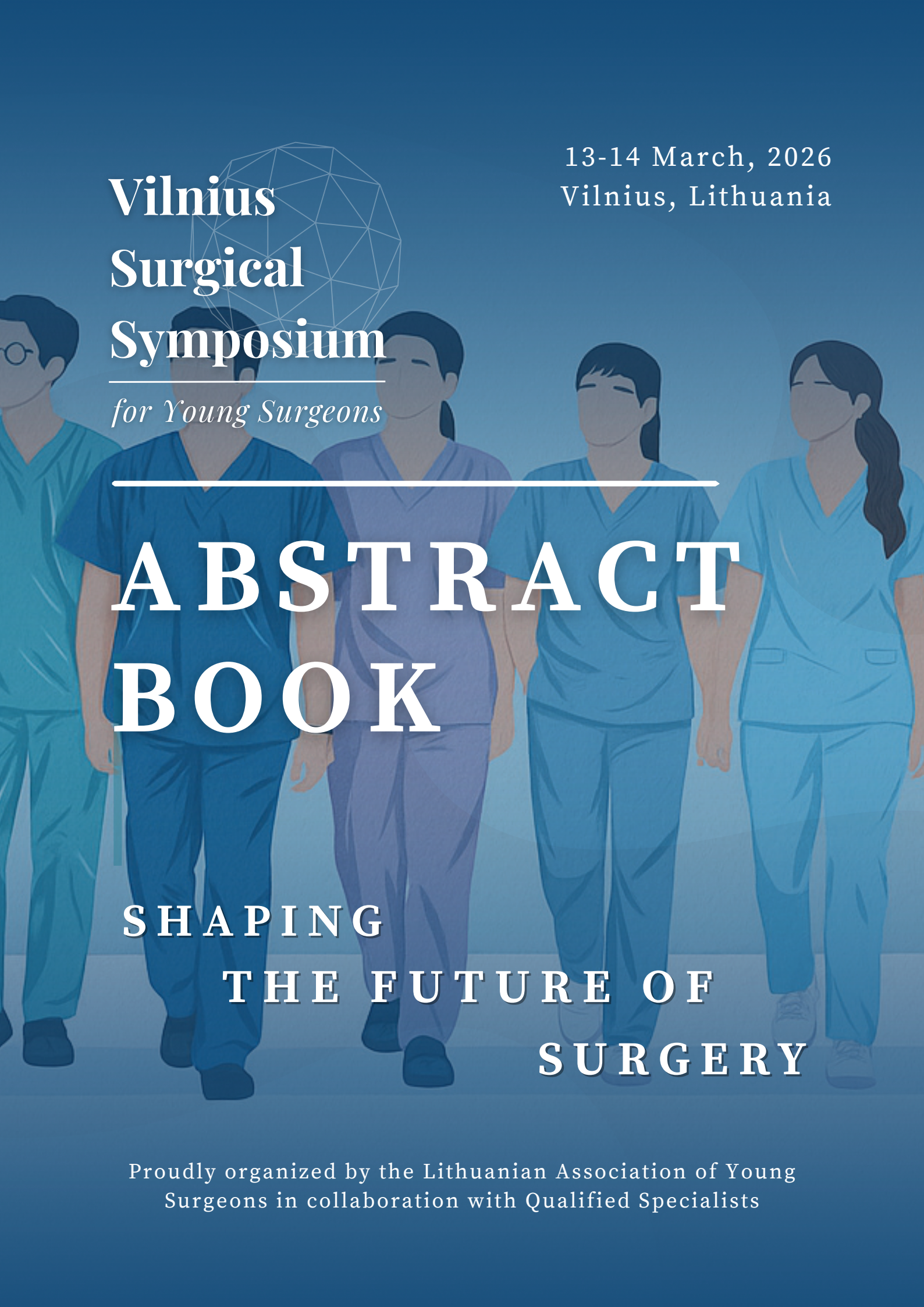

13-14 March, 2026
Vilnius, Lithuania

Vilnius Surgical Symposium

for Young Surgeons

ABSTRACT BOOK

SHAPING THE FUTURE OF SURGERY

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Vilnius Surgical Symposium

for Young Surgeons

Dear colleagues, dear friends,

It is a great privilege to welcome you to the Vilnius Surgical Symposium 2026. Now in its fourth edition, this meeting continues to grow — drawing an ever-increasing number of participants from Lithuania and beyond. I am deeply grateful to each of you for dedicating your time and energy to this event: for conducting research, preparing presentations, and ultimately making this symposium what it is.

Your presence here is a testament to the enduring appeal of surgery — a field that remains as intellectually demanding as it is profoundly rewarding.

By gathering here — engaging with peers, learning from leading experts, attending keynote lectures, and taking part in hands-on activities — you are investing in yourselves as physicians, as surgeons, and as people. That investment will not go unrewarded.

I wish you an enriching and memorable time in Vilnius, and I hope the connections you forge here will accompany you throughout your careers.

Welcome to the Vilnius Surgical Symposium. I wish you every success — in the operating theatre and in life.

Sincerely,

Professor of Surgery, Faculty of Medicine, Vilnius University
Head, Centre of Abdominal and Oncosurgery, Vilnius University Hospital Santara Clinics
President, Lithuanian Association of Surgeons

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ORAL SESSION A

Structural and Reconstructive Surgery: Oral, Maxillofacial, ENT, Orthopedics & Plastic surgery

Jury members:

1. Igoris Šatkauskas
2. Rokas Bobina
3. Agnius Stulpinas
4. Mindaugas Jasinskas
5. Otilija Kutanovaitė

Speakers:

1. Karolė Simona Motiejūnaitė, Pijus Vainius, *Vilnius, Lithuania*
2. Meilė Jucytė, *Vilnius, Lithuania*
3. Deividas Blažys, *Vilnius, Lithuania*
4. Diana Naumkinaitė, *Vilnius, Lithuania*
5. Vilius Sivickis, *Vilnius, Lithuania*
6. Ieva Zemkauskaite; Marija Sarafinaite, *Vilnius, Lithuania*
7. Patrīcija Paula Mūrniece; Laura Sabīne Taurmane, *Riga, Latvia*
8. Patricija Glovackaitė, *Vilnius, Lithuania*

ZYGOMATIC IMPLANTS AS A SOLUTION FOR SEVERE MAXILLARY ATROPHY: A RETROSPECTIVE COMPARISON OF THE CLASSIC AND QUAD ZYGOMA SCHEMES

Authors: Karolė Simona Motiejūnaitė, 4th year student[1]; Pijus Vainius, 4th year student[1]
Supervisors: Milda Vitosytė[1], DMD, DDS
[1]*Institute of Dentistry, Faculty of Medicine, Vilnius University, Vilnius, Lithuania*

Background and aim of the study. Different zygomatic implant schemes are used for the rehabilitation of severely atrophic maxillae, yet long-term comparative data remain limited. This study compared implant and prosthesis survival and complication profiles between the Classic Brånemark and Quad Zygoma schemes.

Methods and materials. This retrospective cohort study included 203 edentulous patients with severe maxillary atrophy treated between 1998 and 2021 at a single center. Patients received either the Classic scheme (two zygomatic implants combined with two anterior standard implants) or the Quad Zygoma scheme (four zygomatic implants). Implant and prosthesis survival were estimated using Kaplan–Meier analysis. Multivariable Cox proportional hazards models adjusted for age, sex, and smoking were used to compare outcomes across schemes and surgical techniques. Complications were classified as biological, mechanical, or soft-tissue related. Statistical significance was set at $p<0.05$.

Results. A total of 675 zygomatic and 223 standard implants were evaluated with a mean follow-up of 7.8 ± 3.1 years. Implant survival rate was significantly higher in the Quad Zygoma group than in the Classic scheme (5-year survival: 94.9 % vs 91.5 %; 10-year survival: 92.6 % vs 83.7 %; HR = 0.47, p = 0.009). Prosthesis survival rate did not differ between groups (p = 0.216). The sinus slot technique showed superior implant survival compared with the intrasinusal approach (HR = 0.37, p = 0.002) and improved prosthesis survival (HR = 0.29, p = 0.015). Complication rates were comparable, except for perizygomatic inflammation, which was more frequent in the Quad group (11.8 % vs 3.0 %; p = 0.039).

Conclusions. The Quad Zygoma scheme demonstrates superior long-term implant survival compared with the Classic Brånemark approach, while maintaining comparable prosthetic outcomes. Surgical technique, particularly the sinus slot approach, is associated with significantly improved survival and should therefore be considered in treatment planning.

