074-z.
4. Gonçalves GSY, de Magalhães KMF, Rocha EP, Dos Santos PH, Assunção WG. Oral health-related quality of life and satisfaction in edentulous patients rehabilitated with implant-supported full dentures (all-on-four

concept): a systematic review. *Clin Oral Investig*. 2022;26(1):83–94. doi:10.1007/s00784-021-04213-y.

5. Tariq S, Shoaib A, Chaudhary FA, Habib SR, Javed MQ. Impact of complete dentures treatment on oral health-related quality of life in edentulous patients: A descriptive case series study. *Pak J Med Sci*. 2024;40(9):2130–2135. doi:10.12669/pjms.40.9.9402.

6. Della Terra Mouco Garrido B, Pereira PSS, Foloni K, Pegoraro HD, Souza IR, Bastos JRM, Foratori-Júnior GA, Yamauti M, Ferreira RC, Bastos RS. Tooth loss, nutrition, and oral health-related quality of life in older adults: evidence from a structural equation model. *Int J Environ Res Public Health*. 2025;22(12):1793. doi:10.3390/ijerph22121793

7. Hunter E, De Moura Brito L, Piyasena P, Petrauskiene E, Congdon N, Tsakos G, Virgili G, Mathur M, Woodside JV, Leles CL, McKenna G. Impact of edentulism on community-dwelling adults in low-income, middle-income and high-income countries: a systematic review. *BMJ Open*. 2024;14(12):e085479. doi:10.1136/bmjopen-2024-085479

8. Borg-Bartolo R, Roccuzzo A, Molinero-Mourelle P, Schimmel M, Gambetta-Tessini K, Chaurasia A, et al. Global prevalence of edentulism and dental caries in middle-aged and elderly persons: a systematic review and meta-analysis. *J Dent*. 2022;127:104335. doi:10.1016/j.jdent.2022.104335

9. Atchison KA, Dolan TA. Development of the geriatric oral health assessment index. *J Dent Educ* 1990 Nov; 54(11): 680.

Oral Health-Related Quality of Life in Edentulous Patients After Rehabilitation with Fixed Implant-Supported Full-Arch Dental Prostheses

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Introduction

Tooth loss is a common condition among older adults and has a negative impact on nutrition, psychosocial well-being, and oral health-related quality of life (OHRQoL) [1-3]. Edentulism is associated with alveolar bone resorption, impaired masticatory function, and reduced self-esteem [4,5]. Evidence shows that the restoration of dental arches with implant-supported prostheses can significantly improve functional and psychosocial outcomes in edentulous patients [6-8].

Aim

To assess changes in oral health-related quality of life in older adults using the Geriatric Oral Health Assessment Index (GOHAI) after fixed implant-supported full-arch rehabilitation.

Methods

A prospective observational study was conducted involving older edentulous patients. Patients older than 60 years needing full-arch prosthetic rehabilitation in a single jaw were included in the study. 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 before and after treatment using the Geriatric Oral Health Assessment Index (GOHAI). Statistical analysis was performed using IBM SPSS



Statistics 30.0. Participants received implant-supported fixed full-arch prostheses. Descriptive statistics, comparative analyses, and significance testing ($p < 0.05$, using non-parametric equivalent test) were applied.

Results

A total of 124 participants were included in the study (64 women, 60 men; mean age 69.6 ± 5.3 years) of which 73 received implant-supported fixed full-arch prostheses and the remaining 51 received removable full-arch prostheses. Post-treatment GOHAI score improved significantly by 29.14% rising from 40.18 (± 3.634) to a score of 51.89 (± 4.019) ($p < 0.001$). Domain-wise analysis revealed that after the rehabilitation patients experienced the greatest improvement in the psychosocial domain; the score increased by 37.8% to a post-treatment mean of 21.07 (± 1.782) ($p < 0.001$). Notable improvements included reduced concern and discomfort, enhanced appearance, and decreased pain. Physical domain score showed a 22.27% increase, improving to 22.23 (± 2.307) ($p < 0.001$) after treatment. Pain and discomfort score grew by 28.01% to 8.59 (± 0.925) ($p < 0.001$).

Conclusions

Full-arch rehabilitation with implant-supported fixed dental prostheses significantly improved OHRQoL in older edentulous patients. The greatest improvement was observed in the psychosocial domain, indicating enhanced comfort, appearance, and self-confidence. Significant increases were also noted in physical function and pain/discomfort domains, demonstrating the overall positive impact of prosthetic rehabilitation with fixed full-arch implant prostheses on patient-reported outcomes.

References

1. Assis WC, Oliveira MC, Mendes HJ, Casotti CA. Impact of edentulism on oral and systemic health in older adults. *Bratisl Med J*. 2025;126:629–636. doi:10.1007/s44411-025-00074-z.
2. Veeraboina N, Doshi D, Kulkarni S, Patanapu SK, Dantala SN, Srilatha A. Tooth loss and oral health-related quality of life among adult dental patients: a cross-sectional study. *Indian J Dent Res*. 2022;33(1):2–6. doi:10.4103/ijdr.IJDR_426_19.
3. Khanagar SB, Al-Ehaideb A, Shivanna MM, et al. Age-related oral changes and their impact on oral health-related quality of life among frail elderly population. *J Contemp Dent Pract*. 2020;21(11):1298–1303. doi:10.5005/jp-journals-10024-2954.
4. Rodrigues A, Dhanania S, Rodrigues R. “If I have teeth, I can smile.” Experiences with tooth loss and the use of a removable dental prosthesis among people who are partially and completely edentulous in Karnataka, India. *BDJ Open*. 2021;7:34. doi:10.1038/s41405-021-00088-z.

5. Ahmed AR, Bashir A, Waqas M, Darvesh SA, Das G, Alanesi WA, Chaturvedi S. Assessment of residual ridge resorption in mandible of edentulous patients. *Clin Cosmet Investig Dent*. 2025;17:277–284. doi:10.2147/CCIDE.S516058.
6. Duong H-Y, Roccuzzo A, Stähli A, Salvi GE, Lang NP, Sculean A. Oral health-related quality of life of patients rehabilitated with fixed and removable implant-supported dental prostheses: a review. *Periodontology 2000*. 2022;88(1):201–237. doi:10.1111/prd.12419.
7. Gonçalves GSY, de Magalhães KMF, Rocha EP, dos Santos PH, Assunção WG. Oral health-related quality of life and satisfaction in edentulous patients rehabilitated with implant-supported full dentures all-on-four concept: a systematic review. *Clin Oral Investigations*. 2022;26(1):83–94. doi:10.1007/s00784-021-04213-y.
8. Linn TT, Khaohoen A, Thu KM, Rungsiyakull P. Oral-health-related quality of life in elderly edentulous patients with full-arch rehabilitation treatments: a systematic review. *J Clin Med*. 2024;13(12):3391. doi:10.3390/jcm13123391.

Oral Health-Related Quality of Life in Edentulous Patients After Rehabilitation with Complete Removable Prostheses

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Introduction

Loss of all natural teeth is a major functional and psychosocial challenge in older adults, negatively affecting daily activities and oral health-related quality of life (OHRQoL) [1-3]. For many elderly patients, complete removable prostheses remain the main option for restoring oral function and appearance, particularly when implant-based treatment is not feasible [4-7]. Although complete removable prostheses are widely used, data on post-treatment OHRQoL in older Lithuanian patients remain limited.

Aim

To evaluate changes in oral health-related quality of life in edentulous patients after rehabilitation with complete removable prostheses.

Methods

A prospective observational study was conducted in Lithuania involving older edentulous patients undergoing full-arch rehabilitation in one jaw. Participants aged ≥ 60 years were enrolled consecutively. Ethical approval 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) at two time points: before treatment and 3 months after final prostheses delivery. Statistical analysis was performed using IBM SPSS Statistics



30.0. Descriptive statistics, comparative analyses, and significance testing ($p < 0.05$, using non-parametric equivalent test) were applied.

Results

In total, 124 patients were assessed, and 51 completed treatment and were included in the final analysis (mean age 69.6 ± 5.3 years). The mean total GOHAI score increased from 38.96 (± 3.334) before treatment to 43.55 (± 3.500) after treatment ($p < 0.001$). The greatest improvement was observed in pain and discomfort, increasing from 5.92 (± 0.935) to 7.29 (± 0.944) ($p < 0.001$), while the smallest change was found in physical function, increasing from 17.43 (± 2.291) to 18.98 (± 2.502) ($p < 0.001$). The psychosocial domain score increased from 15.61 (± 1.457) to 17.27 (± 1.415) ($p < 0.001$).

Conclusions

Rehabilitation with complete removable prostheses significantly improved oral health-related quality of life in edentulous older adults, reflected by higher total GOHAI scores after treatment. The greatest improvement was observed in the pain and discomfort domain, while smaller but significant changes were seen in physical function and psychosocial well-being.

References

1. Linn TT, Khaohoen A, Thu KM, Rungsiyakull P. Oral health-related quality of life in elderly edentulous patients with full-arch rehabilitation treatments: a systematic review. *J Clin Med*. 2024;13(12):3391. doi:10.3390/jcm13123391.
2. Assis WC, Oliveira MC, Mendes HJ, Casotti CA. Impact of edentulism on oral and systemic health in older adults. *Bratisl Med J*. 2025;126:629–636. doi:10.1007/s44411-025-00074-z.
3. Alamoush RA, Abu-Mahfouz HN, Rahhal RJ, Alnsour MM, Alakhras OM, Thaher RS, Haider J, Al-Omiri MK. Impact of a removable prosthesis on chewing ability, quality of life, and patient satisfaction. *Sci Rep*. 2025;15:39038. doi:10.1038/s41598-025-23340-0.
4. Virvescu DI, Agop-Forna D, Tudorici T, Bârlean MC, Budala DG, Taraboanta-Gamen AC, Bida FC. Implant-supported vs. conventional complete dentures: oral health-related quality of life in elderly patients. *Romanian Journal of Oral Rehabilitation*. 2025;17(1):801–808. doi:10.62610/RJOR.2025.1.17.77.
5. Papi P, Di Murro B, Sfasciotti GL, Pompa G. Oral health-related quality of life and satisfaction in edentulous patients rehabilitated with removable and implant-supported prostheses: a systematic review. *Int J Environ Res Public Health*. 2021;18(9):4626. doi:10.3390/ijerph18094626.
6. Tariq S, Shoaib A, Chaudhary FA, Habib SR, Javed MQ. Impact of complete dentures

treatment on oral health-related quality of life (OHRQoL) in edentulous patients: a descriptive case series study. *Pak J Med Sci.* 2024 Oct;40(9):2130–2135. doi:10.12669/pjms.40.9.9402.

7. Gonçalves GSY, de Magalhães KMF, Rocha EP, Santos PH, Assunção WG. Oral health-related quality of life and satisfaction in edentulous patients rehabilitated with complete dentures: a systematic review. *Clin Oral Investig.* 2022;26(1):83–94. doi:10.1007/s00784-021-04213-y.



Awareness of Interdisciplinary Orthodontics Among Lithuanian and International Senior Odontology Students at LSMU

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Introduction

In dentistry, the key to a successful treatment plan and outcome is the interdisciplinary collaboration among other specialties. Dependently, the field of orthodontics is a demanding specialty in that concept. Previous studies [1, 2], have demonstrated that interdisciplinary orthodontic treatment planning improves the overall patient-care outcomes. Yet, many dental students remain unfamiliar with the principles of orthodontic interdisciplinarity.

Aim

To assess awareness of interdisciplinary orthodontics and compare differences between Lithuanian and international senior odontology students at the Lithuanian University of Health Sciences

Methods

Objectives of the study: To assess students' understanding of interdisciplinary orthodontic concepts To assess awareness of orthodontic collaboration with periodontics, prosthodontics, endodontics, and oral and/or maxillofacial surgery To analyze students' ability to recognize interdisciplinary management in clinical orthodontic scenarios To evaluate students' confidence and attitude toward interdisciplinary orthodontic care To compare the difference between Lithuanian and international students A cross-sectional questionnaire-based anonymous survey, structured on Microsoft Forms and sent to 4th and 5th year odontology students at the Lithuanian University of Health Sciences (LSMU) via Outlook. The survey includes the year, programme (International/Lithuanian), gender, scale questions on knowledge and awareness, case-based clinical scenarios, and attitude/confidence assessment. Descriptive and comparative statistical evaluations have been analyzed by SPSS, with significance set at $P < 0.05$.

Results

In total, eighty-six students participated in the survey. The overall understanding of the interdisciplinary orthodontics concept appeared to be moderate to high (3.77 ± 1.10) on a five-point Likert scale. Regarding specialty-wise interdisciplinary awareness, the highest score was for oral and/or maxillofacial surgery, followed by prosthodontics, endodontics, and lastly periodontics. The ability of students to recognize the need for interdisciplinary management in various clinical situations was deemed to be high ($>80\%$). Attitude toward the interdisciplinary concept among the students was positive (4.29 ± 0.63); meanwhile, their confidence in concluding orthodontics-other specialists collaboration was moderate (3.65 ± 0.84). Lastly, in all analyses, no statistically significant difference was observed between Lithuanian and international students ($P > 0.05$).

Conclusions

Senior odontology students demonstrated a favorable understanding, recognition, and awareness of interdisciplinary orthodontics, with a positive attitude toward patient outcomes. Although their confidence was moderate, this underlines the need for enhanced exposure to clinical orthodontic practice and teaching. Lastly, no difference was observed between Lithuanian and international students. The overall findings are consistent with those of other universities, where interdisciplinary orthodontic education may improve students' learning and understanding of the concept [3]. However, the present study acknowledges a lack of research on this topic and recommends replication in other countries and universities.

References

1. Khosravi R, Ramos V Jr. Principles of interdisciplinary orthodontic and restorative treatment. *Br Dent J*. 2024;237(5):326-331. doi:10.1038/s41415-024-7790-0
2. Manash Jyoti Borah. An approach to interdisciplinary orthodontics. *International Journal of Science & Healthcare Research*. 2021; 6(4): 205-210. DOI: <https://doi.org/10.52403/ijshr.20211029>
3. Yilmaz RBN, Nalbantgil D, Ozdemir F. Impact of Discipline-Based vs. Interdisciplinary Orthodontic Courses on Dental Students' Performance. *J Dent Educ*. 2019;83(1):64-71. doi:10.21815/JDE.019.008

Cardiology II | Case Report | Oral

Abstracts

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Introduction

Long QT syndrome (LQTS) is usually a congenital heart electrical activity abnormality that prolongs the repolarization phase of the ventricle, which can rapidly lead to cardiac arrest [1].

Case Presentation

An 8-year-old previously healthy child, with no family history of cardiac disease, was admitted to the intensive care unit after experiencing abdominal pain followed by sudden loss of consciousness and ventricular fibrillation cardiac arrest. On arrival, ECG revealed frequent ventricular extrasystoles, echocardiography showed hemodynamically insignificant patent foramen ovale, cardiac MRI excluded myocarditis. 24 hour Holter monitoring showed rhythm migration, 1 ventricular and 3 supraventricular extrasystoles, 21 sinus tachycardia episodes, QT intervals ranging from 0,460s to 0,520s, while QTc from 0,531 to 0,581. Genetical testing confirmed type III LQTS diagnosis. β -blocker therapy was initiated and a subcutaneous implantable cardioverter-defibrillator (S-ICD) was implanted for secondary prevention. At follow-up, ECG continued to demonstrate QT prolongation (both corrected QT and QTc were 0.480s), but the patient remained asymptomatic with no recurrence of syncope or arrhythmia.

Discussion

LQTS roughly affects 1:2000, with a slight female predominance [2]. Most cases are inherited by autosomal dominant transmission, others are idiopathic. The main mechanism is impaired function of ion channels [3]. Currently there are 17 recognized types of congenital LQTS of which I, II and III account for 90% of all cases [4]. Clinical manifestations include palpitations, ventricular arrhythmia leading to Torsades de pointes, syncope and cardiac arrest. The Schwartz score is used as a diagnostic tool. It estimates the likelihood of congenital LQTS by assigning points to ECG findings, genetic results, clinical and family history. Higher total scores indicate a greater probability of



the diagnosis [5]. Management depends on the subtypes of LQTS. The treatment of most common subtypes includes β -blockers and lifestyle adaptation while ICD assures long-term patient safety [2].

Conclusions

This case highlights how genetic LQTS can remain silent until a life-threatening event and the necessity of early recognition alongside consideration of ICD implantation, despite challenges related to young age, growth, and long-term device management.

References

1. [1] - Zhu W, Bian X, Lv J. From genes to clinical management: A comprehensive review of long QT syndrome pathogenesis and treatment. *Heart Rhythm* 02. 2024 Aug;5(8):573–86.
2. [2] - Krahm AD, Laksman Z, Sy RW, Postema PG, Ackerman MJ, Wilde AAM, et al. Congenital Long QT Syndrome. *JACC: Clinical Electrophysiology*. 2022 May;8(5):687–706.
3. [3] 1.Gotta V, Donner B. QT interval prolongation: clinical assessment, risk factors and quantitative pharmacological considerations. *Journal of pharmacokinetics and pharmacodynamics* [Internet]. 2025 Jul;52(6):61. Available from: <https://pubmed.ncbi.nlm.nih.gov/41204044/>
4. [4] - Eimear Wallace, Linda Howard, Min Liu, Timothy O'Brien, Deirdre Ward, Sanbing Shen & Terence Prendiville. Long QT Syndrome: Genetics and Future Perspective ; 2019 . Available from: <https://link.springer.com/article/10.1007/s00246-019-02151-x>
5. [5] - Alders M, Hennie Bikker, Imke Christiaans. Long QT Syndrome [Internet]. Nih.gov. University of Washington, Seattle; 2018. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK1129/>

Wide-Complex Tachycardia as the Initial Presentation of Arrhythmogenic Cardiomyopathy: A Case Report

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Introduction

Arrhythmogenic cardiomyopathy (ACM) is an inherited heart muscle disease with an estimated prevalence of 0.078%. [1] It exhibits a distinctive propensity to develop scar-related ventricular arrhythmias, reflecting the principal pathological feature of the disease. [2]

Case Presentation

A 42-year-old man presented with palpitations and dull chest discomfort. ECG showed wide-complex tachycardia, initially interpreted as supraventricular tachycardia (SVT) with aberrancy due to termination with the Valsalva maneuver. Given recurrent arrhythmias and elevated troponin I level, further evaluation was indicated. Coronary angiography excluded myocardial ischemia. Electrophysiological study ruled out SVT or accessory pathways and confirmed ventricular tachycardia; marked dilatation of the right cardiac chambers was observed, prompting further structural assessment. Transthoracic echocardiography was inconclusive, whereas cardiac magnetic resonance imaging demonstrated a normal-sized right ventricle, subepicardial late gadolinium enhancement in the lateral left ventricular wall and mild systolic dysfunction (LVEF 48%). The findings fulfilled one major and two minor criteria of arrhythmogenic left ventricular cardiomyopathy (ALVC). An implantable cardioverter-defibrillator was placed to mitigate the risk of sudden cardiac death (SCD), and the patient was referred for genetic counselling.

Discussion

The diagnosis of ACM can be challenging due to phenotypic heterogeneity, including right-dominant, biventricular, and left-dominant

forms, that may overlap with other cardiac conditions. [2,3] Patients with ALVC often experience a diagnostic delay of > 2 years and have higher mortality rates. [4] They more frequently experience “hot phases”, characterized by episodes of troponin elevation, chest pain, and ECG abnormalities in the absence of coronary artery disease. [5] Therefore, obtaining a detailed family history of SCD, cardiomyopathy, or myocarditis is essential. [6]

Conclusions

Ventricular tachycardia with chest discomfort, elevated troponin levels, and no coronary obstruction should prompt evaluation for structural heart disease. Cardiac magnetic resonance, when performed early, supports detection of myocardial involvement and guides SCD prevention.

References

1. Arbelo E, Protonotarios A, Gimeno J R, Arbustini E, Barriales-Villa R, Basso C, et al. ESC Scientific Document Group. 2023 ESC Guidelines for the management of cardiomyopathies: Developed by the task force on the management of cardiomyopathies of the European Society of Cardiology (ESC). *Eu Heart J* [Internet]. 2023 Oct 1 [cited 2025 Nov 7];44(37):3503–3626. Available from: <https://doi.org/10.1093/eurheartj/ehad194>
2. Corrado D, Perazzolo Marra M, Zorzi A, Beffagna G, Cipriani A, Lazzari M, et al. Diagnosis of arrhythmogenic cardiomyopathy: The Padua criteria. In *J Cardiol* [Internet]. 2020 Nov 15 [cited 2025 Nov 7];319:106-114. Available from: <https://doi.org/10.1016/j.ijcard.2020.06.005>
3. Corrado D, Anastasakis A, Basso C, Bauce B, Blomstrom-Lundqvist C, Bucciarelli-Ducci C, et al. Proposed diagnostic criteria for arrhythmogenic cardiomyopathy: European Task Force consensus report. In *J Cardiol* [Internet]. 2024 Jan 25 [cited 2025 Nov 7];395:131447. Available from: <https://doi.org/10.1016/j.ijcard.2023.131447>
4. Tini G, Graziosi M, Musumeci B, Targetti M, Russo D, Parisi V, et al. Diagnostic delay in arrhythmogenic cardiomyopathy. *Eur J Prev Cardiol* [Internet]. 2023 Sep [cited 2025 Nov 7];30(13):1315-1322. Available from: <https://doi.org/10.1093/eurjpc/zwad058>
5. Bariani R, Rigato I, Celeghin R, Bueno Marinas M, Cipriani A, Zorzi A, et al. Phenotypic Expression and Clinical Outcomes in Patients With Arrhythmogenic Cardiomyopathies. *JACC* [Internet]. 2024 Feb 19 [cited 2025 Nov 7];83(8):797–807. Available from: <https://doi.org/10.1016/j.jacc.2023.12.015>
6. Bariani R, Rigato I, Cipriani A, Bueno Marinas M, Celeghin R, Basso C, et al. Myocarditis-like Episodes in Patients with Arrhythmogenic Cardiomyopathy: A Systematic Review on the So-Called Hot-Phase of the Disease. *Biomolecules. Recent Advances in Cellular and Molecular Mechanisms of Cardiovascular and Metabolic Diseases*. [Internet]. 2022 Sep 19 [Cited 2025 Nov 14];12(9):1324. Available from: <https://doi.org/10.3390/biom12091324>

Cardiological Management of Severe Obstructive Hypertrophic Cardiomyopathy in Pregnancy

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Introduction

Obstructive hypertrophic cardiomyopathy (HOCM) during pregnancy presents big hemodynamic challenges due to increased heart rate and reduced afterload, which may worsen left ventricular outflow tract (LVOT) obstruction. The 2025 ESC pregnancy guidelines highlight the danger of progressive gradients in women with pre-existing HOCM [1].

Case Presentation

A 29 year old woman with genetically confirmed HOCM before pregnancy had a transthoracic echocardiography (TTE) which showed a septal thickness of 25 mm and a LVOT gradient of 30 mmHg at rest (58 mmHg with Valsalva). Over time, elevated cardiac biomarkers and reduced exercise tolerance on spiroergometry showed worsening functional capacity and raised concern for pregnancy. Because of increased sudden cardiac death risk (7.93%), an implantable cardioverter-defibrillator (ICD) was implanted as primary prevention. Although septal reduction therapy was discussed, she declined surgical myectomy. During pregnancy, dynamic obstruction progressed: at week 31, TTE demonstrated a resting LVOT gradient 74 mmHg (>100 mmHg with Valsalva), with preserved systolic function. The patient belonged to mWHO III pregnancy risk class, which reflects increased maternal cardiac risk. Metoprolol was increased from 25 mg to 47.5 mg twice daily. Due to rising gradients and worsening physical tolerance, early planned delivery was indicated. At 37 weeks, a C section was performed under general anesthesia, because it allowed stricter hemodynamic control in case of severe obstruction. Maternal status remained stable throughout the procedure. A healthy girl was born.



Discussion

Pregnancy can intensify LVOT obstruction in severe HOCM, and ESC guidelines emphasise individualized management, β -blockers, and volume control [1]. Studies show that women with pre-existing obstruction are more likely to develop arrhythmias, heart failure symptoms [2]. TTE is an essential tool in managing pregnant women with HOCM, due to hemodynamic changes [3]. Evidence supports planned delivery in women with severe LVOT obstruction (≥ 50 mmHg) [1]. In this case, early cardiology care helped reduce peripartum risk.

Conclusions

This case highlights how structured cardiological care, ICD implantation, functional assessment, β -blocker therapy, and timed delivery planning can support safe outcomes in pregnant patients with severe HOCM.