Keywords. Zygoma; dental implants; atrophic maxilla; implant survival

CAN DENTAL IMPLANTS BE PLACED AFTER MEDICATION-RELATED OSTEONECROSIS OF THE JAW? A SYSTEMATIC REVIEW

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Supervisor: Martyna Stelmokaitė[2], DMD
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[2]*Vilnius University Hospital Santaros Klinikos, Zalgirio Clinic, Centre of Oral and Maxillofacial Surgery, Vilnius, Lithuania*

Background and aim of the study. Medication-related osteonecrosis of the jaw (MRONJ) is a severe complication associated with antiresorptive therapy. Surgical treatment may achieve disease resolution but can result in edentulous areas and impaired oral function, negatively affecting quality of life. Although dental implants may facilitate oral rehabilitation, clinical outcomes of implant placement after MRONJ treatment are not well established. This systematic review of case reports and case series aimed to summarize clinical circumstances associated with implant survival and MRONJ recurrence following implant placement after successful surgical management of MRONJ.

Methods and materials. The review followed PRISMA guidelines and included a structured search of the PubMed database using MeSH terms and keywords. Studies were screened according to predefined PICO criteria. Data were extracted on implant survival, MRONJ recurrence, timing of implantation, and relevant patient, disease, and treatment characteristics.

Results. Of 203 identified records, 19 studies met the inclusion criteria following systematic screening. A total of 24 patients with clinically resolved MRONJ were included (mean age 65 ± 13.8 years), receiving 60 dental implants. Antiresorptive therapy had been prescribed for osteoporosis in 58% of patients and for neoplastic skeletal disease in 42%. Overall, 58 of 60 implants remained functional, corresponding to a 96.7% survival rate during follow-up. MRONJ recurrence was reported in one patient, occurring 16.5 months after implantation. Most implants (68.3%) were placed in sites previously affected by MRONJ. The median interval between MRONJ surgery and implant placement was 11 months (range 3-31 months), while the median time from complete clinical resolution to implantation was 3 months (range 1-9 months).

Conclusions. Dental implant placement after clinically resolved MRONJ may be considered, but individual risk assessment is essential, as recurrence remains possible and limited heterogeneous evidence precludes firm safety conclusions.

Keywords. Medication-related osteonecrosis of the jaw; Dental implants; Implant survival

EPIDEMIOLOGICAL CHARACTERISTICS OF JAW SARCOMAS IN THE LITHUANIAN POPULATION

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Supervisor: Alina Pūrienė, M.D., PhD, Prof. (HP)[1]
[1]*Institute of Dentistry, Faculty of Medicine, Vilnius University, Vilnius, Lithuania*

Background and aim of the study. Sarcomas of the jaws are extremely rare malignancies, and epidemiologic data remain limited, particularly in small populations. Population-based analyses are essential to better understand their distribution and clinical characteristics. Aim of the study: to investigate the epidemiologic characteristics of jaw sarcomas in the Lithuanian population.

Methods and materials. A retrospective, population-based cohort study was conducted using data from the Lithuanian Cancer Registry. A total of 74 patients diagnosed with sarcomas of the jaws between 1998 and 2023 were included. Data on age, sex, tumor location, and histological subtype were collected. Descriptive statistical analysis was performed.

Results. The mean patient age was 61.2 years (range 8–99). Most cases occurred in patients aged 50–79 years (60.8%). Male patients predominated (54.1%). Tumors were more frequently located in the mandible (64.9%) than in the maxilla (35.1%). The most common histological subtypes were osteosarcoma (16.2%), odontogenic sarcoma (16.2%), and chondrosarcoma (13.5%), while 39.2% of cases were histologically unspecified. Early-stage disease (stage I–II) was documented in 23% of cases; however, staging data were unavailable for over half of the cohort.

Conclusions. Jaw sarcomas in Lithuania predominantly affect older adults and are more commonly diagnosed in the mandible. The wide variety of histological subtypes and the presence of unspecified cases reflect the diagnostic complexity inherent to these rare malignancies over the long study period. These findings provide a valuable epidemiological baseline for the region.

Keywords. Jaw sarcomas; epidemiology; population-based study; Lithuania

LARYNGOPHARYNGEAL REFLUX: TAILORING SURGERY

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Background and aim of the study. Laryngopharyngeal reflux (LPR) is a disease affecting multiple anatomical structures, yet symptoms are non-pathognomonic and may mimic a variety of other disorders. Therefore, antireflux surgery is considered a highly selective and last-line treatment option. The aim of this study was to summarize current surgical and endoscopic antireflux interventions and to analyze selection criteria.

Methods and materials. A literature search was conducted focusing on indications, preoperative evaluation and common outcomes using relevant keywords across major international databases, including PubMed and ScienceDirect.

Results. The most suitable candidates are patients with objectively confirmed pathological reflux, anatomical defects of the esophagogastric junction barrier and insufficient response to optimal conservative management. Furthermore, outcomes tend to be more favorable when the LPR phenotype overlaps with typical gastroesophageal reflux disease symptoms. Laparoscopic fundoplication (Nissen 360° or Toupet 270°), often combined with hiatal hernia repair, reliably reduces reflux, although it is associated with dysphagia, gas-bloat syndrome and symptom recurrence. Transoral incisionless fundoplication may be considered in patients with hiatal hernia ≤2 cm and without Los Angeles grade C-D esophagitis; however, LPR-specific evidence is limited and indirect. Magnetic sphincter augmentation is a function-preserving option, often maintaining the ability to belch and vomit, yet early dysphagia and MRI-related restrictions should be taken into account. Stretta, antireflux mucosectomy, antireflux mucosal ablation, RefluxStop and lower esophageal sphincter electrical stimulation demonstrate potential despite an insufficient evidence base for LPR.

Conclusions. Invasive management of LPR is justified only after rigorous patient selection and objective confirmation of reflux. The procedure should be individualized according to anatomy and the LPR phenotype.

Keywords. Laryngopharyngeal reflux; antireflux surgery; fundoplication.

CLINICAL OUTCOMES OF BAG-S53P4 IN SURGICAL DEAD SPACE MANAGEMENT FOR OSTEOMYELITIS – A SYSTEMATIC REVIEW

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[2]*Republican Vilnius University Hospital, Vilnius, Lithuania*

Background and aim of the study. Osteomyelitis treatment requires radical surgical debridement, which inevitably creates a poorly vascularized bone defect – a "dead space". Effective dead space management is crucial to prevent bone reinfection and support bone regeneration. Bioactive glass (BAG-S53P4) is a bone substitute with antibiotic-independent antibacterial properties and osteoconductive potential, making it a considerable candidate for dead space treatment. This systematic review aims to synthesize human clinical evidence on the effectiveness and safety of BAG-S53P4 for dead space management in osteomyelitis and septic non-unions.

Methods and materials. A systematic review was conducted according to PRISMA guidelines. PubMed was searched in December 2025 for human clinical studies evaluating BAG-S53P4 in osteomyelitis or septic non-unions. Eligible studies for inclusion were cohort studies or case series with ≥ 5 patients reporting about infection eradication and complications. Due to study heterogeneity, data were synthesized qualitatively.

Results. 6 studies published between 2010 and 2024 were included. Infection eradication rates ranged from approx. 86% to 92% across diverse clinical cases, including acute or chronic osteomyelitis, septic non-unions, diabetic foot osteomyelitis and infections caused by multidrug-resistant pathogens. Reported complications were predominantly related to surgical technique or patient comorbidities, i. e., inadequate defect sealing or compromised soft tissues. No material toxicity was reported.

Conclusions. BAG-S53P4 is an effective tool in dead space management for osteomyelitis, consistently achieving high infection control rates and enabling single-stage defect reconstruction, however thorough debridement, complete defect filling and sufficient sealing are major treatment components. The safety profile of BAG-S53P4 was acceptable across all studies. Prospective comparative studies are required to determine its role relative to standard treatments.

Keywords. Osteomyelitis; Dead space; Defect; Bioactive glass; BAG-S53P4.

A SERIOUS WAY TO SAVE THE IMPLANT? EXTERNAL ROTATOR–PRESERVING VERSUS CONVENTIONAL HEMIARTHROPLASTY FOR FEMORAL NECK FRACTURES: A COMPARATIVE CLINICAL STUDY

Authors: Ieva Zemkauskaite[1], 5th year; Marija Sarafinaite[1], 5th year.
Supervisor: Jaunius Kurtinaitis[2], Assoc. Prof.
[1]*Vilnius University, Vilnius, Lithuania*
[2]*Republican Vilnius University Hospital, Vilnius, Lithuania*

Background and aim of the study. Dislocation is among the most frequent and debilitating complications following both total and partial hip replacements after femoral neck fractures. Hence, to further reduce postoperative complications, the SER (Short external rotators) preserving technique was implemented. In this clinical research, we aim to compare postoperative outcomes, especially dislocation rates, between the SER preserving and conventional hemiarthroplasty.