References

1. De Backer J, Haugaa KH, Hasselberg NE, de Hosson M, Brida M, Castelletti S, et al. 2025 ESC Guidelines for the management of cardiovascular disease and pregnancy. *Eur Heart J*. 2025;46(43):4462–4568. doi:10.1093/eurheartj/ehaf193
2. Moolla M, Mathew A, John K, et al. Outcomes of pregnancy in women with hypertrophic cardiomyopathy: a systematic review. *Int J Cardiol*. 2022;361:71-8. doi:10.1016/j.ijcard.2022.04.024
3. Raju H, Bunting KV, Valente AM, et al. Cardiovascular imaging in pregnancy: valvulopathy, hypertrophic cardiomyopathy, and aortopathy. *Front Cardiovasc Med*. 2022;9:834738. doi:10.3389/fcvm.2022.834738

A Case of Third-Degree AV Block in a Young Girl with Maternal Lupus: Absence of Implantable Cardiac Pacer

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Introduction

Atrioventricular (AV) block is a rare cardiac complication that can occur in children born to mothers with systemic lupus erythematosus (SLE). AV block in these children can range from mild to severe and may present with symptoms such as bradycardia or even congenital heart failure [1,2].

Case Presentation

A 12-year-old female patient presented with epistaxis, difficulty breathing, chest pain. Upon examination the patient appeared slightly dehydrated, heart rate 40 bpm and blood pressure 129/82 mmHg. The child had a history of premature birth at 27 weeks of gestation and bradycardia during the prenatal period. After birth a diagnosis of third-degree AV block was made and patients mother tested positive for SLE. The patient was followed up every 12 months for possible indications for cardiac pacing therapy. Currently, a Holter monitor showed third-degree AV block, an average heart rate of 44 bpm, 618 ventricular and 51 supraventricular extrasystoles (Ex). Veloergometry demonstrated reduced physical activity with no ST segment changes or malignant Ex. Cardiac ultrasound showed dilated right ventricle (RV). MRI revealed a dilated RV with uneven contraction – possible signs of arrhythmogenic cardiomyopathy (genetic testing - negative). Cardiac CT showed a hypoplastic left lung lower lobe and the absence of a left lower pulmonary vein trunk. The patient was consulted by a multidisciplinary team. Cardiac pacing therapy was not recommended due to the absence of other presenting symptoms and the high risk for lead changes as the patient grows.



Discussion

Pacing therapy is indicated for asymptomatic patients with congenital second- or third-degree AV block with prolonged QT interval, abrupt ventricular pauses, congenital heart disease and is always indicated for symptomatic patients [3].

Conclusions

As shown in this case, not all third-degree AV block requires immediate pacing, and careful monitoring may be appropriate. Given the abnormal CT findings, a pulmonary etiology contributing to right ventricular dilatation and arrhythmia should also be considered.

References

1. González-Zambrano H, Orozco-Barocio G, Franco-Ramos MC. Prevalence of neonatal lupus in a small group of antibody-carrying mothers and frequency of complete atrioventricular block. *Arch Cardiol Mex.* 2024 Jan 1;94(1):33–8.
2. Kariri MN, Sulaimani BY, Alshammari AH. Neonatal Congenital Heart Block to Mothers with Systemic Lupus: A Systematic Review. *Saudi Journal of Medical and Pharmaceutical Sciences.* 2024 Sep 9;10(09):650–5.
3. Melim C, Pimenta J, Areias JC. Congenital atrioventricular heart block: From diagnosis to treatment. Vol. 41, *Revista Portuguesa de Cardiologia.* Sociedade Portuguesa de Cardiologia; 2022. p. 231–40.

A diagnostic challenge in acute coronary syndrome: case report

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Introduction

Infective endocarditis (IE) of bioprosthetic valves is rare but potentially fatal. Acute myocardial infarction (MI) is an uncommon complication of IE and is usually caused by coronary embolization or inflammation-related thrombosis rather than atherosclerosis. When IE presents as acute coronary syndrome with hemodynamic instability, diagnosis and management are particularly challenging.

Case Presentation

A 73-year-old man with a history of bioprosthetic aortic valve implantation was admitted with an acute inferior ST-segment elevation MI. Coronary angiography revealed distal right circumflex artery thrombosis and incomplete thrombectomy was performed without stenting. 12 days later, he experienced sudden hemodynamic collapse and cardiac arrest due to asystole, resuscitation after 15 minutes was successful. Echocardiography showed severe left ventricular systolic dysfunction and rapidly progressive mitral regurgitation, prompting transfer to a tertiary care center with suspected papillary muscle rupture. Transesophageal echocardiography revealed a large, highly mobile vegetation on the bioprosthetic aortic valve with high embolic risk, along with ischemic mitral regurgitation. Blood cultures grew *Staphylococcus cohnii*, *Staphylococcus epidermidis*. Despite the case, urgent multidisciplinary evaluation led to surgical treatment. The patient underwent repeat aortic valve replacement with a bioprosthesis, mitral annuloplasty, and tricuspid annuloplasty and was successfully discharged after 24 days.

Discussion

This case demonstrates acute MI as a complication of IE, most likely caused by coronary embolization from a mobile vegetation. Such presentations may mask the



underlying diagnosis, particularly when angiography shows thrombotic occlusion without atherosclerosis. Transesophageal echocardiography was crucial in identifying the etiology, assessing embolic risk, and guiding management. Close collaboration among cardiology, cardiac surgery, and intensive care teams was essential.

Conclusions

IE should be considered in patients with prosthetic valves presenting with MI and atypical coronary findings. Early transesophageal echocardiography and prompt multidisciplinary intervention are critical. Surgical treatment of bioprosthetic valve IE, even after recent MI and cardiac arrest, can be life-saving.

References

1. Cahill TJ, Raby J, Jewell PD, Brennan PF, Banning AP, Byrne J, Kharbanda RK et al. Risk of infective endocarditis after surgical and transcatheter aortic valve replacement. *Heart*. 2022;108(8):639–47. doi:10.1136/heartjnl-2021-320080
2. Mills MT, Al-Mohammad A, Warriner DR. Changes and advances in the field of infective endocarditis. *Br J Hosp Med (Lond)*. 2022;83(3):1–11. doi:10.12968/hmed.2021.0510.

Diagnostic Value of the Active Standing Test in the Assessment of Orthostatic Hypotension: A Clinical Case Analysis of a Female Patient and the Effectiveness of Preventive Measures

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Introduction

Orthostatic hypotension (OH) is a common but often underdiagnosed condition that can present with a wide range of symptoms, ranging from dizziness, weakness, or visual disturbances to episodes of syncope [1]. In the evaluation of OH, assessment of blood pressure changes during postural transitions is a fundamental component [2]. This can be effectively assessed using a simple, low-resource diagnostic method - the active standing test (AST) [3]. The AST can be easily applied in routine clinical practice and may provide clear diagnostic clues, allowing timely identification of OH, particularly in cases where other diagnostic investigations fail to reveal the underlying cause [3].

Case Presentation

75-year-old female patient had been experiencing recurrent dizziness, presyncope and marked drops in arterial blood pressure since 2022, as well as dyspnea and chest pain triggered by changes in body position. The diagnosis of OH is particularly challenging, as symptoms are often nonspecific and may persist despite extensive standard cardiological and neurological evaluations. To clarify the diagnosis, an AST was performed using continuous non-invasive beat-to-beat blood pressure and heart rate monitoring. Within the first minute of standing, a systolic blood pressure decrease exceeding 40 mmHg was recorded. After the diagnosis was established, the patient was advised on simple, targeted non-pharmacological measures, including increasing fluid and salt intake, and performing isometric exercises.

Discussion

OH episodes are more common in women, and their clinical presentation is often

associated with reduced orthostatic tolerance and more prominent prodromal symptoms. Physiological factors, such as lower circulating blood volume and reduced oxygen delivery, contribute to a more rapid decline in blood pressure, particularly in the standing position. In this context, the AST represents one of the most effective methods for objectively assessing these mechanisms.

Conclusions

The AST is a simple, low-cost, and easily implementable assessment in clinical practice that can significantly support the accurate diagnosis of OH. This case illustrates that timely recognition of OH makes it possible to apply non-pharmacological preventive measures, which may lead to meaningful improvement in symptom control in patients with orthostatic intolerance.

References

1. Freeman R, Abuzinadah AR, Gibbons C, Jones P, Miglis MG, Sinn DI. Orthostatic hypotension: JACC state-of-the-art review. *J Am Coll Cardiol*. 2018;72(11):1294–1309
2. Finucane C, van Wijnen VK, Fan CW, Fedorowski A, Del Favero F, Harms MPM, et al. A practical guide to active stand testing and analysis using continuous beat-to-beat non-invasive blood pressure monitoring. *Clin Auton Res*. 2019;29(4):427–441
3. Brignole M, Moya A, de Lange FJ, Deharo JC, Elliott PM, Fanciulli A, et al. 2018 ESC Guidelines for the diagnosis and management of syncope. *Eur Heart J*. 2018;39(21):1883–1948

Diagnostic Challenges in Chronic Constrictive Pericarditis

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Introduction

Constrictive pericarditis (CP) involves fibrotic tissue deposition, reduced pericardial elasticity and impaired ventricular filling, delaying diagnosis. Common causes include surgery and radiotherapy, while less common causes include rheumatologic disorders and malignancy [1–4].

Case Presentation

47 y.o. patient presented with dyspnea, weakness, and high BP. Chest X-ray (CXR) showed compression-related changes in right lower lung lobe. Computed tomography of thorax and abdomen excluded a primary tumor but demonstrated right-sided pleural effusion, mediastinal lymphadenopathy, and pericardial and abdominal fluid. Follow-up CXR showed progression of right pleural effusion, D2–D3 atelectasis, and increased lung compression. Thoracentesis yielded ~1 L of cloudy serous fluid with no cytological evidence of malignancy. Laboratory testing showed elevated CRP 25, BNP 233, INR 1.5, and troponin 2.3. Gastroenterological and rheumatological diseases were investigated and excluded. Transthoracic echocardiography (TTE) showed preserved LV function with increased pericardial effusion and respiratory variation of tricuspid inflow. Follow-up TTE revealed features of cardiac tamponade, including inspiratory interventricular septal shift toward the LV and a dilated inferior vena cava with reduced respiratory collapse. MRI showed diffuse pericardial thickening (4–5 mm) with heterogeneous, partially septated fluid (20 mm near RV, ~12 mm along RVOT, 9 mm lateral LV wall) and paradoxical septal motion consistent with constriction. Early and late gadolinium enhancement indicated active pericardial inflammation. This indicated chronic CP with inflammatory and constrictive features; treatment with diuretics, ibuprofen, and colchicine was started. Patient referred for thoracic surgical consultation for right pleural effusion drainage, advised to continue treatment for 3–6 months, and scheduled for cardiology follow-up.

Discussion

Despite signs of right-heart failure, the nonspecific presentation of CP often leads clinicians to investigate pleural or abdominal pathology before considering a cardiac cause. In this case, pleural involvement led to delayed diagnosis and extensive non-cardiac investigations [1,3].

Conclusions

CP may present with atypical extracardiac signs, masking cardiac pathology and complicating diagnosis.

References

1. Miranda WR, Oh JK. Constrictive Pericarditis: A Practical Clinical Approach. *Prog Cardiovasc Dis* [Internet]. 2017 Jan 1 [cited 2025 Dec 8];59(4):369–79.
2. Yadav NK, Siddique MS. Constrictive Pericarditis. *Small Animal Soft Tissue Surgery* [Internet]. 2023 Feb 13 [cited 2025 Dec 8];950–2.
3. Gillombardo CB, Hoit BD. Constrictive pericarditis in the new millennium. *J Cardiol* [Internet]. 2024 Apr 1 [cited 2025 Dec 8];83(4):219–27.
4. Adler Y, Charron P, Imazio M, Badano L, Barón-Esquivias G, Bogaert J, et al. 2015 ESC Guidelines for the diagnosis and management of pericardial diseases. *Eur Heart J*. 2015 Nov 7;36(42):2921–64.

Coexistence of a Quadricuspid Aortic Valve and Infective Endocarditis: A Case Report

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Introduction

Quadricuspid aortic valve (QAV) is a rare congenital anomaly, likely related to genetic and connective tissue development abnormalities, and may remain asymptomatic until adulthood while predisposing patients to aortic regurgitation and, in rare cases, infective endocarditis (IE) [1-4]. IE may produce systemic symptoms and vegetations causing valvular or perivalvular complications [5-7].

Case Presentation

A 75-year-old woman with advanced metastatic lung adenocarcinoma was admitted for acute visual impairment and dizziness following a chemotherapy course and a one-week intermittent low-grade fever (unresponsive to antibiotics). Brain CT confirmed an acute ischemic stroke (AIS). To assess AIS cause, TTE/TEE revealed a QAV with severe regurgitation, LVEF 35%, PASP 70 mmHg, and vegetations up to 1.4 cm length, consistent with IE. Hypostatic pneumonia and left pleural effusion found on chest X-ray. Leukocytosis, CRP 154.99 mg/L, NT-proBNP 31,815 pg/mL, and creatinine 259.8 μ mol/L found in laboratory tests. Multiple blood culture sets were obtained on admission, but remained negative, likely related to one week of antibiotic use before presentation. Despite surgical indications, the MTD opted against surgery due to advanced malignancy, high operative risk, and limited survival prognosis. Management: IV vancomycin and ampicillin/sulbactam, diuretics, and pleural drainage. Vancomycin was used for suspected catheter-related MRSA; ampicillin/sulbactam covered streptococci from a probable pulmonary source. After 6 weeks of treatment, CRP and fever resolved. Follow-up echocardiography showed slightly smaller vegetations, severe regurgitation and LVEF 35%. The patient remained stable for 6 months.

Discussion

Prior antibiotic exposure is a common cause of culture-negative IE, often necessitating empiric broad-spectrum therapy [5]. Evaluating IE etiology in QAV, atypical cusp anatomy and flow, along with increased elastin and reduced collagen, may promote endothelial injury, bacterial adherence and IE risk [8]. Chemotherapy does not directly impair QAV integrity, as IE is mainly driven by immunosuppression [9]. Thus, specific prophylaxis is not recommended for QAV unless additional high-risk features are present [4].

Conclusions

Despite its rarity, QAV does not alter standard IE diagnostic, therapeutic or prophylactic strategies.

References

1. Chen W., Kim M.S., Shanbhag S., Arai A., VanRyzin C., McDonnell, N.B., et.al. (2020). The phenotypic spectrum of contiguous deletion of CYP21A2 and tenascin XB: quadricuspid aortic valve and other midline defects. *American Journal of Medical Genetics. Part A*, 149A(12), 2803–2808.
2. Saith S., Saith S., Murthy A. (2022). Quadricuspid aortic valve: An introduction for clinicians. *Cardiology Research*, 13(1), 2–10.
3. Alomari M., El-Sayed Ahmed M.M., Ali M., Wadiwala I.J., Pham SM., & Sareyyupoglu B. (2024). Quadricuspid aortic valve: Imaging, diagnosis, and prognosis. *Texas Heart Institute Journal*, 51(1).
4. Sohn J., & Arain F.D. (2022). Two consecutive cases of quadricuspid aortic valve and a review of 149 cases. *Journal of Cardiothoracic and Vascular Anesthesia*, 36(3), 717–723.
5. Yallowitz A. W., & Decker L.C. (2025). Infectious endocarditis. In StatPearls. StatPearls Publishing.
6. Rajani R., & Klein J.L. (2020). Infective endocarditis: A contemporary update. *Clinical Medicine (London, England)*, 20(1), 31–35.
7. Khalid N., Shlofmitz E., & Ahmad S.A. (2025). Aortic valve endocarditis. In StatPearls. StatPearls Publishing.
8. Goodman A.M., Amirjamshidi H., Ziazadeh D. R., Jones A. S., & Hisamoto K. (2023). Infective endocarditis of quadricuspid aortic valve. *Journal of Cardiothoracic Surgery*, 18(1), 63.
9. Fernández-Cruz A., Muñoz P., Sandoval C., Fariñas C., Gutiérrez-Cuadra M., Pericás Pulido, et.al. Spanish Collaboration on Endocarditis (GAMES). (2021). Infective endocarditis in patients with cancer: a consequence of invasive procedures or a harbinger of neoplasm?: A prospective, multicenter cohort. *Medicine*, 96(38).

Myocardial Infarction After an Insect Bite: A Case Report

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Introduction

Myocardial infarction is a leading cause of mortality worldwide. Its etiology ranges from coronary artery pathology to less frequent causes, including drug exposure, anaemia, and allergic reactions [1]. In rare cases, the release of allergic mediators may trigger acute coronary syndromes and malignant arrhythmias, a condition known as Kounis syndrome. Inflammatory mediators released during a hypersensitivity response induce coronary vasoconstriction, plaque rupture, platelet aggregation, and thrombosis of a pre-existing coronary stent [2].

Case Presentation

A 37-year-old man presented after a hornet sting to the head with hypotension, stridor, altered mental status, and suspected anaphylaxis. He was treated with epinephrine, corticosteroids, and antihistamines. Despite initial improvement in stridor, he developed persistent shock, inferior ST-segment elevation, and ventricular fibrillation progressing to pulseless electrical activity, requiring prolonged cardiopulmonary resuscitation and systemic thrombolysis. Return of spontaneous circulation was achieved, and subsequent investigations showed no significant coronary stenoses, left ventricular systolic dysfunction (ejection fraction 35–40%) with inferior and apical akinesia, and no acute brain pathology. His intensive care unit (ICU) course was complicated by post-anoxic encephalopathy, prolonged respiratory failure, infections, gastrointestinal dysmotility requiring parenteral nutrition, and suspected seizures.

Discussion

Kounis syndrome is a rare complication following insect bite, and it is important for physicians to consider this diagnosis during allergic reactions. Patients with a history of

Kounis syndrome should avoid antigen exposure as part of secondary prophylaxis [3]. Kounis syndrome may be overlooked and underdiagnosed; increased clinical vigilance may improve patient care and facilitate the identification of additional causative factors in the future [4].

Conclusions

This case highlights Kounis syndrome as a rare but potentially fatal cause of acute coronary syndrome and malignant arrhythmias following an insect sting. Early recognition and coordinated management may improve outcomes. Increased clinician awareness is warranted to prevent misdiagnosis and guide appropriate management and secondary prevention.

References

1. Elmezayen ZW, Zayed A, Sarama A, Samara E, Sawalha M. Bee sting-induced myocardial infarction: a systematic review with illustrative case. *BMC Cardiovasc Disord* [Internet]. 2025 Dec 1 [cited 2025 Dec 18];25(1):840-. Available from: <https://link.springer.com/article/10.1186/s12872-025-05261-y>
2. Khan K, Szalai G, Anjum H, Dimtri F, Yamamura D, Surani S. Bee Attack or Heart Attack: Kounis Syndrome. *Cureus* [Internet]. 2021 Apr 28 [cited 2025 Dec 18];13(4):e14740. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC8163107/>
3. Katayama Y, Taniguchi M, Ota S, Satogami K, Ozaki Y, Ino Y, et al. Acute coronary syndrome due to plaque erosion likely triggered by insect bites: a case series of Kounis syndrome. *Eur Heart J Case Rep* [Internet]. 2022 Jun 1 [cited 2025 Dec 18];6(6):ytac216. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC9174552/>
4. Lin WJ, Zhang YQ, Fei Z, Liu DD, Zhou XH. Kounis syndrome caused by bee sting: a case report and literature review. *Cardiovasc J Afr* [Internet]. 2022 Sep 1 [cited 2025 Dec 18];34(4):256. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10870315/>

Diagnostic Delay in Prosthetic Aortic Valve Endocarditis Presenting with Multisystem Embolic Complications: A Case Report

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Introduction

Prosthetic valve endocarditis (PVE) is a serious complication of valve replacement and is becoming increasingly frequent; however, diagnosis remains challenging because of altered anatomy, imaging artefacts, and highly variable presentation [1].

Case Presentation

A 64-year-old male with a history of aortic valve (AoV) replacement with biological prosthesis in 2021 was admitted to the rheumatology department because of persistent high inflammatory markers despite antibiotic therapy. 2 months earlier, he had been hospitalized with *Enterococcus faecalis* bacteremia and multiple organ infarctions (spleen, kidneys, brain). Antiphospholipid syndrome was suspected. He presented again after 25 days with recurrent inflammation and new neurological symptoms – a right cerebellar hemorrhage was found. An abdominal aortic pseudoaneurysm was also identified. Transthoracic echocardiography (TTE) showed no signs of endocarditis. During admission in the rheumatology department, spondylodiscitis was considered but not confirmed. Further workup demonstrated arterial thromboses in the lower limbs requiring stenting. Once more, blood culture showed *Enterococcus faecalis*. TTE revealed a paraprosthetic abscess and severe aortic regurgitation. The patient was transferred to the cardiology department, where transesophageal echocardiography confirmed the results of TTE. After discussion by the heart team, surgical treatment was recommended for prolonged infective endocarditis of the prosthetic AoV with multiple complications.

Discussion

PVE most often presents with nonspecific clinical findings that obscure the diagnosis [2]. Diagnostic criteria and imaging studies have generally poor sensitivity on prosthetic valves, requiring numerous adjunctive methods such as CT, PET-CT, or repeated imaging to detect perivalvular complications [3]. All these challenges lead to delays in diagnosis and timely therapy and, therefore, increase morbidity and mortality [4].

Conclusions

This case illustrates the severity and complexity of PVE with embolic complications, requiring early recognition, detailed imaging, and a multidisciplinary approach to guide timely treatment.

References

1. Ivanovic B, Trifunovic D, Matic S, Petrovic J, Sacic D, Tadic M. Prosthetic valve endocarditis – A trouble or a challenge? J Cardiol [Internet]. 2019 Feb 1 [cited 2025 Dec 1];73(2):126–33. Available from: <https://www.journal-of-cardiology.com/action/showFullText?pii=S0914508718302685>
2. Pepi M, Muratori M. Challenges in cardiology: diagnosis of native and prosthetic valve endocarditis. European Heart Journal Supplements [Internet]. 2023 Apr 21 [cited 2025 Dec 1];25(Supplement_B):B131–5. Available from: <https://dx.doi.org/10.1093/eurheartjsupp/suad092>
3. Nappi F. Advancements and Challenges in the Management of Prosthetic Valve Endocarditis: A Review. Pathogens 2024, Vol 13, Page 1039 [Internet]. 2024 Nov 26 [cited 2025 Dec 1];13(12):1039. Available from: <https://www.mdpi.com/2076-0817/13/12/1039/htm>
4. Oberbach A, Schlichting N, Hagl C, Lehmann S, Kullnick Y, Friedrich M, et al. Four decades of experience of prosthetic valve endocarditis reflect a high variety of diverse pathogens. Cardiovasc Res [Internet]. 2023 Mar 31 [cited 2025 Dec 1];119(2):410–28. Available from: <https://dx.doi.org/10.1093/cvr/cvac055>

Silent but Significant: Incidental Detection of a Giant Right Atrial Myxoma in a Minimally Symptomatic Patient

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Introduction

Primary cardiac tumors are rare (prevalence 0.001–0.03%) [1]. Cardiac myxomas predominantly occur in the left atrium, whereas right atrial myxomas are less common and often prolapse through the tricuspid valve, causing intermittent inflow obstruction or hemodynamic compromise [1, 2]. Nevertheless, emerging evidence suggests that even giant right atrial myxomas may remain clinically asymptomatic at diagnosis [3, 4].

Case Presentation

A 42-year-old male was referred to the Cardiology Department due to generalized weakness. Transthoracic echocardiography revealed a heterogeneous mass, measuring 5.5×5.6 cm in the right atrium. Subsequent cardiac MRI demonstrated a well-defined, non-infiltrative contrast-enhancing mass of approximately 6 cm in diameter, prolapsing through the tricuspid valve. Despite the presence of the mass, cardiac function was preserved, and minimal pericardial effusion was present. No evidence of embolization or heart failure was observed. The patient underwent radical surgical resection, and histopathological examination confirmed the diagnosis of a cardiac myxoma. After two and a half weeks, postoperative rehabilitation was initiated, with favorable clinical progression and no complications.

Discussion

According to current literature and this case, atrial tumors may not impair ventricular function and may present non-specific or even no clinical symptoms [1, 3]. Despite reaching a size comparable to that of a tennis ball, the tumor in this case caused no pronounced symptoms. Only a few case reports have documented right-sided cardiac myxomas of comparable size showing no significant clinical symptoms, highlighting the poor correlation



between tumor size and clinical manifestation [4, 5]. Multimodal diagnostic imaging allows accurate tumor characterization, risk stratification, and surgical planning, with surgical excision recommended regardless of symptom severity given the potential risk of embolization and sudden hemodynamic compromise [1, 6]. Regular long-term follow-up is recommended for all patients, due to rare but possible recurrence [7].

Conclusions

Although large right atrial myxomas may remain clinically silent, incidentally detected tumors require multimodal imaging evaluation, and surgical resection is essential to prevent life-threatening complications.

References

1. Corradi D, Moreno PR, Rahouma M, et al. Cardiac tumors: Updated classifications and main clinico-pathologic findings. *Trends Cardiovasc Med.* 2025;35(5):297-308. doi:10.1016/j.tcm.2025.01.005
2. Wu HM, Chen Y, Xiao ZB, et al. *Zhonghua Bing Li Xue Za Zhi.* 2019;48(4):293-297. doi:10.3760/cma.j.issn.0529-5807.2019.04.006
3. Lee PT, Hong R, Pang PY, Chua YL, Ding ZP. Clinical presentation of cardiac myxoma in a Singapore national cardiac centre. *Singapore Med J.* 2021;62(4):195-198. doi:10.11622/smedj.2020041
4. Rao J, Yang Q, Yin L, et al. Case report: Resection of a giant right ventricular myxoma. *Front Surg.* 2023;10:1140016. doi:10.3389/fsurg.2023.1140016
5. Wang H, Li Q, Xue M, Zhao P, Cui J. Cardiac Myxoma: A Rare Case Series of 3 Patients and a Literature Review. *J Ultrasound Med.* 2017;36(11):2361-2366. doi:10.1002/jum.14264
6. Lin Y, Wu W, Gao L, Ji M, Xie M, Li Y. Multimodality Imaging of Benign Primary Cardiac Tumor. *Diagnostics (Basel).* 2022;12(10):2543. doi:10.3390/diagnostics12102543
7. Karabinis A, Samanidis G, Khoury M, Stavridis G, Perreas K. Clinical presentation and treatment of cardiac myxoma in 153 patients. *Medicine (Baltimore).* 2018;97(37):e12397. doi:10.1097/MD.00000000000012397

Rare Etiology of Mitral Stenosis: Mucopolysaccharidosis Type VI: A Case Report

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Introduction

Cardiac valve damage combined with skeletal abnormalities, respiratory symptoms, visual and auditory impairment, and other organ system involvement may suggest a rare etiology, such as mucopolysaccharidosis type VI (MPS VI) [1].

Case Presentation

A 26-year-old man presented with progressing symptoms of heart failure (shortness of breath, exercise intolerance). A systolic-diastolic murmur was heard on the left side of the chest. Echocardiography revealed thickened mitral (MV) and aortic valves (AoV) with MV area 1.0 cm², mean gradient (MG) 13 mmHg, left atrial volume index (LAVI) 120.57 mL/m²; AoV area 0.74 cm², Vmax 3.5 m/s, MG 26 mmHg and pulmonary artery systolic pressure ~40 mmHg. In the presence of extracardiac manifestations (short stature, chest deformity, episodes of impaired vision and hearing, past craniocervical decompression and inguinal hernia surgery) and family history of symptoms, the patient was referred for genetic testing, which showed ARSB gene mutations NM_000046.5:c.454C>T (Arg152Trp) and c.499G>C (Gly167Arg) with absence of arylsulfatase B activity, confirming MPS VI. The patient was set to be admitted for further evaluation regarding surgical treatment of MV stenosis, enzyme replacement therapy (ERT) and an increased risk of intubation due to the previous craniocervical decompression.

Discussion

MPS VI is an autosomal recessive disease, caused by deficient activity of enzyme arylsulfatase B, leading to a progressive accumulation of glycosaminoglycans (GAGs) in organs and tissues [1,2]. No worldwide incidence estimates are currently available [2]. In this case, the patient presented with some common clinical findings of MPS VI - short stature, skeletal deformities, cardiac valve abnormalities, impaired vision and hearing. Diagnostics are based on the presence of mentioned clinical signs, analysis of GAGs in urine and enzymatic activity tests.



The main treatment methods are ERT and management of symptoms, with hematopoietic stem cell transplantation also being considered an option. Prognosis depends on the age of onset and rate of progression, but despite that, majority of patients with MPS VI have a reduced life expectancy [1,2].

Conclusions

This case highlights that valve diseases may have a rare etiology. Recognition of clinical signs and early diagnostics are important for the patient's quality of life and outcomes.

References

1. D'avanzo F, Zanetti A, De Filippis C, Tomanin R. Mucopolysaccharidosis Type VI, an Updated Overview of the Disease. *Int J Mol Sci* [Internet]. 2021 Dec 1 [cited 2025 Dec 14];22(24). Available from: <https://pubmed.ncbi.nlm.nih.gov/34948256/>
2. Harmatz PR, Shediak R. Mucopolysaccharidosis VI: pathophysiology, diagnosis and treatment. *Front Biosci (Landmark Ed)* [Internet]. 2017 Jan 1 [cited 2025 Dec 14];22(3):385–406. Available from: <https://pubmed.ncbi.nlm.nih.gov/27814620/>

A Large Right Atrial Myxoma Involving the Tricuspid Valve: A Case Report of a Rare Tumor Localization

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Introduction

Myxoma is the most common primary cardiac tumor, with a prevalence of approximately 0.03% in the general population [1]. Right atrial myxomas are uncommon and clinically relevant due to right-sided inflow obstruction, embolic complications, and nonspecific symptoms [2,3]. Direct tricuspid valve involvement is exceptionally rare and represents a distinct diagnostic and surgical challenge [4].

Case Presentation

A 42-year-old patient was urgently admitted with a suspected right atrial myxoma. Echocardiography revealed a 5.5 × 5.6 cm mass occupying most of the right atrium and attached to the tricuspid valve. Further imaging (chest radiography, coronary angiography, and chest MRA) was consistent with its attachment to the interatrial septum, mild prolapse through the tricuspid valve, and absence of local invasion. The myxoma with its base was completely excised, and tricuspid valve repair was performed, with histology confirming the diagnosis. Postoperatively, a small right-sided pneumothorax and mild infiltrates were observed but resolved. Empiric antibiotics were initiated due to elevated CRP, leading to clinical and laboratory improvement. The patient was subsequently referred for rehabilitation.

Discussion

The right atrium is an uncommon site for myxoma, accounting for about 20% of cases

[2]. Large right atrial masses may cause right-sided heart failure or tricuspid valve dysfunction [3]. Given the high risk of embolic and obstructive complications, prompt surgery is the treatment of choice [5]. Preoperative planning requires precise assessment of tumor attachment, extension, and valvular involvement using multimodal imaging. Complete resection is essential to minimize the risk of recurrence. Long-term echocardiographic follow-up within a multidisciplinary approach is recommended [6].

Conclusions

Right atrial myxomas constitute a rare subset of primary cardiac tumors, and involvement of the tricuspid valve represents an uncommon presentation. This case underscores the importance of multimodal imaging for accurate assessment of tumor attachment, valvular involvement, and surgical strategy. Early surgical excision of the tumor combined with concomitant tricuspid valve reconstruction can be performed safely and is essential for the prevention of potentially fatal embolic and intracardiac obstructive complications.

References

1. Islam AKM. Cardiac myxomas: a narrative review. *World J Cardiol.* 2022;14(4):206–219. doi:10.4330/wjc.v14.i4.206
2. Nguyen T, Vaidya Y. Atrial myxoma. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023.
3. Taherkhani M, Ramezani M, Ghaffari S, Farshidi H. Huge right atrial myxoma manifesting with dyspnea and right-sided heart failure. *J Clin Images Med Case Rep.* 2023;4:2753.
4. Faisal AWK, Riaz W, Naveed T, Iqbal MH, Hassan A, Ali SA. Tricuspid valve myxoma: an uncommon presentation of a common tumour. *J Pak Med Assoc.* 2021;71(11):2669–2671. doi:10.47391/JPMA.21-192
5. Mendyka D, Płonek T, Jedrasek T, Korman A, Złotowska A, Jedrasek A, et al. The therapeutic potential of different surgical approaches in the management of cardiac myxoma: a systematic review. *J Clin Med.* 2024;14(1):121. doi:10.3390/jcm14010121
6. Okongwu CC, Olaofe OO. Cardiac myxoma: a comprehensive review. *J Cardiothorac Surg.* 2025;20(1):151. doi:10.1186/s13019-025-02605-1

Sudden Cardiac Arrest While Playing Padel: the First Manifestation of Long QT Syndrome

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Introduction

Long QT syndrome (LQTS) is a rare inherited channelopathy affecting approximately 1 in 2000 individuals, characterized by QT interval prolongation and T-wave abnormalities. While syncope is the most common presentation, LQTS may also cause sudden cardiac arrest (SCA) [1,2]. We report a case in which exercise-induced SCA was the first manifestation of LQTS in a previously asymptomatic patient.

Case Presentation

A 50-year-old man with no prior cardiac history collapsed while playing padel. Immediate basic life support was initiated. Emergency medical services documented ventricular fibrillation, requiring eight defibrillation shocks. The patient was admitted in critical condition, unconscious and receiving prolonged cardiopulmonary resuscitation. Return of spontaneous circulation was achieved after approximately one hour. Laboratory tests showed no electrolyte abnormalities and coronary angiography revealed normal coronary arteries. Echocardiography demonstrated reduced left ventricular systolic function (ejection fraction 35–40%). Electrocardiography showed QTc prolongation up to 490 ms, consistent with LQTS. Brain CT revealed no acute pathology. The patient regained consciousness and underwent implantation of a dual-chamber implantable cardioverter-defibrillator. Heart failure therapy, including beta-blockers, was initiated. Follow-up imaging showed mild post-anoxic changes without clinical significance. Genetic testing was recommended. The patient was discharged for rehabilitation without neurological deficits.

Discussion

Congenital LQTS is most often caused by mutations in the KCNQ1, KCNH2, or SCN5A genes. In the absence of acquired

causes, a congenital form was considered most likely. Delayed presentation may be related to incomplete penetrance or modifying genetic and environmental factors [3,4].

Conclusions

Long QT syndrome may remain clinically silent until exercise-induced sudden cardiac arrest occurs. This case emphasizes the importance of awareness and preventive strategies for early identification of individuals at risk, while also highlighting the critical role of prompt, high-quality cardiopulmonary resuscitation in achieving favorable neurological outcomes.

References

1. Schnell F, Behar N, Carré F. Long-QT syndrome and competitive sports. *Arrhythm Electrophysiol Rev.* 2018 Jun 1;7(3):187–92.
2. Shah SR, Park K, Alweis R. Long QT Syndrome: A Comprehensive Review of the Literature and Current Evidence. *Curr Probl Cardiol.* 2019 Mar 1;44(3):92–106.
3. Khalid MU, Khan SW, Khalil A. Congenital Long QT Syndrome Presenting as Ventricular Fibrillation and Syncope in a Drug-Naive Elderly Female Patient Without Prior Cardiac History. *Cureus.* 2025 Jul 22;17(7):e88538.
4. Adler A, Novelli V, Amin AS, Abiusi E, Care M, Nannenberg EA, et al. An International, Multicentered, Evidence-Based Reappraisal of Genes Reported to Cause Congenital Long QT Syndrome. *Circulation.* 2020 Feb;141(6):418.

An Unexpected and Potentially Life-Threatening Clinical Manifestation of Wolff–Parkinson–White Syndrome: A Case Report

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Introduction

Wolff–Parkinson–White (WPW) syndrome is a congenital cardiac conduction disorder caused by an accessory atrioventricular pathway, which increases the risk of serious tachyarrhythmias. Although often asymptomatic, WPW may present abruptly with severe symptoms. Rapid atrial arrhythmias conducted via the accessory pathway can induce excessively high ventricular rates, leading to hemodynamic instability or acute heart failure [1] even in young individuals without prior cardiac disease.

Case Presentation

A 33-year-old previously asymptomatic male presented to the Emergency Department with sudden palpitations, weakness, and presyncope after physical exertion. On admission, he was hemodynamically unstable, with a heart rate of 200–220 bpm and blood pressure of 90/60 mmHg. ECG revealed atrial fibrillation with wide QRS complexes, consistent with conduction through an accessory pathway. Vagal maneuvers and intravenous adenosine were ineffective; synchronized electrical cardioversion successfully restored sinus rhythm. Post-cardioversion ECG showed ventricular preexcitation with delta waves, confirming WPW syndrome. An electrophysiological study identified a left posterior accessory pathway with rapid anterograde conduction. Due to the life-threatening presentation, successful radiofrequency catheter ablation was performed without complications.

Discussion

WPW affects 0.1–0.3% of the population, peaking at 20–24 years, with 40–65% of adolescents and adults over 30 years remaining asymptomatic [1,2]. AVRT occurs



in ~80% of symptomatic patients, while atrial fibrillation, though rare, may trigger pre-excited AF, ventricular fibrillation, and sudden cardiac death (SCD). AF prevalence is 11–40% and SCD risk is 3–4% in adults with WPW. Sympathetic activation during sport increases arrhythmic risk [2,3], highlighting the need for careful assessment in physically active individuals.

Conclusions

This case demonstrates that WPW can present with sudden, life-threatening arrhythmia during sport in previously healthy individuals. Male sex, age <35, history of AF or AVRT, multiple or septal accessory pathways, and rapid anterograde conduction increase SCD risk. Prompt ECG recognition, immediate cardioversion, and radiofrequency ablation, which is highly effective with low complication rates [1–3], are lifesaving.

References

1. Chhabra L, Goyal A, Benham MD. Wolff-Parkinson-White syndrome. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025. Updated 2023 Aug 7. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK554437/>
2. Safi S, Jøns C, Jacobsen PK, Idorn L. Asymptomatiske børn med ventrikulær præexcitation/WPW-mønster. Ugeskr Laeger. 2024;186:V08230550. Available from: <https://ugeskriftet.dk/videnskab/asymptomatiske-born-med-ventrikulaer-praeexcitation-wpw-monster>
3. Elendu C, Babarinde FO, Babatunde OD, Babawale EA, Hassan JI, Ikeji V, et al. Risk stratification and management of arrhythmias in patients with Wolff-Parkinson-White syndrome. Ann Med Surg (Lond). 2025 Mar 7;87(5):2702-2717. doi:10.1097/MS9.0000000000003068. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC12055097/>

Cocaine-Induced Acute Myocarditis in a Young Adult: A Case Report

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Introduction

Cocaine-induced myocarditis is rare but increasingly recognized in young adults and may closely mimic acute coronary syndrome. Early differentiation between ischemic and inflammatory myocardial injury is crucial, as management and prognosis differ significantly. Cardiac magnetic resonance (CMR) plays a key role in confirming the diagnosis using updated Lake Louise criteria. We present a case of a 20-year-old male who developed acute myocarditis following cocaine exposure.

Case Presentation

A 20-year-old male with Gilbert syndrome and allergic rhinitis presented with recurrent chest pain (VAS 6–7/10), chills, and dyspnea. High-sensitivity troponin levels rose from 347 ng/L (TnT) to 2230 ng/L (TnI); CRP was 52.5 mg/L. ECG showed sinus rhythm with ST-elevation in II, III, aVF, V3–V6 and T-wave inversions in I, aVL, V4–V6. Echocardiography revealed basal and mid-septal hypokinesis with preserved contractility of other segments, LVEF 56%, left atrial dilatation, aneurysmal interatrial septum without shunt, and no pericardial effusion. Coronary CT angiography showed minimal atherosclerosis (<10%), excluding obstructive coronary artery disease. CMR demonstrated myocardial edema (increased T2 signal) in the apical lateral wall with subepicardial and mid-wall late gadolinium enhancement in the lateral wall and apical septum, fulfilling updated Lake Louise criteria for acute myocarditis. Indexed LV end-diastolic volume was mildly increased (110 mL/m²). Holter monitoring and telemetry showed sporadic supraventricular and ventricular extrasystoles without malignant arrhythmias. No hemodynamic instability was observed. Initially denying drug use, the patient later disclosed recent cocaine intake. Endomyocardial biopsy was declined. Treatment included intravenous fluids, beta-blocker therapy (initially intravenous, transitioned to oral

metoprolol succinate 23.75 mg daily), a single dose of ivabradine, potassium supplementation and strict 3–6 month exercise restriction. Symptoms resolved within days, biomarkers normalized, and the patient was discharged on day seven. At 6-month follow-up, the patient remained asymptomatic and abstinent from cocaine. Repeat CMR showed preserved biventricular function (LVEF 66%, RVEF 65%) and minimal residual subepicardial LGE in the anterolateral wall, consistent with sequelae of prior myocarditis.

Discussion

Cocaine induces myocarditis through sympathetic overstimulation, coronary vasospasm, direct myocardial toxicity, and pro-inflammatory pathways (1). It triggers oxidative stress, mitochondrial dysfunction, and immune-mediated inflammation leading to lymphocytic infiltration and focal necrosis (2). Clinically, cocaine-induced myocarditis may closely resemble acute coronary syndrome with marked troponin elevation and ischemia-like ECG changes. CMR is the key diagnostic modality in patients with unobstructed coronary arteries, allowing reliable differentiation between ischemic and inflammatory injury (2,3). Early recognition and cessation of cocaine usually allow full recovery, although arrhythmic risk may persist, underscoring the importance of long-term surveillance (4). Resolution of edema with minimal residual LGE indicates favorable prognosis.

Conclusions

Cocaine-induced myocarditis should be considered in young adults with chest pain and troponin elevation. CMR confirms the diagnosis and differentiates inflammatory from ischemic injury. Conservative management with strict abstinence can result in complete clinical and functional recovery.

References

1. Havakuk O, Rezkalla SH, Kloner RA. The Cardiovascular Effects of Cocaine. *J Am Coll Cardiol*. 2017 Jul;70(1):101–13.
2. Peruch M, Giacomello E, Radaelli D, Concato M, Addobbati R, Fluca AL, et al. Subcellular Effectors of Cocaine Cardiotoxicity: All Roads Lead to Mitochondria-A Systematic Review of the Literature. *Int J Mol Sci*. 2023 Sep;24(19).
3. De Rubeis G, Catapano F, Cundari G, Ascione A, Galea N, Catalano C, et al. Cocaine Abuse: An Attack to the Cardiovascular System-Insights from Cardiovascular MRI. *Radiol Cardiothorac imaging*. 2019 Jun;1(2):e180031.
4. Arenas DJ, Beltran S, Zhou S, Goldberg LR. Cocaine, cardiomyopathy, and heart failure: a systematic review and meta-analysis. *Sci Rep*. 2020 Nov;10(1):19795.

Aortic valve infective endocarditis in an intravenous drug user with neurological manifestations

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Introduction

Infective endocarditis (IE) remains associated with high morbidity and mortality despite advances in diagnosis and treatment [1,2]. In recent years, increasing attention has been paid to atypical presentations of IE, particularly cases presenting with neurological symptoms and embolic events, which complicate early diagnosis and occur in approximately 20–55% of patients [1,3].

Case Presentation

A 47-year-old male was hospitalized after a generalized seizure. Neurological examination revealed no focal deficits. Initial brain CT showed no acute pathology, and inflammatory markers were normal. During hospitalization, the patient developed fever, elevated inflammatory markers, haemorrhagic skin rash, and superficial thrombophlebitis. Brain MRI revealed multiple lacunar infarctions in the left middle cerebral artery territory, consistent with embolic events. Blood cultures grew *Staphylococcus aureus*, raising suspicion of infective endocarditis. TEE demonstrated a large aortic valve vegetation (~16 mm) with cusp perforation and severe regurgitation. The patient later disclosed intravenous drug use with injections into the feet. Due to severe aortic regurgitation, large vegetation size, and worsening hemodynamic status, a guideline-based indication for surgery was established, and successful aortic valve replacement with a mechanical prosthesis was performed. This case is notable for its atypical initial presentation with seizure and normal inflammatory markers.

Discussion

This case report is consistent with the latest European Society of Cardiology guidelines,

which indicate that infective endocarditis may initially present with neurological manifestations and embolic events, leading to diagnostic delay [1]. Although intravenous drug use is most commonly associated with right-sided endocarditis, *Staphylococcus aureus* also can involve left-sided heart valves, causing rapid valvular destruction and severe embolic complications [1,2]. Neurological embolic events remains an unfavourable complication of left-sided infective endocarditis [1,3].

Conclusions

Infective endocarditis can present with neurological symptoms and embolic events even in the absence of typical infectious signs. Early recognition and timely echocardiography are essential to reduce diagnostic delay and adverse outcomes.

References

1. Habib G, Erba PA, Iung B, et al. 2023 ESC Guidelines for the management of infective endocarditis. *Eur Heart J*. 2023;44(39):3948–4042. doi:10.1093/eurheartj/ehad193.
2. Hubers SA, DeSimone DC, Gersh BJ, Anavekar NS. Infective endocarditis: a contemporary review. *Mayo Clin Proc*. 2020;95(5):982–997. doi:10.1016/j.mayocp.2019.12.008.
3. Murai R, Huttin O, Selton-Suty C, et al. Neurological complications of infective endocarditis: recent findings and perspectives. *Heart*. 2020;106(12):883–890. doi:10.1136/heartjnl-2019-315915.

Ventricular Tachyarrhythmia as the Initial Presentation of Dilated Cardiomyopathy Mimicing Acute Myocardial Infarction

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Introduction

Dilated cardiomyopathy (DCM) can mimic acute coronary syndrome, presenting with ST-segment elevation, elevated cardiac biomarkers, and malignant ventricular arrhythmias despite the absence of obstructive coronary artery disease (OCAD) [1]. This overlap poses a diagnostic challenge and highlights the importance of advanced imaging for accurate diagnosis and risk stratification.

Case Presentation

A 70-year-old patient with hypertension, heart failure and dyslipidaemia presented with acute chest pain and syncope. Electrocardiography revealed ST-segment elevation and sustained ventricular tachycardia (VT), which was initially managed conservatively. High-sensitivity troponin I peaked at 4148 ng/L and B-type natriuretic peptide at 356 ng/L. Urgent coronary angiography demonstrated no significant coronary artery stenosis, excluding acute myocardial infarction. Transthoracic echocardiography showed severe left ventricular dilatation with eccentric hypertrophy, systolic dysfunction, left atrial enlargement, impaired diastolic relaxation and reduced ejection fraction (~30%). Cardiac magnetic resonance (CMR) demonstrated DCM phenotype with biventricular dilatation and dysfunction, myocardial oedema, and transmural late gadolinium enhancement in the lateral wall. Due to recurrent VT and severely reduced left ventricle ejection fraction, a dual-chamber implantable cardioverter-defibrillator (ICD) was implanted for secondary prevention of sudden cardiac death (SCD), followed by initiation of maximally tolerated beta-blocker therapy for arrhythmia control.

Discussion

In this case, ST-segment elevation and troponin rise reflected non-ischemic

myocardial injury rather than coronary occlusion. CMR was essential for differentiating ischemic from non-ischemic pathology and identifying extensive myocardial fibrosis, which is strongly associated with increased arrhythmic risk [2]. Optimal medical therapy, including high-dose beta-blockers, combined with ICD implantation, represented an evidence-based strategy for secondary prevention [3,4].

Conclusions

DCM should be considered in patients presenting with ST-segment elevation and ventricular tachyarrhythmias in the absence of OCAD. CMR enables accurate diagnosis and risk assessment, while timely ICD implantation effectively reduces the risk of SCD.

References

1. Pinto YM, Elliott PM, Arbustini E, et al. Proposal for a revised definition of dilated cardiomyopathy, hypokinetic non-dilated cardiomyopathy, and its implications for clinical practice. *Eur. Heart J.* 2016, 37, 1850–1858.
2. Bella GD, Micari A, Licordari R, Crea P, Colarusso L, Maurizio Cusmà-Piccione, et al. Cardiac Magnetic Resonance Imaging and Arrhythmic Risk Stratification in Cardiomyopathies. *J. Clin. Med.* 2025, 14, 4922–2.
3. Zeppenfeld K, Tfelt-Hansen J, de Riva M, Winkel BG, Behr ER, Blom NA, et al. 2022 ESC Guidelines for the management of patients with ventricular arrhythmias and the prevention of sudden cardiac death. *Eur. Heart J.* 2022, 43, 3997–4126.
4. McDonagh TA, Metra M, Adamo M, et al. 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure. *Eur. Heart J.* 2021, 42, 3599–3726.