Methods and materials. A retrospective cohort study of 180 patients – 90 of whom received SER-preserving posterolateral hemiarthroplasty, and 90 of those who underwent conventional hemiarthroplasty – was carried out. Data was extracted from the hospital's electronic database, covering the 2023-2024 period. Demographic information, comorbidities, operative time, length of hospital stay, and revision surgery were analyzed. Presence of post-operative dislocation, infection or non-surgical complications, as well as type of follow-up received were also documented.

Results. The mean patient age was 83,59 years in the rotator-preserving group and 82,88 years in the conventional. The average duration of SER preserving operation was 66 minutes, while the regular arthroplasty took 64 minutes. For patients who underwent preserving hemiarthroplasty hospital days averaged 7,8 as for the patients after non-preserving operation, it was 8,17. Four instances of dislocations were recorded, all occurring in the conventional group.

Conclusions. Short external rotator-preserving hemiarthroplasty was associated with a lower dislocation rate without a significant increase in operative time. With virtually no additional costly enhancements, SER preservation may improve early postoperative stability. For different trauma profile patients, an alternative surgical approach could be appropriate.

Keywords. Hemiarthroplasty; SER; External Rotators Preserving Hemiarthroplasty; Implant Dislocation.

SURGICAL DETERMINANTS OF STABILITY AFTER REVISION TOTAL HIP ARTHROPLASTY: IMPLANT AND TECHNIQUE FACTORS ASSOCIATED WITH DISLOCATION

Authors: Patrīcija Paula Mūrniece, 6th year[1], Laura Sabīne Taurmane, 6th year[1]
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Background and aim of the study. Dislocation remains a common and clinically consequential complication after revision total hip arthroplasty (rTHA). Modifiable intraoperative determinants of stability include surgical approach, bearing/liner strategy, femoral head size, and the extent of component revision. The aim is to identify surgical and implant-related factors associated with postoperative dislocation after revision THA.

Methods and materials. A retrospective cohort study included all rTHA procedures performed in 2024. Variables included revision indication, surgical approach, extent of component exchange, bearing/liner strategy, and standard postoperative precautions. Postoperative dislocation was the primary outcome. Associations were tested using χ^2 or Fisher's exact test, with odds ratios (OR) and 95% confidence intervals (CI) reported.

Results. 243 rTHA procedures were performed (222 unique patients; median age 70 years). Post-revision dislocation occurred in 16/243 cases (7.0%). Most dislocations occurred during activities of daily living (81.2%) rather than traumatic events (18.8%). Median time to first dislocation was 40 days (IQR 17–79.5; range 2–696). Revision performed for pre-existing instability showed a strong association with postoperative dislocation: 27.3% (9/33) vs 3.3% (7/210) for other indications (Fisher $p < 0.001$; OR 10.88, 95% CI 3.71–31.85). Dislocation risk differed by approach: 0.0% anterior (0/47), 3.0% anterolateral (3/99), 0.0% lateral (0/9), and 15.3% posterior (13/85) (χ^2 $p < 0.001$). Posterior approach had higher odds of dislocation versus non-posterior approaches (OR 9.15, 95% CI 2.53–33.11). Extent of component exchange, liner strategy, and standard postoperative precautions were not significantly associated with dislocation, however, estimates were limited by the small number of dislocation events.

Conclusions. Dislocation occurred in 7% of rTHA procedures, typically within the early postoperative period. Revision for instability and posterior approach were the strongest factors associated with postoperative dislocation, supporting targeted intraoperative stability strategies in high-risk cases.

Keywords. Revision total hip arthroplasty; Dislocation; Instability; Risk factors; Surgical approach.

RECONSTRUCTIVE STRATEGIES IN ACUTE NASAL SOFT-TISSUE TRAUMA: A SYSTEMATIC REVIEW AND SUBUNIT-BASED ALGORITHM

Authors: Patricija Glovackaitė[1], 5th year
Supervisor: Tomas Mačiulaitis[2] M.D.
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[2]*Faculty of Medicine, Institute of Clinical Medicine, Clinic of Rheumatology, Orthopedics, Traumatology and Reconstructive Surgery, Vilnius University, Vilnius, Lithuania*

Background and aim of the study. Acute nasal soft-tissue trauma requires early reconstructive decision-making in complex wounds with potentially compromised tissue viability. While numerous nasal reconstruction algorithms exist, most derive from oncologic/Mohs defects or focus on skeletal nasal trauma, leaving limited structured guidance for acute traumatic soft-tissue defects. This study aimed to synthesize available evidence and propose a practical, subunit-based algorithm for acute nasal soft-tissue trauma reconstruction.

Methods and materials. A PRISMA-guided search of PubMed, Scopus, and additional databases was performed, supplemented by manual reference screening. Search terms included “nasal trauma”, “nasal reconstruction”, “soft tissue”, “aesthetic subunit”, and commonly used nasal flaps. Full-text studies from the last 10 years were screened. Of 49 records identified, 26 were excluded for irrelevance, non-human data, congenital pathology, cosmetic-only reconstruction, or isolated skeletal trauma. 23 studies were included for qualitative synthesis. Data extraction focused on wound context, defect depth and size, subunit involvement, reconstructive strategy, and staging.

Results. Trauma-specific evidence consisted mainly of small clinical series and case reports, whereas higher-level evidence predominantly addressed oncologic reconstruction frameworks. Across studies, lower nasal subunits, particularly the tip, ala, and soft triangle, were associated with increased risk of distortion and airway compromise, supporting early use of vascularised coverage and structural support. In contrast, dorsum and sidewall defects were more amenable to local tissue rearrangement, reflecting greater tissue mobility. Contamination or uncertain viability frequently favoured staged reconstruction.

Conclusions. Current literature on acute nasal soft-tissue trauma reconstruction is limited and heterogeneous. Systematic synthesis supports a structured, subunit-based application of reconstructive ladder principles, whereby reconstructive options escalate according to anatomical zone and injury severity. The proposed algorithm provides a practical framework for plastic surgeons, facilitating early decision-making while accommodating staged reconstruction to optimize functional and aesthetic outcomes.

Keywords. nasal trauma; nasal reconstruction; soft-tissue injury; aesthetic subunits; algorithm

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ORAL SESSION B

Abdominal Surgery I: Upper GI & Hepatopancreatobiliary system

Jury members:

1. Giuseppe Sicca
2. Mindaugas Kvietkauskas
3. Tadas Kaminskas
4. Rokas Račkauskas
5. Peter Schemmer
6. Audrius Dulskas

Speakers:

1. Maria Wierucka, *Olsztyn, Poland*
2. Ainė Lavrinovičiūtė, *Vilnius, Lithuania*
3. Rokas Žekonis, *Vilnius, Lithuania*
4. Domas Drazdauskas, *Vilnius, Lithuania*
5. Dainida Juodaitytė, *Vilnius, Lithuania*
6. Gytė Gužauskaitė, *Vilnius, Lithuania*
7. Atėnė Stakaitytė, *Vilnius Lithuania*
8. Paulius Čepulis, V*ilnius, Lithuania*

LOST IN THE ESOPHAGUS: MESH MIGRATION AFTER HHR

Authors: Maria Wierucka[1], 4th year
Supervisor: Natalia Dowgiałło-Gornowicz[2], M.D., PhD
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Introduction. Hiatal hernia repair (HHR) with mesh reinforcement is used to reduce recurrence, but mesh-related complications such as migration, although rare, may be severe. Esophageal mesh migration can lead to significant morbidity and requires complex management. Due to its low incidence, evidence guiding optimal treatment is limited, highlighting the need for early diagnosis and individualized strategies.

Case report. A 70-year-old woman with a history of sleeve gastrectomy and gastroesophageal reflux disease underwent laparoscopic HHR with partially absorbable mesh. Five months later, she developed postprandial abdominal pain and recurrent urinary tract infections. Endoscopy revealed migration of the mesh into the esophageal lumen with fistula formation. The mesh was removed endoscopically, and a fully covered esophageal stent was placed. Persistent leakage required stent removal and vacuum-assisted closure therapy. Further treatment with custom stents and nasojejunal feeding led to gradual clinical improvement. At six-month follow-up, the patient was asymptomatic and tolerating oral intake.

Discussion. Mesh-related complications after HHR are uncommon but diagnostically and therapeutically challenging. Their pathogenesis is multifactorial and may involve mesh properties, fixation technique, impaired healing, and altered esophageal motility, especially after prior upper gastrointestinal surgery. Clinical presentation is often atypical. Endoscopy is essential for diagnosis and management. Treatment should be individualized, favoring minimally invasive and endoscopic approaches.

Conclusions. Mesh migration after HHR is rare but clinically relevant. Early diagnosis and a multidisciplinary, tailored approach are essential, with endoscopic treatment considered first-line when feasible.