Cardiac Arrhythmia and Conduction Disorder Management for a Patient with Pectus Excavatum

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Introduction

Pectus excavatum (PEX) is the most common congenital deformity of the anterior chest wall [1]. Severe thoracic anatomical alterations may lead to cardiac chamber compression and displacement, resulting in both morphological and functional cardiovascular changes [2]. Although frequently considered a cosmetic condition, PEX has been associated with arrhythmogenesis and conduction system abnormalities [3].

Case Presentation

A 48-year-old male patient with PEX was admitted to the Cardiac arrhythmia unit for persistent atrial flutter treatment with Radiofrequency ablation (RFA). Computed tomography angiography showed dorsolateral heart dislocation and minimal atherosclerotic changes. Conventional intracardiac electrophysiological examination revealed typical atrial flutter later progressing to atrial fibrillation requiring electrical cardioversion. Cavotricuspid isthmus anatomical location was challenging, nevertheless isthmus block was attempted. During RFA a third-degree atrioventricular block developed. Cavotricuspid isthmus block was ultimately achieved, however, AV blockade persisted for 20 minutes, necessitating immediate dual-chamber pacemaker implantation. Venous access and lead placement were complicated by chest wall anatomy. Post-procedural monitoring revealed ventricular tachyarrhythmia and inappropriate pacing due to atrial lead dislodgement into the left ventricle, requiring lead reposition.

Discussion

This case illustrates the challenges of arrhythmia and conduction system

management in patients with chest wall malformations. In PEX, altered thoracic geometry can cause cardiac displacement, axial rotation, and abnormal spatial relationships between atrial structures and the conduction system [4]. Such anatomical variability may increase the risk of catheter instability, unintended ablation near the atrioventricular node, and procedural complications.

Conclusions

PEX related cardiac displacement significantly complicates invasive electrophysiological procedures and device implantation. Awareness of altered anatomy, careful preprocedural imaging assessment, and heightened intra- and postprocedural vigilance are essential to minimize preventable complications in such patients.

References

1. Janssen N, Daemen JHT, Michels IL, Franssen AJPM, Maessen JG, Hulsewé KWE, et al. Preoperative imaging of clinically relevant intrathoracic abnormalities in pectus excavatum patients. *Quant. Imaging Med. Surg.* 2023, 13, 3489–95.
2. Rodriguez-Granillo GA, Raggio IM, Deviggiano A, Bellia-Munzon G, Capunay C, Nazar M, et al. Impact of pectus excavatum on cardiac morphology and function according to the site of maximum compression: effect of physical exertion and respiratory cycle. *Eur. Heart J. Cardiovasc. Imaging* 2020, 21, 77–84.
3. Wang G, Yu Z, Zhang C, Zang H, Monti L, Jeong JY, et al. Pectus excavatum requiring temporary pacemaker implantation before Nuss procedure: a case report. *J. Thorac. Dis.* 2020, 12, 4985–90.
4. Sonaglioni A, Nicolosi GL, Trevisan R, Lombardo M, Grasso E, Gensini GF, et al. The influence of pectus excavatum on cardiac kinetics and function in otherwise healthy individuals: A systematic review. *Int. J. Cardiol.* 2023, 381, 135–44.

Reflex Syncope With Predominant Vasodepressor Mechanism: A Case Report

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Introduction

Reflex syncope is transient loss of consciousness triggered by reduced cerebral perfusion, which can result from two components: vasodepressor or cardioinhibitory mechanisms or combination of both [1].

Case Presentation

A 62-year-old female patient with a history of arterial hypertension, type 2 diabetes mellitus, spinal canal stenosis and rheumatoid arthritis presented with recurrent dizziness and a prior episode of transient loss of consciousness for a tilt table test (TTT) at our hospital. Previously, the patient underwent additional investigations including echocardiography: fibrodegenerative changes of the aortic valve, left ventricular hypertrophy. Electrocardiogram, Holter monitoring and coronary computed tomography angiography without significant changes. The patient was consulted by an endocrinologist for a potential association with diabetes, however, glycemic control was adequate. Neurological evaluation, including carotid ultrasonography demonstrated no clinically significant stenosis. During TTT, after 10 minutes, passive phase without spontaneous syncope, 400 µg sublingual glyceryl trinitrate was administered. At the 2 minutes of head-up tilt (70°), the patient developed presyncopal symptoms, including weakness, blurred vision and nausea (symptoms coincided with those experienced in real life), accompanied by a significant hypotensive response, with blood pressure decreasing from 146/90 mmHg (67 bpm) at the baseline to 86/60 (100 bpm), leading to discontinuation of the test. Reflex syncope (VASIS III) was confirmed. The patient remained hemodynamically stable after the test.

Discussion

In cases of reflex syncope with a predominant vasodepressor component, treatment is conservative and pacemaker implantation is not indicated. This case also highlights that although vasovagal syncope is more common in younger patients, it can occur in older individuals as well.

Conclusions

Diagnosis of reflex syncope remains challenging due to a variety of triggering

factors and nonspecific symptoms. Although this condition does not increase mortality, it is associated with higher risk of injury and reduced quality of life [2].

References

1. Aksu T, Brignole M, Calo L, Debruyne P, Biase L Di, Deharo JC, et al. Cardioneuroablation for the treatment of reflex syncope and functional bradyarrhythmias: A Scientific Statement of the European Heart Rhythm Association (EHRA) of the ESC, the Heart Rhythm Society (HRS), the Asia Pacific Heart Rhythm Society (APHRS) and Europace. 2024 Aug 1;26(8):euae206.
2. Torabi P, Rivasi G, Hamrefors V, Ungar A, Sutton R, Brignole M, et al. Early and late-onset syncope: insight into mechanisms. Eur Heart J. 2022 Jun 7;43(22):2116.

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Abstracts

A Case of Periorbital Sweet's Syndrome Associated With Chronic Myeloid Leukemia

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Introduction

Sweet's syndrome (SS) or acute febrile neutrophilic dermatosis, is a rare inflammatory condition characterized by sudden onset of fever, painful erythematous plaques and neutrophilic infiltration of the dermis. While it can occur idiopathically, it's often associated with malignancies, infections or medications. Eyelid-limited manifestations are exceedingly rare. We report an unusual case of periorbital SS associated with chronic myeloid leukemia (CML) in a patient receiving dasatinib, presenting a diagnostic and therapeutic challenge for dermatologists.

Case Presentation

A 51-year-old woman diagnosed with CML started oral dasatinib in May 2024. One month later she developed a relapsing, itchy, edematous erythema of the left eyelid, an atypical localized pattern for dasatinib, which usually causes generalized rashes. Ten months later, while still on dasatinib, she presented with fever (40 °C), painful eyelid swelling, anemia, and elevated LDH and CRP. An initial biopsy showed perivascular edema with lymphocytic infiltration, interpreted as refractory angioedema. Prescribed prednisolone (PSL) 20 mg/day produced improvement, but relapses occurred with tapering. A second biopsy revealed diffuse neutrophilic infiltration from the superficial to deep dermis consistent with SS. PSL 15 mg/day induced rapid remission and was gradually tapered. At follow-up she remains relapse-free on 5 mg/day while continuing dasatinib, supporting that dasatinib was unlikely the primary driver of her SS.

Discussion

SS associated with hematologic malignancy is well documented, but periorbital localization is particularly rare. Although dasatinib has been reported as a potential trigger of SS, the

delayed onset after drug initiation and the achievement of sustained remission without discontinuation strongly argue against a drug-induced etiology. Instead, the clinical course and response to corticosteroid therapy favor a paraneoplastic mechanism related to the underlying CML.

Conclusions

This case highlights periorbital SS as a rare inflammatory manifestation in patients with CML. A multidisciplinary team of dermatologists and hematologists should consider SS in patients with hematologic malignancies presenting with atypical periorbital inflammation and rely on histopathologic confirmation to ensure accurate diagnosis and management.

References

1. Strong J, Zhou AE, Alkaabba F, et al. A Case of Acute Myeloid Leukemia-Associated Necrotizing Sweet Syndrome. *Case Rep Dermatol*. 2022 Nov 7;14(3):339-343.
2. Watson SL, Kuo A, Kishi SH, Fat MN, Boxrud CA. Periorbital necrotizing Sweet's syndrome: a case report. *Ophthalmic Plast Reconstr Surg*. 2023 Nov–Dec;39(6):e197-e199.
3. Vongsachang H, Chiou CA, Azad AD, et al. Periorbital necrotizing Sweet syndrome: a report of two cases mimicking necrotizing soft tissue infections. *Am J Ophthalmol Case Rep*. 2024; (eCollection).

Ewing Sarcoma of the Thoracic Spine: A Case Report of Fatal Outcome

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Introduction

Ewing sarcoma (ES) is a rare, but second most common bone cancer in children and young adults, that can arise in the spine [1]. We present a case in which, over a period of 4 years, spinal ES metastasized and resulted in the death of a 24-year-old patient, even with the use of all multimodal treatment options, marking it as an example to search for other treatment options, as survival rates for this disease tend to be low.

Case Presentation

We report a 24-year-old male with a four-year history of ES with EWSR1 (22q12) translocation at the Th4–Th7 level of thoracic spine with invasion to the spinal canal. Despite two surgical laminectomies and multiple treatments of chemoradiotherapy, the disease metastasised to the lungs and extensively overgrew the spinal canal making further radiotherapy inappropriate due to the large tumour volume and its resistance to the treatment. Shortly after all palliative treatment options had been exhausted, the patient's condition deteriorated rapidly and biological death was confirmed.

Discussion

Spinal ES is a rare malignancy caused by the production of the EWSR1-FLI1 oncoprotein, which is determined by the t(11;22)(q24;q12) translocation, and most commonly affecting young adults, which corresponds to this patient's case [1–3]. The disease is characterized by its aggressiveness, often invading other organs and metastasizing, therefore requiring multimodal treatment [4]. The five-year survival rate for patients with metastatic ES remains low, approximately 30%, placing our patient within the established survival



rate [4,5]. Given the low survival numbers and resistance to current treatment options, new treatment methods need to be explored [5]. Researchers are currently investigating the potential of targeted therapy, immunotherapy, and gene therapy for the treatment of ES, as these approaches may help to better control the progression of the disease [6].

Conclusions

Spinal Ewing's sarcoma is a malignant disease that can progress very rapidly if appropriate multimodal treatment is not selected or the tumor becomes resistant. This case demonstrates a quickly progressing and treatment-resistant form of spinal ES, highlighting the importance of searching for new treatment options within molecular level.

References

1. Durer S, Gasalberti DP, Shaikh H. Ewing Sarcoma. StatPearls [Internet]. 2024 Jan 8; Available from: <https://www.ncbi.nlm.nih.gov/books/NBK559183/>
2. Zöllner SK, Amatruda JF, Bauer S, Collaud S, de Álava E, Dubois SG, et al. Ewing Sarcoma-Diagnosis, Treatment, Clinical Challenges and Future Perspectives. J Clin Med [Internet]. 2021 Apr 2;10(8). Available from: <https://pubmed.ncbi.nlm.nih.gov/33919988/>
3. Types of Ewing Tumors | Ewing Sarcoma Research & Statistics | American Cancer Society [Internet]. Available from: <https://www.cancer.org/cancer/types/ewing-tumor/about.html>
4. Mata Fernández C, Sebio A, Orcajo Rincón J, Martín Broto J, Martín Benlloch A, Marcilla Plaza D, et al. Clinical practice guidelines for the treatment of Ewing sarcoma (Spanish Sarcoma Research Group-GEIS). Clin Transl Oncol [Internet]. 2025 Mar 1;27(3):824–36. Available from: <https://pubmed.ncbi.nlm.nih.gov/39158802/>
5. Jia K, Cao L, Yu Y, Jing D, Wu W, Van Tine BA, et al. Signaling pathways and targeted therapies in Ewing sarcoma. Pharmacol Ther [Internet]. 2025 Feb 1;266. Available from: <https://pubmed.ncbi.nlm.nih.gov/39622389/>
6. de Alava E. Ewing Sarcoma, an Update on Molecular Pathology with Therapeutic Implications. Surg Pathol Clin. 2017 Sep 1;10(3):575–85.

Long-Term Treatment-Free Interval Following Targeted Therapy Discontinuation in Metastatic Clear Cell Renal Cell Carcinoma: A Case Report

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Introduction

Long-term disease stability following discontinuation of targeted therapy is rarely observed in metastatic clear cell renal cell carcinoma (ccRCC) despite advances in systemic treatment.[1] Sunitinib is an oral multi-targeted tyrosine kinase inhibitor (TKI) that inhibition includes VEGFR and PDGFR, suppressing angiogenesis central to ccRCC biology.[2] This case highlights a prolonged treatment-free interval after sunitinib discontinuation due to toxicity.

Case Presentation

A 64-year-old female was diagnosed with left-sided ccRCC (pT3aNxM1, G3) with left lung and abdominal lymph node metastases. According to IMDC criteria, the patient was classified as intermediate risk. Left nephrectomy and adrenalectomy were performed, followed by sunitinib in 2017 (50 mg daily, 14 days on/7 days off). A complete response was achieved in 2018, later confirmed on multiple CT scans. During ongoing treatment in 2021, the patient developed sunitinib-associated adverse effects: hypothyroidism, nephrotic syndrome, and deep vein thrombosis, leading to permanent discontinuation. After discontinuation, nephrotic syndrome regressed. The patient has since remained under active surveillance, with no radiological or clinical progression for over four years.

Discussion

The patient demonstrates prolonged treatment-free survival (TFS). Published retrospective data indicate that patients previously treated with sunitinib monotherapy typically experience a TFS of approximately 3–4.5 months.[3,4] Treatment-related toxicity commonly leads to TKI discontinuation.[5] Nephrotic syndrome is a rare complication linked to prolonged sunitinib use. Discontinuation of sunitinib has been reported to result in regression of nephrotic syndrome and renal recovery.[6,7] At the time of treatment, TKI therapy was standard treatment approach. Current ccRCC management is based on IMDC risk stratification and includes immune checkpoint inhibitors and other therapeutic options.[8]

Conclusions

This case illustrates unusually prolonged TFS in metastatic renal cell carcinoma after sunitinib discontinuation due to toxicity, with reversible nephrotic syndrome and stable disease over four years, highlighting the potential for durable control and the clinical relevance of TFS.

References

1. Yang J, Wang K, Yang Z. Treatment strategies for clear cell renal cell carcinoma: Past, present and future. *Front Oncol* [Internet]. 2023;13:1133832. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10070676/>
2. Hao Z, Sadek I. Sunitinib: the antiangiogenic effects and beyond. *Onco Targets Ther* [Internet]. 2016 Sep 8 ;9:5495–505. Available from: <https://www.dovepress.com/sunitinib-the-antiangiogenic-effects-and-beyond-peer-reviewed-fulltext-article-OTT>
3. Mantia CM, Jegede OA, Plimack ER, Powles T, Motzer RJ, Tannir NM, et al. Treatment-free survival and partitioned survival analysis of patients with advanced renal cell carcinoma treated with nivolumab plus ipilimumab versus sunitinib: 5-year update of CheckMate 214. *J Immunother Cancer* [Internet]. 2024 Jul 25;12(7):e009495. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11284827/>
4. Chang E, Zhou J, Song C, Gittleman H, Fernandes L, Weinstock C, et al. A Pooled Analysis of Treatment-Free Survival in Advanced Renal Cell Carcinoma. *Clinical Cancer Research* [Internet]. 2024 Aug 1; 30(15):3282–6. Available from: [/clincancerres/article/30/15/3282/746575/A-Pooled-Analysis-of-Treatment-Free-Survival-in](https://clincancerres/article/30/15/3282/746575/A-Pooled-Analysis-of-Treatment-Free-Survival-in)
5. Schmid TA, Gore ME. Sunitinib in the treatment of metastatic renal cell carcinoma. *Ther Adv Urol* [Internet]. 2016 Dec 1; 8(6):348. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC5117167/>
6. Malde S, Kashiv P, Gupta S, Dubey S, Balwani M, Pasari A, et al. Nephrotic Syndrome Due to Sunitinib: A Rare Complication of Treatment of Renal Cell Carcinoma. *Cureus* [Internet]. 2024 Mar 14; 16(3). Available from: <https://pubmed.ncbi.nlm.nih.gov/38618396/>
7. Kang HJ, Lee S. Tolerability of Alternative Dosing Schedules for Sunitinib: A Systematic Review and Meta-Analysis. *Yonsei Med J* [Internet]. 2020 Oct 1; 61(10):837. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC7515783/>
8. Hird AE, Chavarriaga J, Lalani AKA, Wallis CJD. Optimizing Treatment Selection in Advanced Renal Cell Carcinoma via IMDC Risk Group Stratification. *Eur Urol*. 2023 Oct 1;84(4):379–80.

Perioperative Anticoagulation Challenges in a Patient with Antithrombin III Deficiency: a Case Report

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Introduction

Adequate anticoagulation is crucial for patients with mechanical heart valves, especially during the perioperative period. Heparin is an anticoagulant that binds to antithrombin III, preventing the formation of a clot. Heparin resistance due to antithrombin III deficiency presents a rare but significant clinical challenge that can delay surgery and raise the risk of thrombosis. [1,2]

Case Presentation

A 60-year-old male patient with a history of mechanical aortic valve replacement was admitted due to aortic valve dysfunction. Cardiac ultrasound revealed impaired opening of the mechanical aortic valve, suspected to be caused by pannus formation. Surgical replacement of the mechanical valve with a biological prosthesis was indicated. Preoperative anticoagulation with unfractionated heparin was initiated; however, therapeutic anticoagulation was not achieved despite adequate heparin dosing. Further examination revealed antithrombin III deficiency, explaining the heparin resistance. Antithrombin III concentrate was unavailable within the department, so it was ordered; it arrived more than 1 week later. During this period, therapeutic anticoagulation was corrected by initiating warfarin therapy with careful INR-guided dosing. After reaching the target INR and administering antithrombin III concentrate, antithrombin III levels were restored. The patient then successfully underwent isolated aortic valve replacement surgery with a biological valve. The postoperative period was uneventful.

Discussion

Hereditary antithrombin III deficiency is a rare autosomal dominant condition. This coagulation disorder may remain undiagnosed for a long time, especially if



complications such as deep vein thrombosis or thromboembolism do not occur. Early clarification of family history laboratory tests can help diagnose this condition on time, prevent complications, and select adequate anticoagulant treatment. [3,4]

Conclusions

This case highlights the importance of recognising antithrombin III deficiency as a cause of heparin resistance in anticoagulation therapy. Early diagnosis and antithrombin III replacement therapy are crucial to ensure effective anticoagulation and avoid postponing surgical intervention.

References

1. Butt SP, Kakar V, Kumar A, Razzaq N, Saleem Y, Ali B, et al. Heparin resistance management during cardiac surgery: a literature review and future directions. *J Extra Corpor Technol* [Internet]. 2024;56(3):136–44. Available from: <https://doi.org/10.1051/ject/2024015>
2. Durrani J, Malik F, Ali N, Jafri SIM. To be or not to be a case of heparin resistance. *J Community Hosp Intern Med Perspect*. 2018 May 4;8(3):145–8.
3. Roberts JC, von Drygalski A, Zhou JY, Rodgers GM, Ansteatt K, Tarantino MD. Five Challenging Cases of Hereditary Antithrombin Deficiency Characterized by Thrombosis or Complicated Pregnancy. *J Blood Med*. 2022 Oct;Volume 13:611–8.
4. Rodgers GM, Mahajerin A. Antithrombin Therapy: Current State and Future Outlook. *Clinical and Applied Thrombosis/Hemostasis*. 2023 Jan 11;29.

Immature Teratoma with Embryonal Carcinoma; a Rare Malignant Mixed Germ Cell Tumour in a 14-Year-Old Boy: Case Report

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Introduction

Mixed germ cell tumours (MGCTs) are rare and prone to affecting younger populations [1]. These tumours are characterised by aggressive clinical behaviour; most patients present with metastasis at initial diagnosis [2].

Case Presentation

A 14-year-old male patient presented to the endocrinologist complaining of gynecomastia and a lump on the right testicle. Upon physical examination, the right testicle was found to be enlarged. Ultrasonography of the testicles revealed a heterogeneous structure similar to a benign epidermoid cyst, measuring approximately 2.3 x 1.7 cm with low echogenicity, containing calcifications, and without internal blood flow. A follow-up MRI revealed a multi-chambered, well-defined structure with fatty inclusions, showing no significant accumulation of contrast agent - similar to a benign epidermoid cyst, spermatocele, or other conditions. The 2,5 cm solid round tumour was removed. Histopathology analysis revealed a primary mixed germ cell tumour of the testis (immature teratoma and embryonal carcinoma), stage I pT1a, N0, M0. Right-sided orchiectomy was performed for radical tumour removal.

Discussion

MGCTs contain 2 or more germ cell elements. Combinations consisting of teratoma and embryonal carcinoma are more likely to occur. MGCTs with malignant transformation such as carcinomas are impending metastasize and have further aggressive potential [3].

Conclusions

This case highlights the importance of considering germ cell tumour in the differential diagnosis of persistent testicular masses that mimic epidermoid cyst, spermatocele, or other cystic transformation, accentuate the



importance of early recognition and precise histopathological assessment to prevent misdiagnosis and establish timely treatment.

References

1. Al-Khayal A, Noureldin Y, Alghafees M, Shafqat A, Sabbah BN, Elhossiny AH, et al. A decade in focus: mixed germ cell tumors with choriocarcinoma components. *Annals of Medicine & Surgery*. 2023 Sep 20;85(11):5355–8.
2. Emilija Nikolovska Trpchevska, Beti Todorovska, Todorovska MB, Trajkovska M, Dafina Nikolova, Darko Dzambaz, et al. Testicular Mixed Germ Cell Tumor Presenting with Upper Gastrointestinal Bleeding: A Case Report. *PRILOZI*. 2023 Jul 1;44(2):47–52.
3. Alrehaili M, Tashkandi E. Testicular Mixed Germ Cell Tumor Combined with Malignant Transformation to Chondrosarcoma: A Very Rare and Aggressive Disease. *American Journal of Case Reports*. 2020 May 20;21

Giant Pedunculated Vulvar Aggressive Angiomyxoma Mimicking Carcinoma with Prominent Inguinal Lymphadenopathy

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Introduction

Aggressive angiomyxoma (AAM) is a rare, locally infiltrative myxoid mesenchymal tumor of the pelvipерineal region that can mimic vulvar malignancy and has a high risk of local recurrence. [1,2]

Case Presentation

A 41-year-old HPV-negative woman had a vulvar mass observed for ~5 years with recent rapid enlargement, severe pain, ulceration, bleeding, malodor and ~7 kg weight loss. She was pale and cachectic. Examination showed a pedunculated, ulcerated friable tumor arising from the left labium majus (~15–20 cm) and tender bilateral inguinal lymphadenopathy limiting ambulation. Blood tests showed leukocytosis with left shift and anemia (WBC $14.8 \times 10^9/L$, neutrophils $12.5 \times 10^9/L$; Hb 103 g/L). Transvaginal ultrasound was normal. The mass was excised at the stalk (2025-09-30). The wound healed without major complications, with mild swelling, and inguinal pain resolved although nodes remained palpable. Histology showed a hypocellular myxoid stroma with bland spindle cells and numerous small vessels with muscular walls; focal skin ulceration, no tumor necrosis and rare mitoses. IHC: ER+, focal SMA+, S100–, CD34–. Diagnosis: low-grade stromal tumor consistent with AAM (G1, pT3, 11 cm); stalk margin negative. MRI (2025-11-06) showed mild postoperative thickening/enhancement of the left labium majus without diffusion restriction and multiple inguinal nodes (~ 1.4 cm) with preserved fatty hila. Targeted ultrasound was recommended and interval pelvic MRI planned in 3–4 months.

Discussion

Surgery is the mainstay, yet relapse occurs in ~30–40% and may present years after

resection; MRI supports mapping and long-term surveillance. [1,3,4] Metastasis is exceedingly rare, so suspicious nodal findings warrant targeted assessment to distinguish reactive from malignant involvement. [1,4]

Conclusions

Giant vulvar masses may represent AAM and be clinically misleading. [1,2] Prompt excision for definitive diagnosis and structured long-term follow-up are essential. [1,4]

References

1. Dellino M, Magazzino F, Domenici L, Cicogna S, Miano ST, Pignata S, et al. Aggressive angiomyxoma of the lower female genital tract: a review of the MITO Rare Tumors Group. *Cancers (Basel)*. 2024;16(7):1375. doi:10.3390/cancers16071375.
2. Zhang L, Liu R, Peng J. Misleading clinical and imaging features in atypical aggressive angiomyxoma... *Front Oncol*. 2024;14:1373607. doi:10.3389/fonc.2024.1373607.
3. Amante S, Sousa R, Amaral R. Pelvic soft tissue aggressive angiomyxoma. *J Belg Soc Radiol*. 2020;104(1):55. doi:10.5334/jbsr.2230.
4. Wang Y, Bu X, Liu Y, Xing Y, Tong Q. Characteristics and treatment strategies... *Front Surg*. 2023;10:966971. doi:10.3389/fsurg.2023.966971.