Keywords. Hiatal hernia repair; mesh migration; endoscopic management; postoperative complications; fistula

REVISIONAL BARIATRIC SURGERY AFTER PRIMARY SLEEVE GASTRECTOMY: A LITERATURE REVIEW

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Background and aim of the study. Sleeve gastrectomy (SG) has become the most common type of bariatric surgery globally, about 4,7% of patients have revision surgery in first 5 years. The primary reasons for reintervention include weight regain, insufficient weight loss, or de novo gastroesophageal reflux disease (GERD). This study aims to review and compare the clinical outcomes, weight loss efficacy, and safety profiles of various revisional options following primary SG.

Methods and materials. A literature review was conducted using PubMed and ScienceDirect databases. The review focused on recent evidence, primarily emphasizing meta-analyses and large-scale database studies (e.g., MBSAQIP) published between 2021 and 2025, while incorporating longitudinal data from the past decade to assess long-term outcomes. The following procedures were evaluated: Roux-en-Y gastric bypass (RYGB), one-anastomosis gastric bypass (OAGB), single-anastomosis duodeno-ileal bypass (SADI), biliopancreatic diversion with duodenal switch (BPD/DS), and re-sleeve gastrectomy (re-SG).

Results. Based on the analyzed data, malabsorptive procedures like BPD/DS and SADI yield the most significant percentage of total weight loss (%TWL) at 1 and 3 years post-revision. When comparing bypass options, RYGB and OAGB show similar weight loss and complication rates; however, RYGB is clearly superior for managing post-SG reflux, while OAGB is associated with shorter operative times. Re-sleeve gastrectomy appears to be the least effective option for long-term weight maintenance. Importantly, the 30-day major morbidity and mortality rates across all revisional techniques remain low and comparable to primary procedures.

Conclusions. Revisional surgery is an effective tool for addressing SG failure. The choice of procedure must be individualized: malabsorptive techniques (BPD/DS, SADI) are preferred for maximal weight loss, whereas RYGB remains the procedure of choice for patients with GERD.

Keywords. Bariatric surgery; sleeve gastrectomy; revisional surgery; weight recurrence; gastric bypass; SADI.

THE EFFECT OF TIME-TO-ENDOSCOPY ON MORTALITY AND REBLEEDING IN UPPER GI HEMORRHAGE

Authors: Rokas Žekonis[1], 6th year
Supervisor: Marius Kryžauskas[1,2], Assoc. Prof.
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[2]*Vilnius University Hospital Santaros Klinikos, Vilnius, Lithuania*

Background and aim of the study. Despite advances in endoscopic hemostasis and pharmacotherapy, the incidence of upper gastrointestinal bleeding (UGIB) has decreased, yet mortality remains high. Current guidelines recommend endoscopy within 24 hours of presentation, but the optimal timing - urgent or early – remains uncertain. We aimed to evaluate and compare 30-day outcomes in patients with UGIB according to endoscopy timing.

Methods and materials. We have conducted a retrospective cohort study. Adult patients that presented with UGIB between 2018 and 2024 and received therapeutic endoscopic procedure, were included. Urgent (<6h) and early (6-24h) endoscopies defined according to the time to endoscopy after the initial presentation. The primary outcome was 30-day all-cause mortality. Secondary outcomes included rebleeding, intensive care unit (ICU) admission, blood transfusion, and length of hospital stay. Multivariable logistic regression and time-to-event analyses were performed.

Results. A total of 1253 patients were included; 920 (73.4%) underwent urgent endoscopy. The median age was 67 years and 62.7% were male. 30-day all-cause mortality was 8.1% (101/1253) and was significantly higher in the urgent endoscopy group (9.0% vs. 5.4%, p=0.039) Early endoscopy associated with lower 30-day mortality (adjusted OR 0.49, 95% CI 0.29-0.85, p=0.011). Kaplan-Meier analysis demonstrated a lower cumulative probability of death in the early endoscopy group, which was confirmed by restricted mean survival time analysis showing a 1.09-day survival benefit within 30 days for early endoscopy (p=0.001). No significant differences were observed in 30-day rebleeding (11.4%) or ICU admission rate (9.7%). Blood transfusion was more frequent in the early group (79.3% vs. 66.3%, p<0.001); hospital stay was shorter in the urgent group (median 6 vs. 7 days, p=0.018).

Conclusions. Early endoscopy was associated with lower 30-day mortality in patients with UGIB. These findings support a strategy of initial stabilization followed by endoscopy within 24 hours rather than urgent endoscopy.

Keywords. Upper gastrointestinal bleeding; endoscopy timing; mortality; outcome

QUALITY OF LIFE DURING PIPAC TREATMENT FOR GASTRIC CANCER WITH PERITONEAL METASTASES

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Background and aim of the study. Peritoneal metastases (PM) are present in approximately 10–20% of gastric cancer (GC) patients at diagnosis and are associated with poor prognosis. Treatment is primarily palliative, making the preservation or improvement of quality of life (QoL) crucial. Pressurized intraperitoneal aerosol chemotherapy (PIPAC) has emerged as a novel experimental approach for GC PM, with potential benefits for symptom control and QoL; however, data remains limited. This study aimed to assess QoL changes in GC PM patients undergoing PIPAC.

Methods and materials. We prospectively analysed QoL of patients with GC PM treated with PIPAC in phase II clinical trial setting conducted at two centres in Lithuania: National Cancer Institute and Vilnius University hospital Santaros Klinikos. QoL was assessed using EORTC QLQ-C30 and QLQ-STO22 questionnaires at baseline and during 2nd and 3rd PIPAC cycles. Endpoints included changes in global health status, functioning and symptom domains. Data was analysed using ANOVA or Friedman test as appropriate, with Bonferroni correction.

Results. In total, 20 patients were included in the analysis. Global health status improved significantly over time, increasing from mean of 61.2 at baseline to 66.2 at the second and 72.1 at the third PIPAC cycle ($p = 0.034$). Emotional functioning also increased over time ($p = 0.005$). Significant symptom improvements were observed in pain ($p = 0.005$), appetite loss ($p = 0.002$), and nutritional restrictions ($p = 0.002$). All values remained significant ($p < 0.05$) after Bonferroni correction.

Conclusions. PIPAC is feasible and is associated with stable or improved self-reported quality of life. It improves global health, emotional functioning and reduces key symptoms such as pain, appetite loss, and nutritional restrictions. These findings support PIPAC as a palliative therapy focused on maintaining patient well-being.

Keywords. Gastric cancer; peritoneal metastases; PIPAC; quality of life; palliative care; patient-reported outcomes

BARIATRIC SURGERY: RESULTS OF SURGICAL TREATMENT OF GRADE I OBESITY AND A REVIEW OF THE LITERATURE

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Background and aim of the study. Class I obesity (BMI 30-35 kg/m^2) is associated with metabolic comorbidities and increased long-term health risks. Although bariatric surgery is not routinely indicated for all patients in this BMI range, the American Society for Metabolic and Bariatric Surgery's 2022 guidelines support its use in carefully selected individuals, particularly those with metabolic disease and an insufficient response to non-surgical treatment. This literature review aimed to evaluate the outcomes of bariatric surgery in class I obesity, identify the most commonly performed procedures, and summarize how surgery is discussed in comparison with pharmacotherapy, intragastric balloon, and endoscopic sleeve gastroplasty interventions.

Methods and materials. A literature review was conducted by searching PubMed, ScienceDirect, JAMA Network, SpringerLink, and SOARD using terms related to class I obesity and bariatric surgery. Only studies reporting outcomes in patients with BMI 30-35 kg/m^2 were included, focusing on weight loss, metabolic effects, and safety.

Results. Laparoscopic sleeve gastrectomy was the most frequently reported procedure, followed by Roux-en-Y gastric bypass. Bariatric surgery consistently resulted in significant and sustained weight loss and improvement or remission of metabolic comorbidities, especially type 2 diabetes, hypertension, and dyslipidemia. Perioperative mortality was low, and complication rates were acceptable. Pharmacological therapy was discussed mainly as part of conservative management, but direct comparative outcome data with surgery were limited. Intragastric balloon and endoscopic sleeve procedures were described as less invasive alternatives; however, evidence for their long-term efficacy and safety in class I obesity remains insufficient.

Conclusions. Bariatric surgery is an effective and safe treatment option for patients with class I obesity, providing durable weight loss and significant metabolic benefits.

Keywords. Class I obesity; Bariatric Surgery; Sleeve Gastrectomy; Roux-en-Y Gastric Bypass; metabolic outcomes.

FLUORESCENCE-GUIDED PANCREATIC SURGERY WITH INDOCYANINE GREEN (ICG): A SYSTEMATIC REVIEW

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Background and aim of the study. Pancreatic surgery carries a significant risk of various complications. In recent years, indocyanine green (ICG) has become a valuable tool in pancreatic surgery, improving both surgical accuracy and patient outcomes. However, standardized guidelines for its practical use have not been established. Therefore, we performed a systematic review aimed at identifying current practices related to ICG application in pancreatic surgery.

Methods and materials. A literature search was conducted using the PubMed database to identify case reports and case series published between 2020 and 2025. Selection followed the PRISMA guidelines and PICO framework. Inclusion criteria focused on patients above 18 undergoing pancreatic surgery using ICG.

Results. A total of 30 publications with 260 patients were included. Most studies (86.9%) used only intravenous ICG administration, while 9.2% combined intravenous delivery with direct injection into the pancreatic parenchyma or biliary tree. Only 10 patients received ICG exclusively through local parenchymal injection on the anterior surface of the pancreatic head, primarily during lymphadenectomy. In most cases (88.8%), ICG was administered intraoperatively, while others administered it 15–60 minutes before surgery. The total dose varied, with 67.7% using 2.5-7.5 mg, and the highest reported dose reaching 25 mg. ICG applications included tumor localization, vascular perfusion assessment, biliary tract visualization, identification of pancreatic stump margins, and lymph node mapping. It was primarily (43.8%) used to assess blood vessels and organ perfusion. Successful target visualization was achieved in 95% of cases.

Conclusions. The selection of ICG dose, timing, and administration route in pancreatic surgery depends on the surgical approach and underlying clinical objectives. Despite the absence of standardized guidelines, evidence supports that ICG enhances intraoperative visualization and surgical precision. Further studies are required to define optimal protocols and fully establish its role in routine pancreatic surgery.

Keywords. Indocyanine Green; ICG; Pancreatic surgery.

COMPARISON OF ACTIVE AND PASSIVE DRAINAGE AFTER PANCREATIC RESECTION SURGERY

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Background and aim of the study. Mortality after pancreatic resection has significantly decreased in recent years, however morbidity remains high, largely due to postoperative pancreatic fistulas (POPF). Surgeons commonly use active or passive prophylactic drainage to reduce complications and improve postoperative outcomes. This review aims to compare the use of active drainage (AD) and passive drainage (PD) after pancreatic resection surgery, evaluate their impact on postoperative outcomes, and assess whether one method offers a clinical advantage.

Methods and materials. A literature review was conducted in November 2025 using keywords: “pancreatic resection“, “pancreaticoduodenectomy“, “distal pancreactomy“, “suction“, “active drainage“, “passive drainage“, “closed suction“, “gravity drain“ combined with Boolean operators in the PubMed database. Eligible articles were published from 2015 to 2025, provided full-text access and directly compared active versus passive drainage methods. Five articles met the inclusion criteria.

Results. A total of 4329 patients from five studies were included, 3256 (75,2%) with AD and 1073 (24,8%) with PD. The rate of POPF varied from 11% to 47,7% with no statistically significant difference between clinically relevant POPF in the AD and PD groups. Hospitalization length ranged from 10,6 to 31 days for AD and 12,2 to 28 for PD. One study reported shorter parenteral nutrition support time in the AD group (6,9 vs. 8,6 days). Another study found that AD was associated with a lower likelihood of percutaneous drain insertion, although it may be linked to an increased risk of surgical site infection (0,8% vs. 6,0%). Additionally, another study reported that AD may reduce undrained postoperative intra-abdominal collections (46,1% vs. 21,4%).

Conclusions. Both AD and PD can be used after pancreatic resection surgeries as neither method has a notable clinical advantage. More clinical trials and further research is needed to definitively answer which method is superior and in which clinical situations.

Keywords. Active drains; passive drains; closed suction; gravity drains; pancreatic resection

EARLY SURGERY VERSUS ENDOSCOPY-FIRST APPROACH IN PATIENTS WITH CHRONIC PANCREATITIS: A SYSTEMATIC REVIEW

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Background and aim of the study. Pain is the predominant clinical manifestation of chronic pancreatitis, affecting 80-90% of patients. Although endoscopy-first approach is considered less invasive and surgery is often postponed, many patients eventually undergo surgery at more advanced disease stage. Given that the optimal initial management remains a subject of debate, this review aims to compare endoscopic and surgical treatment of chronic pancreatitis.

Methods and materials. A systematic review was conducted in accordance with PRISMA guidelines using advanced PubMed search with combinations of MeSH terms and keywords. Eligible studies included those published within the last 20 years that compared endoscopic and surgical treatment and reported a documented follow-up period.

Results. Of 2806 identified articles, 6 studies met inclusion criteria, including two randomized controlled trials (RCTs) with long-term follow-up and two retrospective cohort studies. In both RCTs, early surgery patients had lower Izbicki pain scores during initial follow-up compared to endoscopy-first approach ($p<0,001$). Long-term follow-up of recent RCT revealed sustained benefit of pain control in early surgery group. After initial follow-up of one trial and long-term follow-up of both RCTs, significantly higher rate of partial or complete pain relief was achieved in early surgery group. Notably, crossover from endoscopy to surgery was associated with worse outcomes compared to upfront early surgery. Across all studies, the total number of reinterventions was significantly lower in early surgery group ($p<0,001$). Rates of complications, mortality, length of hospital stay, quality of life and pancreatic function did not differ significantly between these treatment strategies.

Conclusions. Early surgery provides superior pain management and relief compared to an endoscopy-first approach, while requiring fewer interventions. However, owing to the scarcity of existing studies, further research is required to evaluate the effects of early surgical treatment of chronic pancreatitis.

Keywords. Chronic Pancreatitis; Surgical treatment; Endoscopy.

Vilnius Surgical Symposium
for Young Surgeons

ORAL SESSION C

Abdominal Surgery II: Colorectal, Hepatopancreatobiliary system & Abdominal wall

Jury members:

1. Giuseppe Sicca
2. Mindaugas Kvietkauskas
3. Tadas Kaminskas
4. Rokas Račkauskas
5. Peter Schemmer
6. Audrius Dulskas

Speakers:

1. Augustas Poškus, *Vilnius, Lithuania*
2. Austėja Zubauskaitė, *Vilnius, Lithuania*
3. Jekaterina Jeņenkova, *Riga, Latvia*
4. Yashwanth Sudheendra Gowda, *Pécs, Hungary*
5. Ugnė Šilinskaitė, *Vilnius, Lithuania*
6. Augustas Poškus, *Vilnius, Lithuania*
7. Saule Baskyte; Greta Vitkauskaite, *Vilnius, Lithuania*
8. Austėja Sakalauskaitė, *Vilnius, Lithuania*

LONG-TERM PROGNOSTIC VALUE OF TUMOUR CHARACTERISTICS IN STAGE I–II COLORECTAL CANCER: A RETROSPECTIVE STUDY

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Background and aim of the study. Colorectal cancer is the third most commonly diagnosed cancer worldwide and the second leading cause of cancer-related death. Although stage I–II cases are treated with curative intent, some patients experience disease recurrence or progression. The aim of this study was to evaluate the association between tumor characteristics and long-term prognosis in patients with stage I–II colorectal cancer.

Methods and materials. A retrospective study was conducted analyzing data of 339 patients with stage I–II colorectal cancer (2014-2018), treated at Vilnius University Hospital Santaros Clinics. Tumor characteristics were assessed: size, tumor budding, differentiation grade, perineural and lymphovascular invasion, histological type and microsatellite stability. Data analysis was performed using Microsoft Excel, IBM SPSS V.30 and R software with, $p < 0.05$ considered statistically significant.

Results. Kaplan–Meier and Cox regression analyses showed no significant impact of tumor-related factors on OS or DFS in patients with stage I colorectal cancer ($p > 0.05$). In stage II disease, lymphovascular invasion (LVI) was significantly associated with shorter OS (HR = 6.06, $p = 0.017$) and DFS (HR = 7.63, $p = 0.002$). Poor tumor differentiation (G3) was independently associated with worse OS in multivariate analysis (HR = 26.71, 95% CI: 1.15–621.76, $p = 0.042$). Perineural invasion was associated with significantly shorter DFS (27.5 vs. 71.1 months, $p = 0.010$). MSI+ was also identified as a significant predictor of DFS (HR = 5.37, $p = 0.049$). Other tumor-related factors showed no statistically significant effect on survival outcomes ($p > 0.05$).

Conclusions. Lymphovascular invasion represents the strongest adverse prognostic factor in stage II colorectal cancer, significantly impacting overall and disease-free survival. Poor differentiation predicts worse overall survival, while perineural invasion and microsatellite instability are associated with reduced disease-free survival.