MR-LINAC-Guided Radiotherapy for Early-Stage Laryngeal Cancer: A Case Report

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Introduction

Squamous cell carcinoma is the most common malignant cancer of the larynx [1], and it is also more common in males [2, 3]. The main treatment goal for early-stage disease (T1-T2N0M0) is to achieve cancer control and to preserve the function of adjacent sites. Early-stage laryngeal cancer is either treated with radiation therapy or surgery, depending on factors such as cancer type, tumor location, patient health status, and personal preference [4].

Case Presentation

76 y.o. male presented with a two-month history of progressive hoarseness. Laryngoscopy revealed thickening of the right vocal cord. Biopsy confirmed a well-differentiated squamous cell carcinoma (G1). Contrast-enhanced CT of the neck showed 1.1 x 0.6 x 0.7 cm infiltrative lesion. The tumor was staged as cT2N0M0 (II). Following a multidisciplinary team discussion, stereotactic body radiotherapy using MR-LINAC was selected. Total dose of 42.5 Gy was delivered in five fractions. Treatment was well tolerated. Only transient voice hoarseness was observed. Three-month follow up imaging showed marked tumor regression, indicating a favorable treatment response.

Discussion

The main advantage of MR-LINAC technology is integrated real time MRI imaging compared to the older LINAC technology, which uses CT imaging [5]. MRI provides a more detailed view of soft tissue. Furthermore, MRI allows monitoring of tumor and surrounding organ movement, anatomical changes (e.g., due to breathing or digestion), and real-time



treatment adjustments. These advantages allow reduction of the radiation dose to healthy tissue and planning a narrower margin around the tumor area [6]. For example, the patient received 42.5 Gy in five fractions, whereas using conventional LINAC technology, the patient would have received 63 Gy in 28 fractions.

Conclusions

This case illustrates the use of MR-LINAC-guided hypofractionated radiotherapy in a patient with early-stage laryngeal cancer. Although the total physical dose was lower, the biological effect was maintained through the use of larger per-fraction doses. Treatment was completed over a shorter course, which may be advantageous for patient convenience, while achieving favorable short-term tumor control and preservation of laryngeal function.

References

1. Johnson DE, Burtneess B, Leemans CR, Lui VWY, Bauman JE, Grandis JR. Head and neck squamous cell carcinoma. *Nat Rev Dis Primers*. 2020 Nov 26;6(1):92. doi: 10.1038/s41572-020-00224-3.
2. Barsouk A, Aluru JS, Rawla P, Saginala K, Barsouk A. Epidemiology, Risk Factors, and Prevention of Head and Neck Squamous Cell Carcinoma. *Medical Sciences*. 2023; 11(2):42. <https://doi.org/10.3390/medsci11020042>.
3. Verro B, Fiumara S, Saraniti G, Saraniti C. Laryngeal Cancer in Women: Unveiling Gender-Specific Risk Factors, Treatment Challenges, and Survival Disparities. *Curr Oncol*. 2024 Dec 29;32(1):19. doi: 10.3390/curroncol32010019. PMID: 39851935; PMCID: PMC11764012.
4. Hrelec C. Management of Laryngeal Dysplasia and Early Invasive Cancer. *Curr. Treat. Options in Oncol*. 22, 90 (2021). <https://doi.org/10.1007/s11864-021-00881-w>.
5. Winkel D, Bol GH, Kroon PS, van Asselen B, Hackett SS, Werensteijn-Honingh AM, Intven MPW, Eppinga WSC, Tijssen RHN, Kerkmeijer LGW, de Boer HCJ, Mook S, Meijer GJ, Hes J, Willemsen-Bosman M, de Groot-van Breugel EN, Jürgenliemk-Schulz IM, Raaymakers BW. Adaptive radiotherapy: The Elekta Unity MR-linac concept. *Clin Transl Radiat Oncol*. 2019 Apr 2;18:54-59. doi: 10.1016/j.ctro.2019.04.001. PMID: 31341976; PMCID: PMC6630157.
6. Liu X, Li Z, Yin Y. Clinical application of MR-Linac in tumor radiotherapy: a systematic review. *Radiat Oncol*. 2023 Mar 14;18(1):52. doi: 10.1186/s13014-023-02221-8. PMID: 36918884; PMCID: PMC10015924.

Clinical Course and Management of High-Risk Acute Myeloid Leukemia With MECOM Rearrangement: A Case Report

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Introduction

MECOM-rearranged acute myeloid leukemia (AML) represents a rare, high-risk leukemia subtype associated with primary chemoresistance and poor survival with long-term 5-year survival reported to be below 10% [1].

Case Presentation

A 49-year-old woman presented with progressive dyspnea and dizziness. Peripheral blood testing demonstrated pancytopenia with 1% circulating blasts, prompting bone marrow evaluation. Bone marrow examination revealed myelodysplastic syndrome with excess blasts-2 (15% blasts), which rapidly progressed to acute myeloid leukemia. Molecular and cytogenetic analysis identified an ETV6::MECOM rearrangement (t(3;12)) with additional mutations (SF3B1, ETNK1, IKZF1), classifying the disease as adverse risk according to ELN 2022 criteria. Induction chemotherapy with the 7+3 regimen was initiated; however, primary refractory disease was documented. During diagnostic workup, a peripheral right lung lesion was detected and confirmed as adenocarcinoma in situ. The patient underwent successful video-assisted thoracoscopic right upper lobectomy with no evidence of nodal or distant spread. Given the patient's age, preserved performance status, and highly adverse leukemia biology, an upfront matched unrelated donor allo-HSCT was performed following MEL-ARCHIVE conditioning. Post-transplant engraftment was timely, and complete molecular remission was achieved by the second month.

Discussion

AML with MECOM rearrangement is consistently associated with resistance to conventional induction chemotherapy and high relapse rates [1,2]. Recent evidence

supports proceeding to allo-HSCT even in the setting of refractory disease, as transplant may improve outcomes in otherwise dismal prognostic scenarios [3].

Conclusions

This case highlights the critical role of early molecular risk stratification and timely allogeneic transplantation in high-risk AML. Despite primary refractoriness and concomitant solid malignancy, a multidisciplinary and evidence-based approach enabled achievement of complete molecular remission, emphasizing the importance of individualized treatment strategies in modern hematology.

References

1. Joshi U, Shallis RM. MECOM-Rearranged Acute Myeloid Leukemia: Pathobiology and Management Strategies. *Hematology Reports* [Internet]. 2025 Oct 31 [cited 2025 Dec 5];17(6):59–9.
2. Zucenka A, Tamutyte M. Case Report: Decitabine and venetoclax sequentially followed by FLAG-Ida and
3. venetoclax with immediate allogeneic stem cell transplantation in newly diagnosed acute myeloid leukemia with chromosome 3 inversion/MECOM rearrangement. *Frontiers in oncology* [Internet]. 2025;15:1530852.
4. Döhner H, Wei AH, Appelbaum FR, Craddock C, DiNardo CD, Dombret H, et al. Diagnosis and Management of AML in Adults: 2022 ELN Recommendations from an International Expert Panel. *Blood* [Internet]. 2022 Sep 22;140(12).

Chronic Rodenticide Poisoning Presenting With Severe Bleeding and Prolonged Factor VII Deficiency: A Case Report

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Introduction

Rodenticides are pesticides used for rodent control. They contain superwarfarins, long-acting anticoagulants developed from warfarin [1]. Rodenticides exert their toxic effects by inhibiting vitamin K recycling, resulting in impaired γ -carboxylation of vitamin K-dependent coagulation factors, particularly factor VII. As a result, prolonged anticoagulation occurs and may cause bleeding, especially in cases of chronic or unrecognized exposure [1–3].

Case Presentation

A 41-year-old female presented with a one-month history of hematuria, left-sided abdominal pain, gingival bleeding, and melena. Two months earlier, she had been hospitalized for severe coagulopathy after confirmed ingestion of rodenticide paste for one week. At the current presentation, the patient denied any further exposure. Laboratory tests revealed severely impaired coagulation, with prothrombin activity unmeasurable and activated partial thromboplastin time prolonged at 101.38 seconds, while hemoglobin and other parameters were normal. Despite intravenous vitamin K1 and prothrombin complex concentrate treatment, clinical and laboratory improvement was slow. After transient stabilization, coagulation abnormalities recurred, although there was no evidence of repeated toxin ingestion. Coagulation factor analysis revealed significant factor VII deficiency. After prolonged vitamin K1 therapy and supportive care, bleeding resolved and coagulation stabilized. The patient was discharged with outpatient follow-up and referred for psychiatric evaluation.

Discussion

Superwarfarins inhibit vitamin K epoxide reductase, resulting in depletion of coagulation factors II, VII, IX, and X [1]. Factor

VII is the most sensitive marker of toxicity [4]. Rebound coagulopathy may occur even without re-exposure, requiring prolonged vitamin K1 therapy and monitoring [5].

Conclusions

Early recognition, thorough history-taking, and timely vitamin K1 treatment with prothrombin complex concentrate are essential. Long-term patient monitoring remains essential, as coagulation abnormalities may persist for several months with a high risk of re-bleeding.

References

1. Chong YK, Mak TWL. Superwarfarin (Long-Acting Anticoagulant Rodenticides) Poisoning: from Pathophysiology to Laboratory-Guided Clinical Management. *Clin Biochem Rev.* 2019;40(4):175.
2. Kodali S, Rajendran T, Richard IN, Boyapati L, Wong ECC, Avezbakiyev B. Superwarfarin Exposure: An Important Uncommon Cause of Painless Bleeding. *J Hematol.* 2019;8(4):155.
3. Reimer D, Smith M, Ali S. Deliberate self-poisoning with long-acting anticoagulant rodenticides. *BMJ Case Rep.* 2017;2017.
4. Mashayekhi A, Ghasemi E, Mashayekhi A, Ghasemi E, Mashayekhi A, Ghasemi E. Coagulation Factor VII: Genetic, Molecular, and Clinical Characteristics. *Trends in Medical Sciences* 2022 2:1. 2022 Feb 28;2(1):e128397.
5. King N, Tran MH. Long-Acting Anticoagulant Rodenticide (Superwarfarin) Poisoning: A Review of Its Historical Development, Epidemiology, and Clinical Management. *Transfus Med Rev.* 2015 Oct 1;29(4):250–8.

Integrating PROSIGNA (PAM50) Assay in the Management of ER-Positive, HER2-Negative Invasive Lobular Carcinoma

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Introduction

PROSIGNA (PAM50) assay is a genomic test that evaluates the expression of 50 genes in tumor tissue to determine the molecular subtype of a breast cancer and generate the Risk of Recurrence (ROR) score [1]. It demonstrates better accuracy in identifying patients who truly benefit from chemotherapy, avoiding unnecessary treatment and its side effects [2].

Case Presentation

A 59-year-old patient came into the Kaunas clinics for a mammography as part of a breast cancer screening program. No abnormalities were detected. However, physical examination revealed left breast nipple retraction. For this reason, an ultrasound was performed, presenting a hypoechoic lesion with irregular margins located directly behind the left breast nipple, classified as BI-RADS 5. MRI showed a 14x14x12 mm branched, intensively accumulating contrast material malignant formation with visible pathological blood circulation in the central part of the left breast. This patient had a total left breast mastectomy with sentinel lymph node biopsy. Histopathology confirmed invasive lobular carcinoma pT1c N0 Mx LVi1 R0, G3. The PROSIGNA (PAM50) assay was performed to determine the need for chemotherapy, which indicated an intermediate risk for distant metastasis within 10 years. Taking these results into account and discussing them with the patient, a decision was made to administer adjuvant chemotherapy alongside endocrine therapy.

Discussion

Traditional treatment of an invasive lobular carcinoma, which is estrogen receptor positive and HER2 negative, is endocrine



therapy alone. However, patients with T1b to T3 tumors might require further assessment to determine the need for chemotherapy. This is where genomic assays such as PROSIGNA (PAM50) are valuable [3]. Relying solely on clinicopathological features for staging may inadequately reflect the underlying tumor biological heterogeneity. Therefore, biologically aggressive tumors that are considered low risk by traditional criteria may be undertreated when the adjuvant therapy decision relies exclusively on clinicopathology and does not include genomic assessment [4].

Conclusions

This case illustrates the role of the PROSIGNA (PAM50) assay in identifying patients with invasive lobular carcinoma who may benefit from adjuvant chemotherapy in addition to endocrine therapy, avoiding the risk of under- or overtreatment.

References

1. Corti C, Chu X, Exman P, Kline DM, Friedigkeit NM, Mayer EL, et al. Impact of the Prosigna assay on neoadjuvant treatment decision-making in patients with early-stage HR-positive/HER2-negative breast cancer: a single-center prospective observational study. *ESMO Open*. 2025;10(8):105521. doi:10.1016/j.esmoop.2025.105521
2. Lænkholm AV, Jensen MB, Eriksen JO, Roslind A, Buckingham W, Ferree S, Nielsen T, Ejlersen B. Population-based Study of Prosigna-PAM50 and Outcome Among Postmenopausal Women With Estrogen Receptor-positive and HER2-negative Operable Invasive Lobular or Ductal Breast Cancer. *Clin Breast Cancer*. 2020 Aug;20(4):e423-e432. doi:10.1016/j.clbc.2020.01.013.
3. Deciding when to use adjuvant chemotherapy for hormone receptor-positive, HER2-negative breast cancer. UpToDate [Internet]. 2025 Jul 28. Available from: UpToDate content summarizing criteria for adjuvant chemotherapy use in HR+ HER2- breast cancer.
4. López-Ruiz JA, Mieza JA, Zabalza I, Vivanco MDM. Comparison of genomic profiling data with clinical parameters: implications for breast cancer prognosis. *Cancers (Basel)*. 2022;14(17):4197. doi:10.3390/cancers14174197.

Triple-Negative Breast Cancer Complicated by Active Systemic Lupus Erythematosus: Challenges in Diagnosis and Management

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Introduction

Triple-negative breast cancer (TNBC) is an aggressive subtype with limited targeted treatment options [1]. Management often relies on chemotherapy and, in locally advanced disease, immune checkpoint inhibitors (ICIs) [2]. Coexisting systemic autoimmune diseases (SAD), such as systemic lupus erythematosus (SLE), may pose diagnostic challenges and restrict systemic therapy due to an increased treatment-related toxicity risk. We report a case of TNBC in a young woman with active SLE.

Case Presentation

A 32-year-old woman with known SLE presented with a left breast mass. Imaging showed a locally invasive 33 x 41 mm left breast tumor with extensive regional and generalized lymphadenopathy and hepatosplenomegaly. Core needle biopsy confirmed high-grade (G3), triple-negative (ER-, PR-, HER2-), high proliferative index (Ki-67 ~100%) invasive ductal carcinoma (cT4aNxM0). PET/CT revealed a metabolically active breast tumor and widespread hypermetabolic lymphadenopathy. Given active SLE and inflammatory findings, metastatic disease was questioned; subsequent lymph node biopsies showed reactive, non-malignant changes, consistent with autoimmune etiology. Neoadjuvant chemotherapy with carboplatin-paclitaxel was initiated but discontinued after two cycles due to hematological toxicity (cytopenias, anemia, epistaxis); pembrolizumab was limited by immune-related complications, and surgery was recommended.

Discussion

SAD inflammatory manifestations may mimic metastatic disease and complicate accurate staging in TNBC. Furthermore, ICIs were poorly tolerated, likely due to pre-existing immune dysregulation, as checkpoint blockade is known to precipitate autoimmune flares in patients with SAD [3]. Notably, despite



aggressive histology, the tumor showed minimal progression over nine months, measuring 11 × 5 mm on follow-up ultrasound even after chemotherapy discontinuation. This suggests a potential interaction between host immune activation and tumor biology that modulates growth.

Conclusions

This case underscores the complexity of managing TNBC in patients with SLE, where accurate staging and selection of treatment are challenging, emphasizing the need for a multidisciplinary approach to optimize patient outcomes.

References

1. Emara HM, Allam NK, Youness RA. A comprehensive review on targeted therapies for triple negative breast cancer: an evidence-based treatment guideline. *Discover Oncology*. 2025;16:547. doi:10.1007/s12672-025-02227-6.
2. Schmid P, Cortes J, Puztai L, McArthur H, Kümmel S, Bergh J, et al. Pembrolizumab for early triple-negative breast cancer. *N Engl J Med*. 2020;382(9):810–821. doi:10.1056/NEJMoa1910549.
3. Vitzthum von Eckstaedt H, Schmoeckel E, Gkoutzourelas A, Leipe J. Immune checkpoint inhibitors and lupus erythematosus. *Pharmaceutics*. 2024;17(2):252. doi:10.3390/pharmaceutics17020252.

Atypical Presentation of Multiple Myeloma in Primary Care: A Case Report

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Introduction

Multiple myeloma is a plasma cell malignancy that may present with non-specific symptoms, leading to delayed diagnosis. Back pain and mild hematological abnormalities are common in primary care and may mask serious conditions. Early recognition of red flags and timely referral are crucial for improving outcomes.

Case Presentation

A 55-year-old male presented to a primary care clinic with a 3-month history of progressive lower back pain, generalized weakness, exertional dyspnea, and unintentional weight loss of approximately 10 kg. There was no history of trauma, fever, night sweats, or recent infections. Physical examination was unremarkable. At initial presentation, the clinical picture was non-specific and suggestive of common musculoskeletal or chronic inflammatory conditions frequently encountered in primary care, which contributed to diagnostic uncertainty. Initial laboratory investigations revealed mild normocytic anemia (hemoglobin 128 g/L), elevated erythrocyte sedimentation rate, and atypical erythrocyte morphology. Due to persistent symptoms and unexplained laboratory abnormalities, further evaluation was initiated. Serum protein electrophoresis and immunofixation demonstrated monoclonal IgG kappa paraproteinemia with an abnormal free light chain ratio. Bone marrow biopsy revealed CD138-positive plasma cell infiltration of up to 70%, confirming stage I multiple myeloma. The patient was referred to hematology and treated with daratumumab-based combination chemotherapy followed by autologous stem cell transplantation. The post-transplant course was complicated by *Staphylococcus epidermidis* sepsis, which resolved with appropriate treatment. Complete remission was subsequently achieved.



Discussion

This case highlights the diagnostic challenges of multiple myeloma in primary care, where back pain and fatigue are often attributed to benign conditions. Mild anemia and elevated inflammatory markers may represent early signs of plasma cell dyscrasia. Recognition of red flag features and timely diagnostic work-up are essential to avoid diagnostic delay.

Conclusions

Multiple myeloma should be considered in patients with persistent back pain and unexplained hematological abnormalities. Early suspicion and referral from primary care may enable earlier diagnosis and improved outcomes.

References

1. Rajkumar SV. Multiple myeloma: 2022 update on diagnosis, risk stratification, and management. *Am J Hematol*. 2022;97(8):1086–1107.
2. Kyle RA, Rajkumar SV. Multiple myeloma. *N Engl J Med*. 2004;351(18):1860–1873.
3. Dimopoulos MA, Terpos E, Chanan-Khan A, et al. Multiple myeloma: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up. *Ann Oncol*. 2021;32(3):309–322.
4. Kazandjian D. Multiple myeloma epidemiology and survival: A unique malignancy. *Semin Oncol*. 2016;43(6):676–681.
5. Go RS, Rajkumar SV. How I manage monoclonal gammopathy of undetermined significance. *Blood*. 2018;131(2):163–173.
6. International Myeloma Working Group. Criteria for the diagnosis of multiple myeloma and related plasma cell disorders. *Lancet Oncol*. 2014;15(12):e538–e548.

Metastatic Testicular Mixed Germ Cell Tumor After Kidney Transplantation: A Case Report

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Introduction

Kidney transplantation is the preferred treatment for end-stage renal disease, significantly improving survival and quality of life compared with dialysis [1,2]. However, long-term immunosuppression substantially increases the risk of cancer [3,4].

Case Presentation

A 23-year-old male was diagnosed with end-stage renal disease caused by membranoproliferative glomerulonephritis and underwent a cadaveric kidney transplant in 2007. Three years post-transplant, he was diagnosed with a testicular mixed germ cell tumor (embryonal carcinoma and mature teratoma) with metastases to abdominal lymph nodes, lung and transplanted kidney. The patient underwent orchiectomy, multiple chemotherapy regimens, extensive surgical resections, and three autologous stem cell transplantations. In 2017 CT-scan revealed new solid formation between the aorta and the left psoas major muscle. The clinical course was complicated by acute graft dysfunction, severe infections, and recurrent *Clostridium difficile* colitis, successfully treated with fecal microbiota transplantation. Despite multiple relapses, combined chemotherapy, surgery, and stereotactic radiotherapy resulted in normalization of tumor markers and long-term disease control.

Discussion

Post-transplant tumours represent a major cause of morbidity and mortality in kidney transplant recipients [5]. Immunosuppressive therapy diminishes immune surveillance and promotes oncogenesis, while viral infections further increase cancer risk [6,7]. Germ cell tumors after kidney transplantation are rare, and their management is particularly challenging due to nephrotoxicity, infectious complications, and the need to balance oncologic treatment with graft preservation.



Multidisciplinary management and individualized immunosuppression adjustment are essential [8].

Conclusions

This case highlights the complexity of treating aggressive tumours in kidney transplant recipients. Early diagnosis, close oncologic surveillance, and coordinated multidisciplinary care are crucial to achieving favorable outcomes while preserving graft function.

References

1. Abramyan S, Hanlon M. Kidney Transplantation. StatPearls [Internet]. 2023 Jan 2 [cited 2025 Dec 16]; Available from: <https://www.ncbi.nlm.nih.gov/books/NBK567755/>
2. Chaudhry D, Chaudhry A, Peracha J, Sharif A. Survival for waitlisted kidney failure patients receiving transplantation versus remaining on waiting list: systematic review and meta-analysis. BMJ [Internet]. 2022 Mar 1 [cited 2025 Dec 16];376:e068769. Available from: <https://research.birmingham.ac.uk/en/publications/survival-for-waitlisted-kidney-failure-patients-receiving-transpl/>
3. Al-Adra D, Al-Qaoud T, Fowler K, Wong G. De Novo Malignancies after Kidney Transplantation. Clinical Journal of the American Society of Nephrology [Internet]. 2022 Mar 1 [cited 2025 Dec 16];17(3):434–43. Available from: https://journals.lww.com/cjasn/fulltext/2022/03000/de_novo_malignancies_after_kidney_transplantation.16.aspx
4. Ietto G, Gritti M, Pettinato G, Carcano G, Gasperina DD. Tumors after kidney transplantation: a population study. World J Surg Oncol [Internet]. 2023 Dec 1 [cited 2025 Dec 16];21(1):18. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC9869548/>
5. Teo SH, Lee KG, Lim GH, Koo SX, Ramirez ME, Chow KY, et al. Incidence, risk factors and outcomes of malignancies after kidney transplantation in Singapore: a 12-year experience. Singapore Med J [Internet]. 2019 May 1 [cited 2025 Dec 16];60(5):253–9. Available from: <https://pubmed.ncbi.nlm.nih.gov/30311626/>
6. Guba M, Graeb C, Jauch KW, Geissler EK. Pro- and anti-cancer effects of immunosuppressive agents used in organ transplantation. Transplantation [Internet]. 2004 Jun 27 [cited 2025 Dec 16];77(12):1777–82. Available from: <https://pubmed.ncbi.nlm.nih.gov/15223891/>
7. Grulich AE, van Leeuwen MT, Falster MO, Vajdic CM. Incidence of cancers in people with HIV/AIDS compared with immunosuppressed transplant recipients: a meta-analysis. The Lancet [Internet]. 2007 Jul 7 [cited 2025 Dec 16];370(9581):59–67. Available from: <https://www.sciencedirect.com/science/article/abs/pii/S0140673607610502>
8. Webster AC, Wong G, Craig JC, Chapman JR. Managing cancer risk and decision making after kidney transplantation. American Journal of Transplantation [Internet]. 2008 Nov 1 [cited 2025 Dec 16];8(11):2185–91. Available from: [/doi/pdf/10.1111/j.1600-6143.2008.02385.x](https://doi/pdf/10.1111/j.1600-6143.2008.02385.x)

Emerald Green Organs During Autopsy After Administration of Methylene Blue

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Introduction

Colours and their variations in forensic medicine can provide doctors with answers before a full medical history is even obtained. Green discolouration of the internal organs can be caused by various antemortem factors – toluidine blue, “date rape drug” Rohypnol, detergents and methylene blue (MB)(1).