Keywords. survival; tumor factors; prognosis; colon cancer; rectal cancer

CLINICAL RESULTS OF PELVIC EXENTERATION FOR MALIGNANCIES OF THE PELVIC ORGANS: A COHORT STUDY

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Background and aim of the study. Pelvic exenteration offers a potentially curative option for selected patients with advanced malignancies or their localized recurrencies. The aim of this study is to evaluate early and late clinical results after pelvic exenteration.

Methods and materials. Patients who underwent pelvic exenteration between 2010 and 2025 were eligible for inclusion in this cohort study. Patients were followed for up to five years after surgery. Descriptive statistical analyses were performed using SPSS Statistics.

Results. 32 patients were included in this retrospective analysis, with a mean follow-up of 74.8 months. Six patients were lost to follow-up. The most common indication for surgery was recurrent cervical cancer (56.3%). All pelvic exenterations were performed via laparotomy: 43.8% total, 40.6% anterior and 15.6% posterior. Microscopically negative resection margin (R0) was achieved in 78.6% of surgeries. Postoperative complications occurred in 68.8% of patients, the majority being major adverse events (Clavien-Dindo grade≥III). Five patients required relaparotomy due to anastomotic leakage or colostomy necrosis. The 30-day mortality rate was 3.1%, with one patient dying 15 days after surgery due to ileal suture insufficiency. The median length of hospital stay was 22.5 days. During follow-up, 11 patients (42.3%) developed recurrence, with a median time to progression of 13 months. Thirteen patients (50%) died, with a median survival of 33 months. The 1-year disease-free survival (DFS) and overall survival (OS) rates were 54.1% and 76.3%, respectively, while the 5-year DFS and OS rates were 28.3% and 46.1%. Median OS was 15 months in the R1-R2 resection group but was not reached in the R0 group.

Conclusions. Pelvic exenteration is a complex surgical procedure, associated with a high incidence of postoperative complications. Nevertheless, microscopically negative resection margin can be achieved in most cases, supporting pelvic exenteration as the only potentially curative treatment option for selected patients with pelvic malignancies.

Keywords. pelvic exenteration; pelvic malignancies; cancer.

HINCHEY CLASSIFICATION AND CLINICAL OUTCOMES IN ACUTE DIVERTICULITIS: A SINGLE-CENTRE RETROSPECTIVE STUDY

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Background and aim of the study. Acute diverticulitis varies widely in severity, and reliable risk stratification is crucial for predicting outcomes and guiding emergency surgical management. This study aimed to evaluate the Hinchey classification as a predictor of clinical outcomes in acute diverticulitis and to assess the morbidity associated with emergency surgical management.

Methods and materials. This retrospective study included 162 adult patients with acute diverticulitis in Pauls Stradiņš Clinical University Hospital in 2024. Patients were grouped according to Hinchey stage into three groups (Ia; Ib-II; III-IV). Statistical analysis was performed using IBM SPSS.

Results. Patients with Hinchey III-IV were significantly older, mean age 78.2 (III-IV) vs 59.6 (Ib-II) and 52.8 (Ia) years, p=0.003); gender distribution was similar. Treatment strategies differed significantly across Hinchey stages (p<0.001): Hinchey Ia was managed 100% conservatively and Hinchey Ib-II primarily conservatively - 77.8%, whereas surgical intervention was required for 100% of Hinchey III-IV patients. The overall in-hospital mortality rate was 6.0% (n=3), with all lethal outcomes occurring exclusively in the Hinchey III-IV group 37.5% (n=3/8; p=0.003). In Hinchey group Ia, antibiotics were administered in 85.3% of patients. In contrast, all patients in Hinchey stages Ib-IV received antibiotic therapy. Median LOS increased with severity: 0 vs 4 vs 10 days (p<0.001). Among patients who underwent surgical treatment (n = 11), colostomy was required in 54.5%. A laparoscopic approach was performed in 36.4% of cases. The mean LOS in surgically managed patients was 12.0 ± 14.6 days.

Conclusions. The Hinchey classification is a reliable indicator of LOS, surgical necessity, and mortality. Patients of advanced age are at higher risk of severe disease. Acute surgical management of diverticulitis was associated with an increased risk of colostomy and prolonged hospital stay.

Keywords. diverticulitis, Hinchey classification.

RE-EVALUATION OF PREOPERATIVE MRI IN PATIENTS UNDERGOING PRIMARY SURGERY FOR RECTAL TUMORS

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Background and aim of the study. Accurate preoperative staging is essential for determining optimal treatment strategies in rectal cancer, particularly when selecting patients for neoadjuvant therapy. Magnetic resonance imaging (MRI) is widely used to assess local tumor extent, mesorectal fascia involvement, and circumferential resection margins. The aim of this study was to evaluate the accuracy of preoperative MRI staging and identify common sources of interpretative error.

Methods and materials. A retrospective review was conducted on 114 patients who underwent primary surgical resection for rectal tumors following preoperative MRI. MRI-based staging was compared with final histopathological findings. All imaging studies were re-evaluated in collaboration with radiologists to determine factors contributing to staging discrepancies.

Results. MRI correctly identified the exact T stage in 47.4% of patients, with frequent overstating observed in 36.8% and notable overestimation of nodal involvement. Diagnostic inaccuracies were most associated with tumor location, exophytic growth patterns, peritumoral inflammatory changes, and technical factors such as suboptimal slice orientation. Differentiation between deep T2 tumors and early T3 invasion remained a major challenge

Conclusions. Assessment of mesorectal fascia involvement appears to be more clinically relevant than detailed T-stage subclassification for treatment planning. Optimization of MRI technique, improved scan orientation, and strengthened multidisciplinary collaboration may enhance staging accuracy and support better preoperative decision making in rectal cancer management.

Keywords. Rectal cancer; Preoperative staging; Magnetic resonance imaging;

HOW TO TREAT T1 COLORECTAL CANCER? NARRATIVE REVIEW

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Background and aim of the study. Screening for colorectal cancer (CRC) had a great impact on the number of patients diagnosed with T1 cancer. However, whether to choose surgical resection or endoscopic resection for early CRC remains a significant topic of discussion. The aim of our review is to compare and contrast the two treatment options, highlighting when each is the most appropriate, based on the latest data.

Methods and materials. A narrative review was conducted using the PubMed database, including all English-language articles regardless of publication year. Studies addressing patient selection, histopathologic risk factors for lymph node metastasis, and treatment outcomes were included. Key findings were extracted and synthesized to provide an overview of current treatment strategies for T1 colon cancer.

Results. Treatment decisions between surgical and endoscopic resection are strongly influenced by the risk of lymph node metastasis (LNM). LNM cannot be reliably assessed with imaging alone, as computed tomography detects nodal involvement with ~60% accuracy and magnetic resonance imaging with ~69% accuracy. Histologic risk factors such as lymphovascular invasion, poor differentiation, deep submucosal invasion, Haggitt level 4 invasion, and tumor budding are strongly associated with lymph node metastasis. CT, MRI, and histology guide treatment selection, with endoscopy recommended only for low-risk cases. Although less invasive, endoscopy carries risks, most commonly intestinal perforation and bleeding. Surgery shows a better 5-year disease-free survival rate (98,1%) in high LNM-risk patients compared to endoscopy. However, it is a much larger procedure in scope and may result in complications such as anastomotic leakage.

Conclusions. Histologic risk guides T1 colorectal cancer treatment: endoscopy achieves excellent outcomes in low-risk lesions, while surgery ensures optimal oncologic safety for high-risk LNM tumors.

Keywords. Surgical resection; endoscopic resection; T1 colorectal cancer; colorectal.

IMPACT OF HISTOPATHOLOGICAL FACTORS ON LONG-TERM PROGNOSIS IN COLORECTAL CANCER: A SYSTEMATIC REVIEW

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Background and aim of the study. Colorectal cancer is a biologically heterogeneous disease with a high recurrence rate and poor prognosis despite advances in diagnosis and treatment. While TNM classification guides treatment decisions, histopathological factors are not included, although they may influence disease behaviour and survival. This systematic review aimed to evaluate the impact of histopathological factors on long-term prognosis in colorectal cancer patients.

Methods and materials. The systematic review was conducted in accordance with the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. Literature search was conducted of PubMed and Scopus databases for eligible studies and trials assessing associations between colorectal cancer histopathological factors and long-term survival outcomes. No publication date limits were applied. Only English language articles were included. The final literature search was conducted in April 2025.

Results. According to the reviewed publications, an association was observed between tumour size and survival outcomes, with tumours larger than 5 cm indicating poorer prognosis. High-grade tumour budding and poor differentiation (G3/G4) are recognised as risk factors associated with worse survival. Histopathological features such as lymphovascular and perineural invasion frequently occur together and are linked to aggressive disease course and unfavourable outcomes, even at early stages. Colorectal adenocarcinoma is the most common histological subtype and is generally associated with a more favourable prognosis compared with other types. Although the prognostic significance of mucinous adenocarcinoma remains uncertain, signet-ring cell carcinoma is associated with the poorest prognosis.

Conclusions. Histopathological factors such as tumour size, tumour budding, differentiation grade, lymphovascular and perineural invasion, and histological type, have a significant impact on survival in colorectal cancer patients. Integrating TNM staging with histopathological assessment may improve the accuracy of prognostic evaluation, prediction of disease progression, treatment effectiveness and survival outcomes.

Keywords. Survival; histopathological factors; prognosis; colon cancer; rectal cancer

SPLENIC PRESERVATION THROUGH PARTIAL SPLENECTOMY: CASE REPORT AND LITERATURE REVIEW

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Introduction. Partial splenectomy (PS), despite its operative risks and greater technical complexity, is increasingly recognized as a preferred surgical technique over total splenectomy due to the clinical significance of postoperative complications. We present two cases of laparoscopic partial splenectomy performed for the first time in Vilnius University Hospital Santaros Klinikos and a systematic review of literature.

Case report. Patient 1, a 62-year-old male with a four-year history of an enlarging hydatid cyst (4.7x3.5x3.3 cm), was admitted to the hospital for planned surgery. Patient 2, a 49-year-old male, was admitted to hospital due to progressive pain in the upper left abdominal quadrant. A computerised-tomography scan demonstrated a pseudocyst-like lesion (20x19x15 cm). Both upper-pole splenic lesions were laparoscopically resected using LigaSure. The procedures were uncomplicated, with minimal blood loss and an uneventful postoperative course and follow-up.

Discussion. PS is associated with a reduced risk of complications including overwhelming post-splenectomy infection, portal vein thrombosis and intraabdominal abscesses. The main challenge in PS is to control excessive bleeding due to the spleen's fragility and vast blood supply. The key technical point minimising bleeding in PS is to transect the parenchyma 1 cm within the ischemic demarcation line, which contributed to optimal outcomes in our cases. Prior experience with liver resections is advantageous.
In the systematic review, 129 records were screened and 40 were included with a sample of 452 patients. Conversion from partial to total splenectomy occurred in 1.33% of patients. No mortality was recorded. The most common indication for partial splenectomy was splenic cystic lesions, accounting for 37.25%.

Conclusions. PS is a technically demanding yet feasible procedure. Both the laparoscopic approach and splenic preservation contributed to the satisfactory postoperative outcomes in our cases. Expanded use of PS may further clarify appropriate indications and long-term outcomes.

Keywords. Partial splenectomy; Minimally invasive surgery; Splenic lesions.

POSTOPERATIVE SEROMA FORMATION FOLLOWING ENDOSCOPIC DIASTASIS RECTI REPAIR: LITERATURE REVIEW

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Background and aim of the study. Endoscopic repair of diastasis recti is increasingly performed due to favourable functional and cosmetic outcomes and a lower complication rate compared with open surgery. Nevertheless, seroma formation remains the most common complication, with reported rates up to 30%. There is a considerably limited number of studies evaluating diastasis recti repair without abdominoplasty, restricting conclusions regarding seroma incidence and preventive strategies. This study aimed to review the incidence, characteristics, and management of postoperative seroma formation following endoscopic diastasis recti repair, with attention to surgical technique, drain usage, dead-space management, and patient-related risk factors.

Methods and materials. A literature review was performed using four research databases. Studies focusing on endoscopic diastasis recti repair were included, while those addressing abdominoplasty were excluded. Five randomised studies met the inclusion criteria and focused on seroma incidence, timing, need for intervention, drain protocols, compression or quilting techniques, mesh use, and patient-related risk factors.

Results. Seromas were most frequently detected within the first postoperative month and were asymptomatic, resolving spontaneously over time. All patients received subcutaneous drains, which were removed at 72 hours postoperatively. While prolonged drainage may reduce seroma formation, it also increases the risk of postoperative infection. Studies including mesh reinforcement in cases requiring wider dissection planes reported higher seroma rates compared with plication-only repairs, likely due to increased dead-space formation rather than mesh material alone. Comparative evidence suggests that compression bandaging significantly reduces seroma incidence by minimising dead space. Increasing age, BMI, female gender, and active smoking were associated with repeated seroma aspirations and larger aspirated volumes.

Conclusions. Seroma formation remains common after endoscopic diastasis recti repair but is usually self-limiting. Preventive strategies should prioritise dead-space reduction, including selective mesh use, quilting sutures, postoperative compression garments, and optimised drain management.

Keywords. Diastasis recti; seroma; endoscopic repair; postoperative complications.

Vilnius Surgical Symposium
for Young Surgeons

ORAL SESSION D

Reproductive Systems and Early Development: Gynecology, Urology & Pediatric Surgery

Jury members:

1. Artūras Dobilas
2. Rūta Žulpaitė
3. Paulius Valatka

Speakers:

1. Gustė Vaišnoraitė, *Vilnius, Lithuania*
2. Atėnė Stakaitytė, *Vilnius, Lithuania*
3. Eva Matulevičiūtė; Ieva Labanauskytė, *Vilnius, Lithuania*
4. Dominyka Šuminskaitė; Aina Petraitytė, *Kaunas, Lithuania*
5. Alicija Šavareikaitė, *Vilnius, Lithuania*
6. Paulė Kergytė, *Vilnius, Lithuania*
7. Arnas Jankauskas, *Vilnius, Lithuania*
8. Luka Grgar, *Zagreb, Croatia*
9. Agnė Vasiulytė, *Vilnius, Lithuania*
10. Rokas Žekonis, *Vilnius, Lithuania*

DIAGNOSTIC ACCURACY OF ULTRASOUND SIGNS FOR DETECTING ADNEXAL TORSION: A SYSTEMATIC REVIEW

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Background and aim of the study. Adnexal torsion is a gynecological emergency in which twisting of the ovary and/or fallopian tube disrupts blood flow, leading to ischemia and potential tissue necrosis. Clinical presentation usually includes sudden onset of pelvic pain with nausea, vomiting, and pelvic tenderness. However, since the symptoms are non-specific, transvaginal ultrasound is usually performed as first-line imaging modality. But it's results can vary while clinical guidelines emphasize prompt surgical intervention. Therefore, the aim of this review is to evaluate the diagnostic accuracy of individual ultrasound signs in detecting adnexal torsion.

Methods and materials. PubMed/MEDLINE, Scopus and Cochrane Library were searched for studies, systematic reviews and meta-analyses evaluating ultrasound signs - ovarian edema or enlargement, whirlpool sign, Doppler flow abnormalities, adnexal mass and pelvic fluid - for diagnosis of adnexal torsion in adult women. Primary studies used surgical confirmation of diagnosis as a reference standard. Data on sensitivity, specificity and predictive values were extracted.

Results. Eight studies were included. Ultrasound signs had variable performance. Doppler flow abnormalities and the whirlpool sign had low and moderate sensitivity (48.7-53% and 65-76.9% respectively), but high specificity (72.7-98% and 91-100%). Ovarian edema or enlargement showed sensitivity of 58-79.5% and specificity 72.7-86%, while adnexal mass demonstrated sensitivity of 69-92.3% and specificity of 46-81.8%. Pelvic fluid had limited diagnostic performance (55-61.5% sensitivity; 45.5-69% specificity).

Conclusions. Ultrasound remains the cornerstone for evaluating adnexal torsion. However, individual signs demonstrate moderate sensitivity and variable specificity. The whirlpool sign, Doppler flow abnormalities and ovarian edema are most informative when present,whereas adnexal mass and pelvic fluid which are less specific. Importantly, absence of ultrasound findings should not delay surgical intervention.

Keywords. adnexal torsion; ultrasound; diagnostic accuracy; doppler; whirlpool sign; ovary.

TUBO-OVARIAN ABSCESS – WHEN IS SURGERY NEEDED?

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Background and aim of the study. Tubo-ovarian abscess (TOA) is a serious infection and usually a severe complication of pelvic inflammatory disease. Initial treatment typically consists of broad-spectrum antibiotic therapy, however, in more severe or complicated cases, invasive interventions such as abscess drainage or surgical management may be required. The aim of this study was to review the current literature and identify factors associated with the need for surgical intervention in patients with TOA.

Methods and materials. A literature search was conducted in the PubMed database using the following keywords and Boolean operators: ("tubo-ovarian abscess" OR "tubo ovarian abscess") AND (surgery OR surgical) OR "surgical management". Eligible studies were published between 2015 and 2025, written in English and available as full-text articles. Studies that evaluated clinical, laboratory and radiological factors associated with surgical or interventional management of tubo-ovarian abscess were included. Case reports, reviews and studies not addressing predictors of surgical intervention were excluded. A total of 14 articles met the inclusion criteria.