Case Presentation

A 61-year-old was admitted to LUHS Kaunas Clinics after a fire in an apartment. The patient suffered from IIA-III° burns across 33 % of the skin, along with septic and distributive shock. An amputation of the right leg was deemed necessary to sustain life. However, even after the amputation, the patient passed away 5 days after hospitalisation and a forensic autopsy was requested to determine the cause of death. The beginning of the internal examination during the autopsy showed no colour abnormalities. However, shades of green and blue slowly started appearing in the majority of the patient’s organs – intestines, kidneys, and most severely in the heart muscle and brain. Making cross-sectional cuts in the cerebrum and cerebellum revealed that the grey matter changes colour in seconds to contact with oxygen. The only organ which did not develop a green or blue colour was the liver. In this case, it was hypothesised that the green colour was caused by MB treatment as adjunct therapy for blood vasodilation caused by distributive shock.

Discussion

Methylene blue (MB) has many known uses in medicine – methemoglobinemia treatment(2), for ifosfamide neurotoxicity(3), even neuroprotection in animal models(4), and treatment of shock induced vasoplegia(5). Only few clinical cases exist that review the autopsies of patients after the administration of MB. MB treats vasoplegia by minimising the production of cyclic guanosine monophosphate and reduces vasodilation(6), but the reaction in this autopsy is hypothesised to be caused by the colourless metabolite leuko-MB reacting with oxygen and forming blue MB. Intravenous administration of the medication caused the green colour to spread across various internal organs(7).



Conclusions

This clinical case highlights rarely covered autopsy features after antemortem administration of MB. Presenting cases like these is important to aid in recognising use of xenobiotics, furthermore, examining affected organs might help in determining route of administration.

References

1. Baumgarten J, Greb I, Holz F, Nieß C, Petzel-Witt S, Birngruber CG. Fifty shades of green and blue: autopsy findings after administration of xenobiotics. *Forensic Sci Med Pathol*. 2025 Sep 1;21(3):1060–8.
2. Mak RSP, Liebelt EL. Methylene Blue An Antidote for Methemoglobinemia and Beyond [Internet]. 2021. Available from: www.pec-online.com
3. Abahssain H, Moukafih B, Essangri H, Mrabti H, Meddah B, Guessous F, et al. Methylene blue and ifosfamide-induced encephalopathy: Myth or reality? *Journal of Oncology Pharmacy Practice*. 2021 Jan 1;27(1):143–9.
4. Tucker D, Lu Y, Zhang Q. From Mitochondrial Function to Neuroprotection—an Emerging Role for Methylene Blue. Vol. 55, *Molecular Neurobiology*. Humana Press Inc.; 2018. p. 5137–53.
5. Hosseinian L, Weiner M, Levin MA, Fischer GW. Methylene Blue: Magic Bullet for Vasoplegia? Vol. 122, *Anesthesia and Analgesia*. Lippincott Williams and Wilkins; 2016. p. 194–201.
6. Arias-Ortiz J, Vincent JL. Administration of methylene blue in septic shock: pros and cons. *Crit Care*. 2024 Dec 1;28(1).
7. Szymanski LJ, Hurth K. “Pistachio” and “Avatar” Green-Blue Discoloration of the Brain. *Acad Forensic Pathol*. 2016 Mar 1;6(1):150–2.

From Malignant to Benign: Unraveling Growing Teratoma Syndrome After Recurrence of Ovarian Immature Teratoma – A Case Report

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Introduction

Growing teratoma syndrome (GTS) is a clinical pathological condition where a neoplastic mass composed exclusively of mature teratoma develops despite normal levels of tumour markers during or after chemotherapy in patients with germ cell tumours (GCT) [1,2]. The incidence of GTS is approximately 12% of all ovarian GCTs and is more likely to occur when mature teratoma components are present in the primary tumour. Due to limited awareness, GTS is often misinterpreted as a disease progression [3].

Case Presentation

A 17-year-old girl presented with abdominal pain due to a suspected lower abdominal neoplasm. A left ovarian neoplasm was surgically resected and sent for histopathological examination. After 6-months follow-up, elevated neoplastic markers in addition to a neoplasm under the right ovary were detected. Following surgical excision, the patient underwent 2 courses of chemotherapy. 6 months post-surgery and 2 months post-chemotherapy, a recurrent neoplasm was detected at the paraaortic site and rectal serosa. Histopathological examination of the first and second surgical specimens showed immature teratoma (grade 3, FIGO stage IA) composed of connective tissue, bundles of smooth muscle fibres, blood vessels, skin, hair, sebaceous glands, bone and cartilage tissue, glandular structures lined by columnar epithelium, numerous neuroectodermal tubules and rosettes. In contrast, the third resected tumour was composed of the same well-differentiated components but lacked rosettes, confirming a diagnosis of mature teratoma.

Discussion

It remains unclear, whether teratoma maturation pattern results from chemotherapy exposure or represents a rare, naturally occurring progression of the neoplasm, raising further questions about the underlying biology of these tumours and their optimal



management [1,2,3]. In immature teratomas, similar maturation patterns have been reported in recent case reports and series, most often described as Growing Teratoma Syndrome, with surgery emphasized as the treatment of choice [4,5].

Conclusions

This case reflects a notion that GTS neoplasms are resistant to chemotherapy and should be surgically resected to have a positive long-term prognosis. Pathological examination is essential for a definitive diagnosis, while continuous follow-up with imaging and tumor markers help detect potential recurrence.

References

1. Tao J, Shi Z, Li M, Li T. Growing teratoma syndrome of the ovary: a case report and literature review. *Front Oncol*. 2024;14:1412206.
2. Beati F, et al. Growing teratoma syndrome in children and adolescents: prevalence and surgical outcome. *Pediatr Blood Cancer*. 2024 Aug;71(8):e31126.
3. Moraru L, Mitranovici MI, Chiorean DM, Coroş M, Moraru R, Oală IE, Turdean SG. Immature teratoma: diagnosis and management—a review of the literature. *Diagnostics*. 2023;13(9):1516.
4. Poddar P, Maheshwari A, Shylasree TS, et al. Insights into growing teratoma syndrome: an in-depth retrospective analysis of clinical features and treatment outcomes. *Indian J Surg Oncol*. 2025. doi:10.1007/s13193-025-02451-0.
5. Van Nguyen JM, Bouchard-Fortier G, Ferguson SE, Covens A. How common is the growing teratoma syndrome in patients with ovarian immature teratoma? *Int J Gynecol Cancer*. 2016 Sep;26(7):1201-6. doi:10.1097/IGC.0000000000000751. PMID:27258729.

Incidental Discovery of Unilateral Testicular Atrophy in Post-Mortem Histological Examination: A Case Report

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Introduction

Up to 15% of couples face fertility issues with male factors responsible for about a third of these cases [1, 2]. There are many causes of male infertility such as congenital abnormalities, endocrine disorders, trauma, tumors, infections. Therefore, examination of histological structure of testes plays a crucial role in developing a better understanding of factors that impair spermatogenesis. During histological analysis of these testes, unilateral testicular atrophy with extensive fibrotic changes was incidentally found, which is the focus of this case report.

Case Presentation

Pair of testes of a 45-year-old male with unknown past medical history were brought to the Department of Histology and Embryology for scientific research (permission of Kaunas Region Biomedical Research Ethics Committee Nr. P2-BE-2-1/2015, 2022-05-06). Both testes appeared macroscopically normal morphology but the right testis was smaller in mass and volume compared to the left testis and to testes of other individuals of similar age. Histological analysis of the right testis revealed testicular atrophy with fibrotic changes and a loss of germ cells and Sertoli in the seminiferous tubules, as well as thickened fibrous walls and reduction in tubule size. Histology of the left testis displayed morphologically normal seminiferous tubule structure without evidence of fibrosis, no reduction in the number of germ cells and Sertoli cells.

Discussion

Potential causes of unilateral testicular atrophy are trauma, testicular torsion, cryptorchidism, varicocele, infections [3]. Due to the lack of past medical history, the etiology cannot be determined in this case, but these incidental histological findings can provide useful insights into the structural changes that happen during testicular atrophy.



Conclusions

Male infertility is a relevant issue with many causes. This case demonstrates unilateral testicular atrophy with its characteristic macroscopic and microscopic changes, provides insights into the structural processes involved and serves as a basis for future research regarding male fertility issues.

References

1. Hameed A., Ajeel I., Noel K., & Hassan K. Multifactorial etiology of male and female infertility/ assisted reproductive technique. *Magna Scientia Advanced Biology and Pharmacy* 2022;7(1):001-008. <https://doi.org/10.30574/msabp.2022.7.1.0083>.
2. Borght M. and Wyns C. Fertility and infertility: definition and epidemiology. *Clinical Biochemistry* 2018;62:2-10. <https://doi.org/10.1016/j.clinbiochem.2018.03.012>.
3. Yang D., Choi H., Kim H., Kim S., Moon S., & Lim J. Small testes: clinical characteristics and ultrasonographic findings. *Ultrasonography* 2021;40(3):455-463. <https://doi.org/10.14366/usg.20133>

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& pulmonology, etc. | Case Report | Oral

Abstracts

Multiple Myeloma With Severe Renal Impairment: A Case Report

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Introduction

Multiple myeloma (MM) is a plasma-cell malignancy frequently complicated by renal impairment, hypercalcemia, anemia and bone lesions [1]. Renal impairment occurs in up to 50% of patients with multiple myeloma (MM) and significantly worsens prognosis [2].

Case Presentation

A 65 year old man with stage III Chronic Kidney Disease presented with diffuse bone pain, anemia, hypercalcemia (4.01mmol/l), elevated ESR and progressive renal dysfunction (creatinine 501μmol/l). The patient was hospitalized for suspected Multiple Myeloma (MM). MRI and multiple x-rays showed destructive bone lesions, and bone marrow aspirate exhibited 14% atypical plasma cells. Findings were consistent with MM. After starting treatment for hypercalcemia, kidney function improved. However, after a course of Dara-VTd chemotherapy, kidney function began to deteriorate again. It was decided that the patient was suffering from end-stage chronic kidney disease requiring dialysis. During hemodialysis, improved kidney function was observed, and it was decided to reduce the frequency of dialysis. After 35 dialysis sessions, control tests were performed, and it revealed that there were no indications for replacement kidney therapy anymore (iGFG – 28ml/min). The patient remained clinically stable and was discharged for outpatient care and was scheduled for bone marrow transplant.

Discussion

Kidney injury is mainly driven by excessive monoclonal free light chains causing tubular toxicity, cast formation and inflammation [3]. Hypercalcemia, infections and nephrotoxins further aggravate renal dysfunction [3]. MM-related kidney injury is frequently multifactorial and often reversible with timely treatment [4]. In this case, correction



of hypercalcemia and early initiation of Dara-VTd corresponded with renal recovery. Dialysis discontinuation reflects favorable prognostic potential when prompt hematologic control is achieved [5].

Conclusions

This case illustrates the importance of early diagnosis, rapid correction of metabolic disturbances, and initiation of modern anti-myeloma therapy. Coordinated hematology–nephrology management remains pivotal for renal recovery and optimal outcomes in MM.

References

1. Abduh MS. An overview of multiple myeloma: A monoclonal plasma cell malignancy's diagnosis, management, and treatment modalities. Vol. 31, Saudi Journal of Biological Sciences. Elsevier B.V.; 2024. Available from: <https://doi.org/10.1016/j.sjbs.2023.103920>
2. Leung N, Rajkumar SV. Multiple myeloma with acute light chain cast nephropathy. Blood Cancer J. 2023 Dec 1;13(1). Available from: <https://doi.org/10.1038/s41408-023-00806-w>
3. Ștefan G, Cinca S, Chiriac C, Zugravu A, Stancu S. Multiple Myeloma and Kidney Impairment at Diagnosis: A Nephrological Perspective from an Eastern European Country. Medicina (Lithuania). 2023 Jul 1;59(7). Available from: <https://doi.org/10.3390/medicina59071326>
4. Dimopoulos MA, Merlini G, Bridoux F, Leung N, Mikhael J, Harrison SJ, et al. Management of multiple myeloma-related renal impairment: recommendations from the International Myeloma Working Group. Lancet Oncol [Internet]. 2023 Jul 1;24(7):e293–311. Available from: [https://doi.org/10.1016/S1470-2045\(23\)00223-1](https://doi.org/10.1016/S1470-2045(23)00223-1)
5. Rajkumar SV. Multiple myeloma: 2024 update on diagnosis, risk-stratification, and management. Am J Hematol. 2024 Sep 1;99(9):1802–24. Available from: <https://doi.org/10.1002/ajh.27422>

Pulmonary Leiomyomatosis: A Rare Case Report

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Introduction

Pulmonary leiomyomatosis is a very rare disease characterized by the proliferation of smooth muscle cells in the lungs (1). The resulting benign lesions are most commonly found in premenopausal women and are frequently associated with hormonal changes (2).

Case Presentation

A 69-year-old female patient with a history of non-allergic bronchial asthma was first evaluated in 2005 after newly detected pulmonary lesions. Radiological imaging initially suggested multiple pulmonary metastases. Biopsy confirmed the diagnosis of pulmonary leiomyomatosis. In 1998, the patient had undergone hysterectomy for uterine leiomyoma. Following multidisciplinary discussion with oncologists and gynecologists, hormonal therapy was recommended. After several years of treatment, no therapeutic effect was observed. Hormonal therapy was discontinued and the patient remained under clinical surveillance. Over time, she developed a gradual decline in exercise tolerance, prompting pulmonology consultation. In 2025, spirometry revealed persistent significant ventilatory impairment. Chest CT revealed marked radiological progression, the largest pulmonary lesion measuring 11.4×7.1cm. Multidisciplinary evaluation concluded disease progression, with no effective disease-specific treatment available. Therefore, symptomatic management and clinical observation were continued.

Discussion

Pulmonary leiomyomatosis is often considered a form of benign metastasizing leiomyoma. The etiology and pathogenesis remain unclear, with hematogenous dissemination following hysterectomy proposed as a possible mechanism (3). The disease is often



asymptomatic but may present with dyspnea, cough, or chest pain (4,5). Diagnosis requires chest X-ray, CT and histological confirmation to exclude malignancy. Histopathology reveals smooth muscle cells with low mitotic activity (6). The rarity of pulmonary leiomyomatosis precludes standardized treatment protocols, necessitating an individualized approach to patient management (4,7). Overall prognosis is favorable, with low malignant potential (8,9).

Conclusions

Pulmonary leiomyomatosis is typically asymptomatic but can clinically mimic malignant disease. Histological confirmation is essential for diagnosis. Treatment should be individualized based on clinical symptoms and disease progression.

References

1. Bakkensen JB, Samore W, Bortoletto P, Morton CC, Anchan RM. Pelvic and pulmonary benign metastasizing leiomyoma: A case report. *Case Rep Womens Health*. 2018 Apr;18:e00061.
2. Dai HY, Guo SL, Shen J, Yang L. Pulmonary benign metastasizing leiomyoma: A case report and review of the literature. *World J Clin Cases*. 2020 Jul 26;8(14):3082–9.
3. Yang L, Lv C. Leiomyomas beyond the uterus presenting with multiple growth patterns in a single patient. *BMC Womens Health*. 2025 Oct 29;25(1):525.
4. Tirmazy S, Farooq Latif M, Nadir Salih G, Ahmed B, Talib Erabia W. A rare case of pulmonary benign metastasizing leiomyomatosis in a woman with a previous history of hysterectomy for uterine fibroids. *Clinical Medicine*. 2023 Jan;23(1):78–80.
5. Miller J, Shoni M, Siegert C, Lebenthal A, Godleski J, McNamee C. Benign Metastasizing Leiomyomas to the Lungs: An Institutional Case Series and a Review of the Recent Literature. *Ann Thorac Surg*. 2016 Jan;101(1):253–8.
6. Pacheco-Rodriguez G, Taveira-DaSilva AM, Moss J. Benign Metastasizing Leiomyoma. *Clin Chest Med*. 2016 Sep;37(3):589–95.
7. Fan R, Feng F, Yang H, Xu K, Li S, You Y, et al. Pulmonary benign metastasizing leiomyomas: a case series of 23 patients at a single facility. *BMC Pulm Med*. 2020 Dec 10;20(1):292.
8. Tong T, Fan Q, Wang Y, Li Y. Benign metastasizing uterine leiomyoma with lymphatic and pulmonary metastases: a case report and literature review. *BMC Womens Health*. 2023 Apr 1;23(1):154.
9. Ye Z, Wu X, Fang C, Zhu M. Pulmonary Benign Metastasizing Leiomyoma: A Retrospective Analysis of Seven Cases Including a Rare Coexistence with In Situ Mucinous Adenocarcinoma. *Biomedicines*. 2025 Aug 13;13(8):1971.

Tracheobronchopathia Osteochondroplastica as a Rare Cause of Chronic Cough

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Introduction

We present a rare case of Tracheobronchopathia osteochondroplastica (TO), a benign airway disorder with an estimated incidence of 0.01–4.2 per 100 000 people [1,2].

Case Presentation

A 67-year-old woman presented with a six-month history of persistent cough and recurrent respiratory infections. Initial computed tomography (CT) and spirometry were inconclusive. Bronchoscopy revealed firm nodular lesions along the trachea and main bronchi arising from the cartilaginous rings with sparing of the posterior membranous wall. Biopsy was technically difficult and showed only mild chronic inflammation. Despite multiple CT examinations, characteristic findings were recognized only retrospectively. The diagnosis of TO was established based on clinical, bronchoscopic, and retrospective imaging assessment. Conservative management was chosen due to the absence of significant airway obstruction.

Discussion

TO remains a diagnostic challenge due to its nonspecific clinical presentation. Patients commonly present with chronic cough, recurrent respiratory infections, haemoptysis and other nonspecific respiratory symptoms often prompting repeated diagnostic evaluations [3,4]. CT may show cartilaginous tracheal wall thickening with nodular protrusions sparing the posterior membrane. These changes may be recognized only retrospectively due to limited awareness and low specificity. [4,5] Bronchoscopy is the diagnostic gold standard and typically reveals firm whitish nodules arising from the cartilaginous tracheal rings with posterior wall sparing [2,5]. Biopsy is often technically difficult and may be nondiagnostic. Definitive



diagnosis is based on submucosal ossification and cartilaginous tissue formation [3]. TO management is generally conservative, with interventional procedures rarely indicated and reserved for significant airway obstruction [2,3]. Overall, the prognosis of TO is usually favourable, as the disease tends to be non-progressive [5].

Conclusions

TO should be considered in patients with chronic cough or unexplained respiratory symptoms, especially when airway nodules spare the posterior tracheal wall. Increased clinical awareness may reduce diagnostic delay and unnecessary investigations.

References

1. Wang H, Li S, Chen P, Qin Q. Tracheobronchopathia osteochondroplastica: A case report and literature review. *Zhong Nan Da Xue Xue Bao Yi Xue Ban*. 2020;45(2):208–215. doi:10.11817/j.issn.1672-7347.2020.180804.
2. Rana A, Mezughi H, Malik SA, Mansoor K, Al-Astal A. Rare Manifestation of Idiopathic Tracheobronchopathia Osteochondroplastica: Misdiagnosed and Untreated Entity? *Cureus*. 2020;12(7):e9407. doi:10.7759/cureus.9407.
3. Devaraja K, Surendra VU. Clinicopathological Features and Management Principles of Tracheobronchopathia Osteochondroplastica - A Scoping Review. *Indian J Otolaryngol Head Neck Surg*. 2023;75(4):3798–3814. doi:10.1007/s12070-023-03998-6.
4. Devaraja K, Sagar P, Chirom AS. Tracheobronchopathia osteochondroplastica: awareness is the key for diagnosis and management. *BMJ Case Rep*. 2017;2017:10.1136/bcr-220567. doi:10.1136/bcr-2017-220567.
5. Ribeiro GMRe, Natal MRC, Silva EF, Freitas SC, Moraes WC, Maciel FC. Tracheobronchopathia osteochondroplastica: computed tomography, bronchoscopy and histopathological findings. *Radiol Bras*. 2016;49:56–57. doi:10.1590/0100-3984.2014.0056.

Klebsiella pneumoniae: a Liver Abscess Complicated by Bilateral Endophthalmitis, Hydropneumothorax and Sepsis

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Introduction

Klebsiella pneumoniae (Kp) is a well - established Gram - negative pathogen within the Enterobacteriaceae family. Kp has two pathotypes: classical (cKp) and hypervirulent (hvKp). hvKp causes community - acquired infections in otherwise healthy individuals and is the leading cause of pyogenic liver abscess, with potential metastatic complications such as endophthalmitis, meningitis and lung abscesses. This case demonstrates metastatic hvKp infection in a patient without significant comorbidities (1–3).

Case Presentation

A 68 y/o male arrived to the Emergency Department with impaired vision in the right eye, general weakness, nausea, and fever $>38^{\circ}\text{C}$ along with chills that have been present for the last two days. Blood work showed elevated C-reactive protein (CRP 349 mg/L) and liver enzymes 2–3x above normal, bacterial infection of unknown origin was suspected and the patient was hospitalized to the Rheumatology Department. After ophthalmologist's consultation, endophthalmitis was diagnosed, intravenous and intraocular antibiotics as well as glucocorticoid eye drops were prescribed, vitrectomy was performed. Blood culture results indicated beta-lactam-susceptible *K. pneumoniae*, therefore antimicrobial therapy was adjusted and ceftazidime was initiated. As the patient's condition deteriorated with signs of shock, he was transferred to the ICU where sepsis was treated, hepatic abscess and hydropneumothorax were diagnosed. He was later transferred to the surgical ward, where the hepatic abscess was drained. After one week and a decrease in CRP (349 $\rightarrow$ 39), the patient was discharged home.

Discussion

hvKp is an emerging global pathogen, previously endemic in Asia but now increasingly reported worldwide. This case

demonstrates the invasive potential of hvKp, capable of causing metastatic infections. Early ocular symptoms can distract clinicians from noticing signs of severe systemic infection therefore delaying the appropriate diagnosis. Recognition of this rapidly progressive entity is essential for clinicians across all specialties. Early diagnosis and multidisciplinary management are crucial, although optimal treatment strategies remain incompletely defined (2,4,5).

Conclusions

Early recognition and coordinated care are essential in hvKp infection to prevent rapid progression to sepsis and metastatic complications.

References

1. Al Ismail D, Campos-Madueno EI, Donà V, Endimiani A. Hypervirulent *Klebsiella pneumoniae* (hvKp): Overview, Epidemiology, and Laboratory Detection. *Pathog Immun* [Internet]. 2025 [cited 2025 Dec 7];10(1):80. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11792540/>
2. Lee CR, Lee JH, Park KS, Jeon JH, Kim YB, Cha CJ, et al. Antimicrobial resistance of hypervirulent *Klebsiella pneumoniae*: Epidemiology, hypervirulence-associated determinants, and resistance mechanisms. *Front Cell Infect Microbiol* [Internet]. 2017 Nov 21 [cited 2025 Dec 10];7(NOV):483. Available from: <https://www.frontiersin.org/journals/cellular-and-infection-microbiology/articles/10.3389/fcimb.2017.00483/full>
3. Doshi S, Forbes JD, Mubareka S, Andany N. Disseminated hypervirulent *Klebsiella pneumoniae* causing endophthalmitis, and lung and liver abscesses. *CMAJ : Canadian Medical Association Journal* [Internet]. 2022 May 9 [cited 2025 Dec 7];194(18):E645. Available from: <https://www.cmaj.ca/content/194/18/E645>
4. Zhang CG, Wang Y, Duan M, Zhang XY, Chen XY. *Klebsiella pneumoniae* invasion syndrome: a case of liver abscess combined with lung abscess, endophthalmitis, and brain abscess. *J Int Med Res* [Internet]. 2022 Mar 1 [cited 2025 Dec 10];50(3):03000605221084881. Available from: <https://journals.sagepub.com/doi/10.1177/03000605221084881>
5. Chen Y, Gong Y, Song B, Du Y, Cai K. Pyogenic liver abscess complicated with endogenous endophthalmitis caused by *Klebsiella pneumoniae*: A case report and Literature Review. *Immun Inflamm Dis* [Internet]. 2023 Jul 1 [cited 2025 Dec 10];11(7):e943. Available from: <https://onlinelibrary.wiley.com/doi/full/10.1002/iid3.943>

Progressive Visual Loss after HIV Diagnosis and Antiretroviral Therapy Initiation: A Case of Progressive Multifocal Leukoencephalopathy-Associated Immune Reconstitution Inflammatory Syndrome

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Introduction

Progressive multifocal leukoencephalopathy (PML) is a rare opportunistic infection of the central nervous system caused by reactivation of latent John Cunningham virus (JCV). It predominantly affects individuals with severe immunosuppression, particularly patients with advanced HIV infection. Paradoxically, PML may also manifest or worsen following initiation of antiretroviral therapy as part of immune reconstitution inflammatory syndrome (PML-IRIS) (1–3).

Case Presentation

A 53-year-old man presented with dizziness, gait instability, 5 days of fever, and rapidly progressive visual and cognitive impairment. 2 months earlier, he had been hospitalised with *Pneumocystis jirovecii* pneumonia, when HIV infection was diagnosed (HIV-RNA 1.21×10^6 copies/mL; CD4⁺ 8.76 cells/mm³). Mild visual symptoms preceded HIV diagnosis, but initial ophthalmological examination was normal. Combination antiretroviral therapy led to partial immune recovery (HIV-RNA 595 copies/mL; CD4⁺ 177 cells/mm³); however, neurological deterioration prompted further evaluation. Examination revealed apraxia, finger tremor, and a positive Oppenheim reflex. Brain MRI showed extensive irregular non-homogeneous white matter lesions with small contrast-enhancing foci. Cerebrospinal fluid analysis showed lymphocytic pleocytosis, elevated protein (1.228 g/L), and high JCV DNA levels (1.23×10^6 copies/mL), confirming PML. Antiretroviral therapy (BIC/FTC/TAF) was continued; however, severe visual impairment and left-leg sensory deficits persisted.

Discussion

JCV infection is highly prevalent in the general population (20–70%) (3), whereas PML is rare and usually associated with profound immunodeficiency (2,3). Effective antiretroviral therapy is essential but may precipitate PML-IRIS due to an exaggerated inflammatory response. Diagnosis relies on clinical presentation,

characteristic neuroimaging, and detection of JCV DNA in cerebrospinal fluid. Sustained antiretroviral therapy remains the cornerstone of prevention and treatment (1–3).

Conclusions

In the absence of specific antiviral therapy against JCV, early recognition of PML and uninterrupted antiretroviral treatment are critical for improving outcomes. This case highlights the need for continued neurological vigilance in HIV-infected patients, even during immune recovery.

References

1. Kartau M, Sipilä JO, Auvinen E, Palomäki M, Verkkoniemi-Ahola A. Progressive Multifocal Leukoencephalopathy: Current Insights. *DNND*. 2019 Dec 2;9:109–21.
2. Saji AM, Gupta V. Progressive Multifocal Leukoencephalopathy. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 [cited 2025 Dec 19]. Available from: <http://www.ncbi.nlm.nih.gov/books/NBK560584/>
3. Panel on Guidelines for the Prevention and Treatment of Opportunistic Infections in Adults and Adolescents With HIV. Guidelines for the Prevention and Treatment of Opportunistic Infections in Adults and Adolescents with HIV [Internet]. Bethesda (MD): National Institutes of Health; 2025 [cited 2025 Dec 19]. Available from: <https://clinicalinfo.hiv.gov/en/guidelines/adult-and-adolescent-opportunistic-infection>

When Dermatomyositis Lacks Myopathy: A Case of Clinically Amyopathic Dermatomyositis

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Introduction

Clinically amyopathic dermatomyositis (CADM) is a dermatomyositis subtype characterized by typical cutaneous manifestations in the absence of clinically significant muscle weakness for at least six months. Diagnosis may be delayed due to normal muscle enzymes and minimal histopathological changes. CADM is most notably complicated by interstitial lung disease (ILD), with anti-MDA5 positivity strongly associated with rapidly progressive forms, whereas malignancy risk is more broadly emphasized in dermatomyositis overall and specific autoantibody-defined subgroups.

Case Presentation

A 70-year-old woman developed progressive maculopapular rashes spreading from the chest to the face, hands, accompanied by xerosis, arthralgia, fatigue, and significant weight loss. Examination showed a heliotrope rash and Gottron papule, creatine kinase and myoglobin remained normal, objective muscle strength was largely preserved. Myositis-specific antibodies revealed strong anti-MDA5 positivity with coexisting anti-SRP antibodies, without clinical or histopathological features of immune-mediated necrotizing myopathy. Muscle biopsy demonstrated only minimal inflammatory changes, supporting CADM. Pulmonary imaging showed no ILD, malignancy screening revealed no underlying neoplastic disease, and persistent cutaneous involvement required escalation from systemic glucocorticoids (oral prednisolone and intravenous methylprednisolone pulses) to azathioprine.

Discussion

This case underscores the diagnostic challenge of CADM, where classic dermatomyositis skin findings occur despite minimal muscle involvement and subtle biopsy changes. Anti-MDA5 positivity warrants close pulmonary monitoring and prompt escalation of immunosuppression if ILD is suspected, given the risk of rapidly progressive disease. Although no malignancy was detected, baseline screening with continued early follow-up surveillance remains essential.

Conclusions

CADM should be considered in patients with dermatomyositis-type skin lesions, normal muscle enzymes, and no objective muscle

weakness. Anti-MDA5 testing supports risk stratification, while muscle biopsy may aid diagnosis and exclude clinically relevant myopathy. Early immunosuppression with ILD surveillance malignancy screening and follow-up is important to optimize outcomes.

References

1. Patel B, Khan N, Werth VP. Applicability of EULAR/ACR classification criteria for dermatomyositis to amyopathic disease. *J Am Acad Dermatol*. July 2018; 79(1):77-83.e1. <https://doi.org/10.1016/j.jaad.2017.12.055>
2. Rodríguez-Tejero A, López-Espadafor B, Montero-Vílchez T, Sánchez-Díaz M, Arias-Santiago S, Molina-Leyva A. Treatment challenges in clinically amyopathic dermatomyositis: A case series and review of new therapeutic options for skin involvement. *Dermatol Ther*. May 2021; 34(3):e14942. <https://doi.org/10.1111/dth.14942>
3. Inaguma G, Shimada A, Tsunoda J, Matsuzaki T, Nishi T, Seki H, et al. Inflammatory breast cancer associated with amyopathic dermatomyositis: a case report. *Surg Case Rep*. November 2020; 6(1):284. <https://doi.org/10.1186/s40792-020-01066-7>
4. De Jesus AV, De Souza JM. Clinically amyopathic dermatomyositis associated with cutaneous ulcerations: a case-based review. *Ann Med Surg*. February 2024; 86(2):1210-4. <https://doi.org/10.1097/ms9.0000000000001669>
5. Chen C, Chen Y, Huang Q, Hu Q, Hong X. Case Report: Rapidly Progressive Interstitial Lung Disease in A Pregnant Patient With Anti-Melanoma Differentiation-Associated Gene 5 Antibody-Positive Dermatomyositis. *Front Immunol*. 2021; 12:625495. <https://doi.org/10.3389/fimmu.2021.625495>
6. Pan S, Xie H, Wang L, Wang Y, Zou M, Xu Y, et al. Case report: Checkpoint inhibitor pneumonitis with positive anti-melanoma differentiation-associated gene 5 antibodies in a patient with lung cancer. *Front Immunol*. 2023; 14:1309531. <https://doi.org/10.3389/fimmu.2023.1309531>
7. Nakano Y, Nishida K, Okamoto N, Gohma I, Yasuhara Y. Anti-MDA5 Antibody-Positive Clinically Amyopathic Dermatomyositis Associated With Multiple Heterologous Carcinomas: A Case Report. *Cureus*. February 2024; 16(2):e54660. <https://doi.org/10.7759/cureus.54660>
8. Fornaro M, Girolamo F, Giannini M, Coladonato L, Capuano A, Capodiferro M, et al. Clinical, histologic and prognostic features of clinically amyopathic dermatomyositis. *Clin Exp Rheumatol*. February 2024; 42(2):288-94. <https://doi.org/10.55563/clinexprheumatol/kgpnbq>
9. Wang X, De Moll E, Koschitzky M, Shihab N, Khattri S, Phelps R. Clinically amyopathic dermatomyositis: Clinical, laboratory, and histopathological features. *J Cutan Pathol*. October 2024; 51(10):799-806. <https://doi.org/10.1111/cup.14691>
10. Kersey CB, Oshinsky C, Wahl ER, Newman TA. Anti-MDA5 Antibody-Associated Clinically Amyopathic Dermatomyositis: Case Report and Literature Review. *J Gen Intern Med*. December 2021; 36(12):3865-8.



Unexplained Recurrent Rash in a Child: an Atypical Presentation of *Mycoplasma pneumoniae* Infection

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Introduction

Mycoplasma pneumoniae is a common respiratory pathogen and a frequent cause of community-acquired pneumonia. Rarely, this bacterium can cause extrapulmonary manifestations, including mucocutaneous involvement. [1] We report a clinical case of *M. pneumoniae* infection causing recurrent rashes resembling lupus erythematosus and erythema infectiosum, highlighting the need to consider this pathogen in unexplained cutaneous eruptions.

Case Presentation

An 8-year-old girl developed eye irritation followed by a red, symmetrical rash spreading from her face to the limbs over several days. Recurrent erythematous plaques appeared weekly, each episode lasting three days. Antihistamine therapy was ineffective. No systemic symptoms or fever were observed, the mucous membranes remained unaffected. Cutaneous lupus erythematosus and parvovirus B19 infection were considered in the differential diagnosis, but subsequent laboratory investigations were negative. A complete blood count showed no significant abnormalities, however, extended laboratory testing revealed positive *M. pneumoniae* IgM antibodies. Antibacterial therapy with clarithromycin was initiated. Long-term follow-up was unavailable, as the patient did not return due to clinical improvement.

Discussion

About 25% of *M. pneumoniae* infections manifest with cutaneous eruptions. [2] The factors determining the presentation and severity of *M. pneumoniae*-related cutaneous disease remain unclear. The condition is considered immune-mediated, with immune complex



formation causing tissue injury. [3] These clinical cases are highly variable, ranging from non-specific rash to toxic epidermal necrolysis. Despite the different manifestations, they may occur during active or asymptomatic infection. [4] The most common cutaneous presentation is a non-specific exanthem [2], which begins as a single macule and may spread to the face and limbs, usually resolving within 2-22 days. [4]. *M. pneumoniae* infection is usually treated with macrolides and cutaneous lesions can be managed symptomatically with topical emollients. [5]

Conclusions

An awareness of the presentations of *M. pneumoniae* as a cutaneous disease is essential, as they may occur at any stage of the disease and be mistaken for other conditions. A high index of suspicion is important for timely diagnosis and appropriate treatment.

References

1. Frantz GF, McAninch SA. *Mycoplasma pneumoniae*-Induced Rash and Mucositis (MIRM) [Internet]. 2024 Apr 28 [cited 2025 Dec 17]
2. Silva KRPD, Sardini Covello Giaccio R, Martins de Aquino B, Abellan Van Moorsel M, Mazziere Pires F, Hélène CM, Hélène SMF. Mucocutaneous disease: a child with extrapulmonary manifestation of mycoplasma infection. *Einstein (Sao Paulo)*. 2025 Jun 13
3. Rodman Berlot J, Mrvic T, Kosnik M, Kese D. The association between *Mycoplasma pneumoniae* genotype and cutaneous disease. *Microorganisms*. 2023;11(1):205. doi:10.3390/microorganisms11010205
4. Podraza Z, Durmaj A, Papierzewska M, Czuwara J, Rudnicka L. The role of *Mycoplasma pneumoniae* in dermatological diseases. *Dermatology Review/Przegląd Dermatologiczny*. 2024;111(1):39-46. doi:10.5114/dr.2024.140803.
5. Mahon C, Coulson I. *Mycoplasma pneumoniae* infection. *DermNet NZ* [Internet]. 2022 [cited 2025 Dec 17]. Available from: <https://dermnetnz.org/topics/mycoplasma-pneumoniae-infection>

Legionella pneumophila pneumonia in an adult patient: a case report

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Introduction

Legionella pneumophila is a frequent cause of atypical community-acquired pneumonia and may present with extrapulmonary manifestations, such as gastrointestinal or neurological symptoms, which can complicate early diagnosis and delay appropriate treatment [1,2].

Case Presentation

An elderly patient presented with a fever up to 39 °C, cough, right-sided back pain localized to the lower rib area, general weakness, and diarrhea during the preceding 24 hours. Upon initial hospitalization, lung auscultation revealed mild vesicular breath sounds with fine moist crackles, while laboratory tests showed elevated CRP and neutrophilia. Chest imaging demonstrated infiltrates in the left lower lung. Legionella urinary antigen was tested and confirmed, and empirical therapy with cefotaxime and clarithromycin was initiated. The patient was later transferred to the infectious diseases unit for further management. On arrival at the infectious diseases unit, additional laboratory tests revealed elevated procalcitonin, slightly increased D-dimer, and mild acute kidney injury. Empirical therapy with amoxicillin/clavulanate and later ampicillin/sulbactam was started. After Legionella was confirmed, targeted therapy with clarithromycin was resumed. The patient's clinical condition and laboratory parameters gradually improved, and she was discharged in stable condition.

Discussion

This case highlights the challenge of Legionella pneumophila pneumonia in elderly patients, with prominent extrapulmonary symptoms and mild respiratory findings[2,3]. Such presentations can delay suspicion and appropriate therapy [4]. Empirical coverage



with beta-lactams alone may be insufficient; macrolides or fluoroquinolones should be considered in severe community-acquired pneumonia with extrapulmonary features[5]. Early microbiological testing and timely initiation of targeted therapy contributed to clinical improvement [4].

Conclusions

This case demonstrates the importance of recognizing extrapulmonary manifestations and collecting a detailed exposure history, such as recent visits to swimming pools or other water sources. Empirical treatment in severe pneumonia should include a macrolide or fluoroquinolone in addition to a beta-lactam to ensure adequate coverage.

References

1. Cunha BA, Burillo A, Bouza E. Legionnaires' disease. The Lancet [Internet]. 2016 Jan 23 [cited 2025 Dec 18];387(10016):376–85. Available from: <https://www.thelancet.com/action/showFullText?pii=S0140673615600782>
2. Beekman RRAL, Duijkers RR, Snijders DD, van der Eerden MM, Kross MM, Boersma WWG. Validating a clinical prediction score for Legionella-related community acquired pneumonia. BMC Infect Dis [Internet]. 2022 Dec 1 [cited 2025 Dec 18];22(1):442. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC9081661/>
3. Bai L, Yang W, Li Y. Clinical and Laboratory Diagnosis of Legionella Pneumonia. Diagnostics [Internet]. 2023 Jan 1 [cited 2025 Dec 18];13(2):280. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC9858276/>
4. Henry C, Boethel C, Copeland LA, Ghamande S, Arroliga AC, White HD. Clinical utility of testing for legionella pneumonia in central Texas. Ann Am Thorac Soc [Internet]. 2017 Jan 1 [cited 2025 Dec 18];14(1):65–9. Available from: <https://www.atsjournals.org/doi/pdf/10.1513/AnnalsATS.201606-501BC?download=true>
5. Viasus D, Gaia V, Manzur-Barbur C, Carratalà J. Legionnaires' Disease: Update on Diagnosis and Treatment. Infect Dis Ther [Internet]. 2022 Jun 1 [cited 2025 Dec 18];11(3):973–86. Available from: <https://pubmed.ncbi.nlm.nih.gov/35505000/>

Spondylodiscitis Caused by *Candida albicans* in HIV-Infected Patient: A Case Report

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Introduction

Spondylodiscitis is a form of osteomyelitis that affects the intervertebral discs and adjacent vertebrae [1]. The incidence of fungal infections has been increasing in parallel with the growing number of immunocompromised patients [2].

Case Presentation

A 49-year-old male patient presented with fever, lumbar and leg pain. Medical history was significant for HIV infection and diabetes mellitus. He had previously been diagnosed with sepsis, with *Candida albicans* isolated from blood cultures. The patient had an HIV RNA viral load of 3.06×10^5 copies/mL and a CD4 cell count of 187 cells/mL. The patient is being treated with bicitgravir, emtricitabine, and tenofovir alafenamide. Lumbar MRI revealed destruction of the L4 and L5 vertebral bodies, complicated by epiduritis, as well as infection of the facet joints. The patient had been treated empirically with antibacterial therapy, however, clinical improvement was observed only after initiation of fluconazole therapy. After a period of improvement, following four months of treatment, the patient self-discontinued therapy, and the symptoms recurred. Due to persistent pain and the development of lower limb numbness, surgical treatment was indicated. Posterior spinopelvic fixation was performed, followed by revision surgery with L4/5 abscessotomy, spondylodesis was subsequently carried out. Histology and blood cultures confirmed persistent fungal infection. Postoperatively, the patient's leg pain and numbness resolved. Antifungal therapy was continued for 12 months.

Discussion

Individuals with reduced CD4 counts are at increased risk of infection and tend to

experience a more severe disease course [3]. In HIV patients *Candida* spondylodiscitis occurs more frequently and requires prolonged, targeted antifungal therapy compared to immunocompetent individuals [4]. However, studies have shown that prolonged therapy of osteoarticular infections beyond 12 weeks does not improve outcomes, and antibiofilm agents like liposomal amphotericin B or echinocandins show no clear benefit [5].

Conclusions

Spondylodiscitis caused by *Candida* spp. requires long-term antifungal therapy, especially in HIV patients. Even with surgical intervention, fluconazole remains an effective treatment for *Candida* bone infections.

References

1. Babic M, Simpfendorfer CS. Infections of the spine. *Infect Dis Clin North Am*. 2017;31:279–97.
2. Lima D, Lopes N, Pereira AL, Rodrigues D, Amaral-Silva M, Marques E. Diagnosis and treatment of spondylodiscitis: insights from a five-year single-center study. *Cureus*. 2024;16(11):e74192.
3. Pantazis N, Paparizos V, Papastamopoulos V, Metallidis S, Antoniadou A, Adamis G, et al. Low pre-ART CD4 count is associated with increased risk of clinical progression or death even after reaching 500 CD4 cells/ μ L on ART. *PLoS One*. 2023;18(3):e0283648.
4. Adelhoefer SJ, Gonzalez MR, Bedi A, et al. *Candida* spondylodiscitis: a systematic review and meta-analysis of seventy two studies. *Int Orthop*. 2024;48(1):5–20.
5. Dinh A, McNally M, D'Anglejan E, et al. Prosthetic Joint Infections due to *Candida* Species: A Multicenter International Study. *Clin Infect Dis*. 2025;80(2):347-355.

Tularemia Presenting as Regional Lymphadenopathy: A Case Report

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Introduction

Tularemia is a zoonotic infection caused by *Francisella tularensis*, a Gram-negative bacterium transmitted via various wild animals and arthropods (ticks, mosquitoes). Clinical manifestations vary with the route of transmission, with the most common form being (ulcero-) glandular.

Case Presentation

A 66-year-old woman presented to a family physician with enlarged lymph nodes in the right groin without fever or signs of lower-extremity skin or soft tissue infection. The patient recalled experiencing lower leg swelling one month earlier following an insect bite to the calf. Other causes of lymphadenopathy were excluded, including lower pelvic and urogenital infections, toxoplasmosis, syphilis, HIV infection, and Lyme disease. Ultrasonography of the right inguinal region revealed a $\sim 4.5 \times 1.8$ cm lymph node with a heterogeneously thickened cortex up to ~ 1.0 cm. Lymph node biopsy showed no histopathological evidence of malignancy. Due to persistent unexplained regional lymphadenopathy, the patient was additionally evaluated by an infectious disease specialist. Definitive diagnosis was achieved serologically by the detection of *F. tularensis*-specific IgG, IgM, and IgA antibodies. Subsequent to cutaneous inoculation, the patient developed glandular tularemia, characterized by prominent regional lymphadenopathy. The patient achieved full clinical remission after a 21-day course of doxycycline.

Discussion

Multiple routes of transmission and a variety of clinical presentations - including ulceration, conjunctivitis, tonsillitis, hepatosplenomegaly, polymorphic pneumonia, and persistent fever - render differential diagnosis challenging. This case

illustrates that tularemia can present with regional lymphadenopathy without systemic signs of infection, such as fever, hypotension, tachycardia, vomiting and headache, which are commonly observed in all forms of tularemia. Although tularemia is rare in Europe (1,185 cases in 2023), an increasing trend in incidence has been noted.

Conclusions

The combination of diverse clinical manifestations and low incidence makes tularemia diagnostically challenging; therefore, it should be considered in patients presenting with unexplained lymphadenopathy, particularly when epidemiological criteria are met and confirmed by microbiological testing for *F. tularensis*.

References

1. Müller SE, Schneitler S, Zange S, Linxweiler M, Simon A, Thurner L, Becker SL. Clinical characteristics of and diagnostic approaches to human *Francisella tularensis* infection: a retrospective, monocentric case study from Germany. *Ticks Tick Borne Dis.* 2025;16(4):102492.
2. National Public Health Center under the Ministry of Health. Tularemia [Internet]. Vilnius: National Public Health Center; [cited 2025 Jan 20]. Available from: <https://nvsc.lrv.lt/lt/uzkreciamuju-ligu-valdymas/uzkreciamosios-ligos/ligu-aprasai-pagal-abecle/t/tuliaremija/>
3. European Food Safety Authority; European Centre for Disease Prevention and Control. The European Union One Health 2023 zoonoses report. Parma; Rome: EFSA, ECDC; 2024.
4. Antonello RM, Giacomelli A, Riccardi N. Tularemia for clinicians: an up-to-date review on epidemiology, diagnosis, prevention and treatment. *Eur J Intern Med.* 2025;135:25-32.

Bacterial Osteomyelitis Associated with Bone Echinococcosis: Case Report

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Introduction

Bone echinococcosis is a rare form of echinococcal infection, accounting for 0.5%-4% of all cases. It mostly results from cystic echinococcosis caused by *Echinococcus granulosus*, while alveolar echinococcosis caused by *E. multilocularis* was less reported. Bone lesions involve the spine, pelvis or long bones. Prolonged inflammation or prior orthopedic procedures increase secondary infection risk, leading to chronic osteomyelitis and a complex clinical course.

Case Presentation

A 44-year-old patient with hepatic alveolar echinococcosis and secondary involvement of the sternum and lungs developed a draining sternal fistula. Deep tissue cultures grew *Staphylococcus aureus* and *Corynebacterium amycolatum*. The infection was treated with doxycycline. After discontinuation, recurrent fever and soft tissue infection were observed. CT showed destruction of the sternum and the second left rib. Albendazole therapy was continued. Radical surgery or surgical debridement with microbiological sampling is being considered. If managed non-surgically, long-term suppressive therapy with doxycycline or trimethoprim-sulfamethoxazole will be used.

Discussion

In the literature, the most common sites of bone involvement were the femur, the pelvis and the thoracic spine. Secondary infection was confirmed in several reports, with isolated pathogens including *Staphylococcus epidermidis*, *Staphylococcus aureus*, *Pseudomonas aeruginosa* and *Corynebacterium tuberculostrictum*. In some cases, cultures remained sterile, but clinical and radiological findings showed chronic osteomyelitis. Treatment in all reports combined anthelmintic and antibacterial agents, and surgery. Albendazole was the most used anthelmintic (sometimes with praziquantel) or mebendazole. Antibacterial treatment included ciprofloxacin, rifampicin, amikacin, piperacillin-tazobactam, vancomycin, clindamycin, flucloxacillin and trimethoprim-sulfamethoxazole. Osteomyelitis care follows standard principles, but when bone echinococcosis is present, a complex multidisciplinary approach is needed.

Conclusions

Bone echinococcosis with bacterial osteomyelitis is rare, but clinically crucial. Management requires long-term anthelmintic and antibacterial therapy with individualized surgical planning. Despite advances in treatment, relapse remains frequent.

References

1. Steinmetz S, Racloz G, Stern R, Dominguez D, Al-Mayahi M, Schibler M, et al. Secondary bacterial infection of bone hydatid disease: a diagnostic and therapeutic challenge. *J Antimicrob Chemother.* 2013;68(8):1907-1911.
2. Paul N, Roy AC. Chronic Osteomyelitis Secondary to Hydatid Disease of Bone - A Case Report. *J Orthop Case Rep.* 2022 Jun;12(6):82-85. doi: 10.13107/jocr.2022.v12.i06.2876. PMID: 37065523; PMCID: PMC10092398.
3. Jain E, Punia RS, Bhattacharya A, Garg S. Hydatid disease of bone complicated by chronic osteomyelitis. *Ann Pathol Lab Med.* 2019;6(12):C133-C135.

Acute Kidney Injury Due to Urinary Bladder Rupture

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Introduction

Urinary bladder rupture is a disruption of the bladder wall integrity, resulting in the extravasation of urine into surrounding tissues, the peritoneal cavity. Such injuries are rare: 1,6% of bladder ruptures occur due to blunt abdominal trauma. Most bladder injuries are extraperitoneal (~60%). Mortality rates reaching up to 15% [1–3].

Case Presentation

A 61 year old man presented with progressive abdominal distension and pain, persisting for one month after umbilical hernia surgery. Five days prior to admission, the patient sustained an abdominal contusion, which intensified the pain, increased abdominal distention and progressively lead to anuria. Abdominal ultrasonography demonstrated massive ascites. Diagnostic and therapeutic paracentesis yielded 7 liters of yellow, turbid fluid. Due to acute kidney injury, urgent hemodialysis was initiated. Suspecting bladder rupture, urgent cystography, two view x-rays and contrast enhanced CT were performed, showing no bladder defects, thus emergency surgical intervention for bladder rupture was not indicated. As a contained or partially obscured bladder rupture could not be definitively excluded, a diagnostic paracentesis was performed, results showed markedly elevated creatinine concentration. Foley catheter was inserted and recommended to remain for 7 days. On follow-up abdominal distension remained stable, renal function fully recovered and no infectious complications were observed. The patient was advised to continue catheterization for 10 days and to initiate UTI prophylaxis with oral nitrofurantoin. The patient was discharged for outpatient management.



Discussion

Bladder rupture may present as acute kidney injury with vague signs such as abdominal distension, pain and oliguria even in the absence of hematuria. Urine leakage into the peritoneal cavity leads to ascites rich in metabolic waste, which diffuses into the bloodstream, causing elevated nitrogenous waste levels and pseudo-renal failure. In cases of anuria with elevated ascitic fluid creatinine despite negative imaging, urinary ascites should be suspected. Prompt bladder drainage typically normalizes laboratory values in 24–72 hours. Delayed diagnosis may result in sepsis and even death [4–6].

Conclusions

Ascitic creatinine identifies acute kidney injury after suspected bladder trauma, even with negative imaging.

References

1. Barnard J, Overholt T, Hajiran A, Crigger C, Jessop M, Knight J, et al. Traumatic bladder ruptures: a ten-year review at a level 1 trauma center. *Adv Urol*. 2019;2019:2614586. doi:10.1155/2019/2614586.
2. Sahai A, Ali A, Barratt R, Belal M, Biers S, Hamid R, et al. British Association of Urological Surgeons (BAUS) consensus document: management of bladder and ureteric injury. *BJU Int*. 2021;128(5):539–47. doi:10.1111/bju.15404.
3. Reddy D, Laher AE, Lawrentschuk N, Adam A. Spontaneous (idiopathic) rupture of the urinary bladder: a systematic review of case series and reports. *BJU Int*. 2023;131(6):660–74. doi:10.1111/bju.15974.
4. Yu T, Cai C, Shi J, Jiang YJ. Spontaneous bladder rupture induced pseudo-acute kidney injury: a case report and literature review. *Medicine (Baltimore)*. 2025;104(44):e45558. doi:10.1097/MD.00000000000045558.
5. Qiao P, Tian D, Bao Q. Delayed diagnosis of spontaneous bladder rupture: a rare case report. *BMC Womens Health*. 2018;18(1):124. doi:10.1186/s12905-018-0616-y.
6. Matsumura M, Ando N, Kumabe A, Dhaliwal G. Pseudo-renal failure: bladder rupture with urinary ascites. *BMJ Case Rep*. 2015;2015:bcr2015212671. doi:10.1136/bcr-2015-212671.

Early Recognition and Treatment of Immune-Mediated Necrotizing Myopathy: a Case Report

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Introduction

Immune-mediated necrotizing myopathy (IMNM) is a rare condition characterized by muscle inflammation, causing muscle weakness, pain, and fatigue, and if left untreated, it can lead to irreversible damage [1]. We present a successful case of myositis diagnosis and treatment, emphasizing the importance of early recognition and intervention.

Case Presentation

A 73-year-old male presented with several days lasting muscle strain, profuse nocturnal sweating, and poor sleep quality. Laboratory investigations revealed a marked elevation in serum levels of creatine kinase (CK) 26063 (IU/l) and hepatic transaminases AST 1777 (IU/l), ALT 406 (IU/l). The patient's medical history was significant for statin use, which he was taking for about a month, raising a strong suspicion of statin-induced IMNM. Consequently, methylprednisolone therapy was initiated and statin use was discontinued. Ultrasound examination of the muscles demonstrated findings consistent with active muscle injury and inflammatory myopathy. Positive HMGR IgG antibodies were found. Following clinical stabilization, the patient was discharged in a stable condition with serum levels of creatine kinase (CK) 238 (IU/l), hepatic transaminases AST 48 (IU/l) and ALT 139 (IU/l) for further outpatient follow-up.

Discussion

IMNM is a rare type of autoimmune myopathy characterized by proximal muscle weakness, high levels of creatine kinase and necrotic myofibers, which was observed in this case [1]. Recent studies have detected autoantibodies directed against the 3-



hydroxy-3-methylglutaryl-CoA reductase (HMGCR), and since HMGCR is the pharmacological target of statins, it is believed that IMNM may be associated with statin use [2,3]. Diagnosis of IMNM is based on patient presenting with proximal muscle weakness, high serum CK level and positive antibodies [4]. First-line treatment includes immunosuppressive therapy with glucocorticoids combined with immune globulin (IVIG) or methotrexate, additionally, discontinuation of previously used statin [4,5].

Conclusions

Early recognition of IMNM and intervention are essential to prevent irreversible muscle damage and improve outcomes. This case demonstrates that timely diagnosis, withdrawal of statin therapy, and appropriate immunosuppressive treatment can lead to significant clinical recovery.

References

1. Pinal-Fernandez I, Casal-Dominguez M, Mammen AL. Immune-Mediated Necrotizing Myopathy. *Curr Rheumatol Rep* [Internet]. 2018 Apr 1;20(4):21. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC6019613/>
2. Julien S, Challier I, Malleter M, Jouen F, Drouot L, Boyer O. Immune-Mediated Necrotizing Myopathy (IMNM): A Story of Antibodies. *Antibodies (Basel)* [Internet]. 2024 Mar 1;13(1). Available from: <https://pubmed.ncbi.nlm.nih.gov/38390873/>
3. Clinical manifestations and diagnosis of immune-mediated necrotizing myopathy - UpToDate [Internet]. Available from: <https://www.uptodate.com/contents/clinical-manifestations-and-diagnosis-of-immune-mediated-necrotizing-myopathy>
4. Mohassel P, Mammen AL. Anti-HMGCR Myopathy. *J Neuromuscul Dis* [Internet]. 2018;5(1):11–20. Available from: <https://pubmed.ncbi.nlm.nih.gov/29480216/>
5. Treatment of immune-mediated necrotizing myopathy - UpToDate [Internet]. Available from: <https://www.uptodate.com/contents/treatment-of-immune-mediated-necrotizing-myopathy>

Histology-Guided Management of Granulomatosis with Polyangiitis Leading to Successful Kidney Transplantation

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Introduction

Granulomatosis with polyangiitis (GPA) is an ANCA-associated vasculitis (AAV) frequently involving the respiratory tract and kidneys [1]. Renal biopsy is essential for diagnosis and follow-up, particularly in complex cases [2].

Case Presentation

A 33-year-old male presented in 2018 with trigeminal neuralgia, followed by progressive multisystem manifestations, including polyarthralgia, dyspnea, epistaxis, hemoptysis, ocular inflammation, febrile episodes, and necrotic skin lesions. Initial evaluation revealed progressive renal dysfunction with a clinical picture consistent with rapidly progressive ANCA-associated pauci-immune glomerulonephritis. Therefore, a renal biopsy was performed, demonstrating focal necrotizing and crescentic pauci-immune glomerulonephritis, confirming the diagnosis of GPA with renal and pulmonary involvement, complicated by respiratory failure and acute kidney injury requiring temporary hemodialysis. Immunosuppressive therapy induced disease remission, enabling discontinuation of dialysis, although chronic kidney disease persisted. Six years later, progressive renal dysfunction led to repeat renal biopsy revealing lesions suspicious for papillary renal neoplasia. In the context of renal dysfunction and to exclude malignancy as part of transplant evaluation, a left nephrectomy was performed. Histopathology revealed multiple papillary adenomas with no evidence of malignancy. Despite sustained remission, renal function continued to deteriorate, necessitating hemodialysis. Subsequently, the patient underwent successful living-donor kidney transplantation, with good graft function and discontinuation of hemodialysis.

Discussion

The etiology and pathogenesis of AAV are multifactorial and influenced by both genetic and environmental factors, as well as innate and adaptive immune system responses [3].



This case highlights the value of repeat kidney biopsy in distinguishing active vasculitis from chronic damage. Histologic assessment frequently alters clinical decisions, guiding therapy and transplant evaluation in complex GPA [4].

Conclusions

Repeat biopsy guided GPA management by distinguishing active disease and excluding malignancy, with sustained remission enabling successful kidney transplantation and highlighting the value of repeated histologic assessment.

References

1. Vanoli J, Riva M, Vergnano B, D'Andrea G, L'Imperio V, Pozzi MR, et al. Granulomatosis with polyangiitis presenting with diffuse alveolar hemorrhage requiring extracorporeal membrane oxygenation with rapid multiorgan relapse: A case report. *Medicine (United States)* [Internet]. 2017;96(13).
2. Long X, Yang X, Yao S, Wu J. Outcomes of Renal Transplantation in ANCA-Associated Vasculitis. *Ann Transplant* [Internet]. 2024 Mar 26;29.
3. Zhao WM, Wang ZJ, Shi R, Zhu YY, Zhang S, Wang RF, et al. Environmental factors influencing the risk of ANCA-associated vasculitis. *Frontiers in Immunology* [Internet]. 2022 Sep 2;13. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9479327/>
4. Chapman GB, Farrah TE, Chapman FA, Pugh D, Bellamy COC, Lahiri R, et al. Utility of interval kidney biopsy in ANCA-associated vasculitis. *Rheumatology* [Internet]. 2021 Sep 10;61(5):1966–74.

Donor-Origin Urolithiasis in Kidney Transplantation: A Clinical Case

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Introduction

Kidney transplantation is the preferred treatment for patients with advanced chronic kidney disease, including those with CKD stages G4–G5 [1]. Donor-origin urolithiasis is a rare complication, described as stones that are already present in the donor kidney. As the number of transplants increases, awareness of potential complications is crucial [2].

Case Presentation

A 58-year-old man with end-stage renal disease due to biopsy-confirmed IgA nephropathy, underwent deceased-donor kidney transplantation on 22–23 March 2022. The early postoperative course was unremarkable, serum creatinine decreased by 50% on day 2 after transplantation, and he no longer required hemodialysis. Ultrasound evaluation of the transplanted kidney showed no dilatation of the collecting system. The patient was discharged home on postoperative day 14. In September 2022, during a routine follow-up visit, progressive hydronephrosis of the graft was noted. The patient was asymptomatic. Due to the increasing hydronephrosis of Tx kidney on ultrasound, a CT scan was performed and revealed a radiopaque calculus at the pelviureteric junction of the transplanted kidney, consistent with a donor-derived stone that had gone unrecognized at the time of transplantation. A mini-percutaneous nephrolithotomy (mini-PCNL) was performed with complete stone removal. Postoperatively, graft function remained stable.

Discussion

Post-operative urolithiasis after kidney transplantation is relatively uncommon, with reported incidence of 0.1% to 6.3% [3]. Stones may be donor-derived or form de novo [3–6]. In general, donors with recurrent stone disease or metabolic abnormalities are excluded, although stones less than 4 mm could be left in situ [4]. Most of the time, there is no



common colic pain because of the denervation of the kidney and ureter graft [5]. Typically it is diagnosed accidentally 12 months or more post-transplant. Lithiasis has different treatment options, namely active surveillance, ureteroscopy, percutaneous/combined approach, or open surgery [3].

Conclusions

Regular follow-up of kidney transplant recipients is essential, as graft complications may develop silently. Early detection through routine imaging allows timely intervention and preserves function of kidney transplants.

References

1. Chadban SJ, Ahn C, Axelrod DA, Foster BJ, Kasiske BL, Kher V, et al. KDIGO Clinical Practice Guideline on the Evaluation and Management of Candidates for Kidney Transplantation. Transplantation [Internet]. 2020 Apr 1 [cited 2026 Jan 26];104(4):S11–103. Available from: https://journals.lww.com/transplantjournal/fulltext/2020/04001/kdigo_clinical_practice_guideline_on_the.9.aspx
2. Solano C, Corrales M, Panthier F, Doizi S, Traxer O. Comprehensive Approaches to Urolithiasis in Renal Transplants: A Narrative Review. J Clin Med [Internet]. 2024 Jul 1 [cited 2025 Dec 2];13(14):4268. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11278228/>
3. Piana A, Basile G, Masih S, Bignante G, Uleri A, Gallioli A, et al. Kidney stones in renal transplant recipients: A systematic review. Actas Urol Esp [Internet]. 2024 Jan 1 [cited 2025 Nov 28];48(1):79–104. Available from: <https://pubmed.ncbi.nlm.nih.gov/37574010/>
4. Harraz AM, Kamal AI, Shokeir AA. Urolithiasis in renal transplant donors and recipients: An update. International Journal of Surgery [Internet]. 2016 Dec 1 [cited 2025 Nov 28];36(PD):693–7. Available from: <https://www.sciencedirect.com/science/article/pii/S174391911631041X>
5. Branchereau J, Timsit MO, Neuzillet Y, Bessède T, Thuret R, Gigante M, et al. Management of renal transplant urolithiasis: a multicentre study by the French Urology Association Transplantation Committee. World Journal of Urology 2017 36:1 [Internet]. 2017 Oct 22 [cited 2025 Nov 28];36(1):105–9. Available from: <https://link.springer.com/article/10.1007/s00345-017-2103-8>
6. Kanbay M, Copur S, Bakir CN, Hatipoglu A, Sinha S, Haarhaus M. Management of de novo nephrolithiasis after kidney transplantation: a comprehensive review from the European Renal Association CKD-MBD working group. Clin Kidney J [Internet]. 2024 Feb 1 [cited 2025 Nov 28];17(2). Available from: <https://pubmed.ncbi.nlm.nih.gov/38410685/>

Acute Kidney Injury Due to Statin-Induced Rhabdomyolysis: A Case Report

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Introduction

Rhabdomyolysis is a syndrome characterized by muscle necrosis and the release of intracellular muscle constituents into the circulation. Muscle pain, general weakness and dark urine are predominant symptoms. Laboratory findings include elevated creatine kinase levels and myoglobinuria [1]. Rhabdomyolysis is likely multifactorial, with statin therapy being one of the contributing factors [2].

Case Presentation

A 52-year-old female presented with anuria, generalized weakness and oedema. Her past medical history included a two-year history of arterial hypertension, dyslipidemia, treated with valsartan/ rosuvastatin (160/10 mg), as well as hypophyseal nanism, diagnosed in childhood. Laboratory findings revealed elevated serum creatinine (556 $\mu\text{mol/L}$), urea (38.8 mmol/L), severe hyperkalemia (8.3 mmol/L), and increased liver enzymes levels, with no evidence of anemia. Renal imaging demonstrated kidneys of normal size. Severe acute kidney injury was diagnosed based on a serum creatinine level of 66 $\mu\text{mol/L}$ measured one month earlier, and hemodialysis treatment was initiated. Renal biopsy showed acute focal tubular necrosis with interstitial nephritis and evidence of myoglobinuria. Subsequent laboratory testing showed markedly elevated creatine kinase (9804 IU/L) and myoglobin levels (11647 $\mu\text{g/L}$). A diagnosis of statin-associated acute rhabdomyolysis complicated by acute kidney injury was established. Rosuvastatin therapy was initiated two months before the onset of symptoms and subsequently discontinued. After 25 days of hospitalization, kidney function improved, and the patient was transferred to the rheumatology department for further management of myopathy.



Discussion

Statin-induced rhabdomyolysis is a rare but life-threatening condition and untreated it may lead to acute kidney injury and death [3]. Accurate diagnosis is often challenging because the presenting symptoms are frequently nonspecific and the potential role of statins may be overlooked.

Conclusions

This clinical case illustrates that, although statins play a beneficial role in clinical practice, they may be associated with adverse effects such as muscle injury. Even when nonspecific symptoms occur in patients receiving statin therapy, close monitoring and timely modification of treatment are required to prevent irreversible kidney and muscle damage.

References

1. Bhai S, Dimachkie MM. Rhabdomyolysis: Clinical manifestations and diagnosis. UpToDate. 2024. Available from: <https://www.uptodate.com>
2. Morris R, Bu K, Han W, Wood S, Hernandez Velez PM, Ward J, Crescitelli A, Martin M, Cheng F. The association between statin drugs and rhabdomyolysis: an analysis of FDA Adverse Event Reporting System (FAERS) data and transcriptomic profiles. *Genes*. 2025;16(3):248.
3. Camerino GM, Tarantino N, Canfora I, De Bellis M, Musumeci O, Pierno S. Statin-Induced Myopathy: Translational Studies from Preclinical to Clinical Evidence. *Int J Mol Sci*. 2021;22(4):2070.

A Rare Metastatic Route in Prostate Cancer: A Case Report

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Introduction

Testicular metastasis from prostate cancer (PCa) is an extremely rare phenomenon mostly observed in patients with high-grade disease. It occurs in approximately 0.5% of patients with metastatic disease.

Case Presentation

We present a 63-year-old man with a history of locally advanced PCa (cT3bN1M0) characterized by pure adenocarcinoma, ISUP Grade Group 3, and an initial PSA of 11.8 ng/mL. The patient underwent external beam radiation therapy (50 Gy /25 fr), high-dose-rate brachytherapy (9 Gy/2 fr) and ADT with a PSA nadir of 0.07 ng/mL. Five months after completing ADT, the PSA level began to rise to 3.28 ng/mL. CT and prostate MRI revealed a heterogeneous contrast-enhancing mass within the left testis, resembling a primary testicular tumor. Testicular cancer tumor markers were normal. The patient underwent left radical orchiectomy. Histopathological and immunohistochemical analysis confirmed a high-grade metastatic prostate adenocarcinoma with cribriform growth pattern (ISUP Grade Group 5). Following the surgery, PSA level dropped to 0.04 ng/mL and remained stable for nearly two years, with a recent slight rise to 0.38 ng/mL. CT, MRI and bone scintigraphy have shown no evidence of recurrence. ADT is planned if PSA rises.

Discussion

Testicular metastasis in PCa may present either as an isolated lesion or as a part of widespread metastatic involvement. The interval between definitive treatment and the development of testicular metastasis can vary widely, ranging from several months up to 22 years. Clinically, testicular involvement may be asymptomatic or manifest as a painful



palpable mass, swelling, or even mimic orchitis. The introduction of PSMA/PET-CT has proven particularly valuable in such cases, demonstrating high sensitivity in detecting metastatic lesions even at rare sites. The primary management approach is radical orchiectomy, with most reported cases of isolated testicular metastasis subsequently managed with ADT. However, in our case, ADT was not initiated immediately; instead, the patient was placed under close biochemical surveillance, potentially avoiding or delaying the systemic therapy and its adverse effects.

Conclusions

This case highlights the rarity of testicular metastasis from PCa and suggests that vigilant monitoring of PSA level may be a suitable alternative to immediate systemic therapy in selected patients.

References

1. Tabibi A, Zabihi MS, Najarian M, Dadpour M. Isolated testicular metastasis from prostate cancer following three years of hormone therapy and radiotherapy. *Urol Case Rep.* 2025 May 27;61:103080.
2. Waraich TA, Khalid SY, Aslam A, Lizarralde C, Jaffry S. Isolated Testicular Metastasis From Prostate Cancer: A Rare Presentation 15 Years Posttreatment. *Cureus.* 2025 Feb 5;17(2):e78571.
3. Di Rienzo G, Tafuni A, Maestroni U, Ruffini L, Silini EM, Gasparro D, Pilato FP, Gnetti L. Testicular metastasis of prostate adenocarcinoma: the other side of orchiepididymitis. *Pathologica.* 2024 Feb;116(1):69-74.
4. Hermi A, Boussaffa H, Saadi A, Blel A, Chakroun M, Ben Slama MR. Prostate adenocarcinoma metastasis to the testis: A new case report. *Urol Case Rep.* 2023 Mar 27;48:102392.
5. Fortier A, Mokadem S, Cornet E, Cornu JN, Sabourin JC, Pfister C. Testicular recurrence of oligometastatic prostatic adenocarcinoma after 22 years of androgen deprivation therapy. *Urol Case Rep.* 2022 Mar 17;43:102055.
6. Vlachostergios PJ. Combined DNA repair defects in testicular metastasis from prostate cancer sensitize to immune checkpoint blockade. *Curr Urol.* 2021 Dec;15(4):234-237.
7. Lee KA, Mayer E, Khoo V. Painful testicular metastasis from prostate adenocarcinoma. *BMJ Case Rep.* 2017 Dec 5;2017:bcr2017219963.
8. Campara Z, Simic D, Aleksic P, Spasic A, Milicevic S. Metastasis of Prostate Adenocarcinoma to the Testis. *Med Arch.* 2016 Jul 27;70(4):318-320.

Suspected Lyme Disease with Diagnostic Ambiguity

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Introduction

Lyme borreliosis (LB) is the most common tick-borne infection in Europe, with well-recognised manifestations affecting multiple organ systems [1]. However, despite its high prevalence, atypical or non-specific presentations of LB remain diagnostically challenging [2].

Case Presentation

We report a case of a 33-year-old woman who presented to her family physician with recurrent urticarial rashes and three episodes of angioedema, requiring emergency treatment. In 2022, she received a doxycycline course after a positive IgM serological test for *Borrelia burgdorferi*. IgG antibodies and Western blot testing were not performed. Later that year, she presented to the emergency department (ED) with oedema of the fingers, ears, right side of the tongue, and pruritic gluteal rash. An unspecified allergy was suspected. Antihistamines and systemic glucocorticoids were administered, resulting in improvement of symptoms, except for persistent oedema. The patient re-presented to the ED three days later with oedema and emergent erythema of the face and wrists, continuation of antihistamine therapy was recommended. Allergy testing excluded the aetiology of sensitisation, and chronic spontaneous urticaria was suspected. Two years later, in 2024, the patient presented to the ED with acute-onset dyspnea and progressive urticaria. Adrenaline, antihistamines and systemic steroids were administered. Serology revealed elevated IgM antibodies titer for *Borrelia burgdorferi* (1.70), no additional laboratory investigations were performed. Cefuroxime was prescribed, and no further urticaria or angioedema episodes occurred during a two-year follow-up.

Discussion

Isolated IgM seropositivity can create diagnostic uncertainty in patients with recurrent urticaria and angioedema [3]. IgM alone may produce false-positive results due to cross-reactivity, and without confirmatory testing,

can lead to divergent clinical interpretations, affect treatment decisions, including antibiotic therapy [4].

Conclusions

This case highlights the limitations of isolated IgM testing and illustrates how atypical presentations can create diagnostic ambiguity.

References

1. Davidson A, Davis J, Brestrich G, Moisi JC, Jodar L, Stark JH. Lyme Borreliosis Incidence Across Europe, 2015–2023: A Surveillance-Based Review and Analysis. *Vector Borne Zoonotic Dis.* 2025;25(10):569–579. doi:10.1177/15303667251363125. PMID:40711909; PMCID:PMC12629682.
2. Kullberg BJ, Vrijmoeth HD, van de Schoor F, Hovius JW. Lyme borreliosis: diagnosis and management. *BMJ.* 2020;369:m1041. doi:10.1136/bmj.m1041. PMID:32457042.
3. Wilske B, Fingerle V, Schulte-Spechtel U. Microbiological and serological diagnosis of Lyme borreliosis. *Clin Microbiol Infect.* 2021;27(Suppl 2):S19–S28. doi:10.1016/j.cmi.2020.10.014. PMID:33409833.
4. Stanek G, Wormser GP, Gray J, Strle F. Lyme borreliosis. *Lancet.* 2012;379(9814):461–473. doi:10.1016/S0140-6736(11)60103-7. PMID:21349479.