Results. Larger abscess size (>5,25-8 cm), elevated C-reactive protein (>100 mg/L) and fever were the most consistently reported factors associated with the need for surgical intervention in patients with TOA. Additional factors, including bilateral TOA, age (>40 years old), neutrophil-lymphocyte ratio (>6) were also identified as potential predictors in several studies. Imaging findings currently lack sufficient evidence to reliably predict the need for surgical intervention. However, considerable variability exists in the studies and there is no single parameter value that has been shown to reliably predict the need for surgery.

Conclusions. Although several factors, such as abscess size, inflammatory markers and fever appear to be important in predicting the need for surgical intervention in TOA, no universally accepted criteria exists. Surgical decision-making should remain individualized and guided by overall clinical assessment.

Keywords. Tubo-ovarian abscess; surgical intervention; predictive factors.

OVARIAN EXTOPIC PREGNANCY: CLINICAL CASE AND LITERATURE REVIEW

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Introduction. Ectopic pregnancy is the implantation of a fertilized ovum outside the uterine cavity, most commonly in the fallopian tube. Ovarian implantation is rare but associated with significantly increased maternal morbidity and mortality. We present a rare case of ovarian ectopic pregnancy and review its pathogenesis, diagnosis, and management.

Case reports. A 33-year-old primigravida at 6 weeks of gestation presented with lower abdominal pain and brown vaginal spotting. Previous transvaginal ultrasound showed no intrauterine pregnancy, with elevated β-hCG (2384 U/L). On admission, β-hCG was 1117 U/L. Transvaginal ultrasound revealed no intrauterine gestation and a 2.7 cm heterogeneous mass with a cystic component and peripheral vascularization in the right ovary, with a small amount of free pelvic fluid. Ovarian ectopic pregnancy or ruptured corpus luteum cyst was suspected, and diagnostic laparoscopy was performed. A 3 cm haemorrhagic mass was found in the distal right ovary. The lesion was removed with ovarian preservation. Histopathology confirmed extrauterine gestational tissue consistent with ovarian pregnancy (6-8 weeks).

Discussion. Ovarian ectopic pregnancy accounts for 1-3% of ectopic pregnancies and is associated with severe bleeding due to high ovarian vascularity. Risk factors include prior ectopic pregnancy, pelvic inflammatory disease, endometriosis, intrauterine device use, surgery, and assisted reproduction. Clinical symptoms are nonspecific. Diagnosis relies on serum β-hCG, transvaginal ultrasound, and histopathology. Treatment is mainly surgical, preferably laparoscopic, with ovarian preservation. Medical therapy with methotrexate may be considered in selected patients but remains controversial. Early diagnosis is crucial because of the haemorrhagic risk and rare malignant transformation.

Conclusions. Ovarian ectopic pregnancy is a rare, life-threatening condition with a challenging diagnosis and management. It should be considered in reproductive-age women with abdominal pain and vaginal bleeding, especially if risk factors are present. Early diagnosis and appropriate treatment are essential to prevent complications and preserve fertility.

Keywords. Ectopic pregnancy; ovarian pregnancy

PERITONEAL DISSEMINATION OF ENDOMETRIOID ADENOCARCINOMA POTENTIALLY INDUCED BY DIAGNOSTIC HYSTEROSCOPY

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Introduction. Endometrial cancer is one of the most common gynecologic malignancies, and hysteroscopy is used to detect intrauterine pathology. However, concerns remain that hysteroscopy may promote peritoneal dissemination of malignant cells through the fallopian tubes.

Case report. A 45-year-old woman underwent hysteroscopy with myoma resection and endometrial curettage for anemia-inducing menorrhagia. Histopathology revealed a grade 1, well-differentiated endometrioid adenocarcinoma. The patient later underwent laparoscopy. Friable peritoneal lesions in the pouch of Douglas prompted conversion to laparotomy due to suspected tumor dissemination. Sentinel lymph node removal and hysterectomy with bilateral adnexectomy were performed. The pelvic peritoneum was resected, followed by omental biopsy. Postoperative histopathological examination revealed no metastatic involvement in bilateral sentinel lymph nodes or the omental biopsy. However, endometrioid adenocarcinoma was identified in the rectouterine pouch and pelvic peritoneal specimens. Examination of the uterus with bilateral adnexa revealed endometrioid adenocarcinoma of the uterine body, staged as pT3b N0 Mx LVI0, G1 (FIGO 2023, IIIB2). The patient was referred for concurrent chemoradiotherapy.

Discussion. Endometrioid adenocarcinoma is the most common histological subtype of endometrial cancer, with a lifetime risk of approximately 2.6 - 3% in women. Hysteroscopy, the gold standard for uterine cavity assessment, may increase the risk of tumor dissemination when performed before cancer diagnosis. Peritoneal dissemination may remain clinically occult and result from transtubal migration of malignant cells, independent of lymph node metastases. Peritoneal involvement reflects advanced disease, requires chemoradiotherapy, and indicates poorer prognosis, highlighting the importance of early diagnosis.

Conclusions. Although hysteroscopy is generally considered oncologically safe when performed under controlled intrauterine pressure and appropriate distension media, this case suggests possible peritoneal dissemination. Careful patient selection and appropriate technique remain essential, particularly in undiagnosed endometrial cancer.

Keywords. Endometrial cancer; hysteroscopy; peritoneal dissemination; endometrioid adenocarcinoma.

ARTIFICIAL INTELLIGENCE–ASSISTED DETECTION OF SURGICAL EMERGENCIES IN PEDIATRIC ACUTE ABDOMINAL PAIN: A COMPARATIVE STUDY

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Background and aim of the study. Artificial intelligence (AI) is rapidly transforming the landscape of medicine and is increasingly applied in medical diagnostics and imaging analysis. However, its use in pediatric surgery remains limited. The primary aim of this study was to identify surgical emergencies among pediatric patients presenting to the emergency department with acute abdominal pain. The secondary aim was to compare clinical decision-making based on standard diagnostic methods with AI-based performance in detecting acute appendicitis.

Methods and materials. We retrospectively collected anonymized data from pediatric patients, including symptoms, clinical findings, laboratory tests results, and instrumental examinations. The data were entered into an AI system used at Vilnius University Hospital Santaros Clinics (MetGemma27b), which generated one of three recommendations: "discharge home," "hospitalize and observe," or "hospitalize and perform surgical treatment." AI-generated recommendations were compared with (1) clinicians' decisions and with (2) the correct treatment decision, which was determined by consensus among the study authors.

Results. Statistical analyses were performed using R (version 4.5.2), applying the Stuart–Maxwell test to assess differences in marginal distributions of decision categories between paired raters, and Cohen's kappa coefficient to evaluate agreement between raters beyond chance. The Stuart–Maxwell test demonstrated a statistically significant difference in category distributions between AI and clinician decisions, while Cohen's kappa indicated a moderate but statistically significant agreement at the case level. Comparison between AI recommendations and the correct treatment revealed no significant differences in category distributions, with Cohen's kappa demonstrating very good agreement.

Conclusions. AI-based recommendations closely matched correct treatment decisions, demonstrating very high case-level accuracy. These findings support the potential role of AI as a decision-support tool in pediatric emergency surgery and highlight the need for further prospective clinical validation.

Keywords. Artificial intelligence; appendicitis; pediatric emergency surgery

BEYOND CHILDHOOD: THE LONG-TERM REALITY OF HYPOSPADIAS REPAIR

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Background and aim of the study. Hypospadias is one of the most common congenital anomalies and is typically corrected during childhood. Surgical success is traditionally evaluated based on short-term anatomical and functional outcomes. However, increasing attention has been directed toward potential long-term micturitional, psychosexual, and cosmetic consequences that may persist into adolescence and adulthood. This systematic review aimed to summarize and synthesize the available evidence regarding these questions.

Methods and materials. A systematic literature search was conducted following PRISMA guidelines and the PICO framework. A comprehensive search of PubMed was performed using relevant MeSH terms and keywords related to hypospadias, surgical repair, and long-term outcomes. Ninety-one articles were identified through the initial search. After screening, 17 studies met the inclusion criteria and were included in the final analysis.

Results. Seventeen studies comprised a total of 1,214 patients that were included in the analysis. The mean age at the follow-up was 31.9 (ranging from 13 to 54 years). The most commonly reported surgical techniques were Mathieu, TIP, Van der Meulen, and MAGPI repairs. In long-term perspective, one-third of patients reported having micturitional problems. Regarding psychosexual outcomes, overall dissatisfaction with sexual life was reported by 21% of patients. Erectile and ejaculatory problems were reported by 14%, and 12% of patients, respectively. Cosmetic concerns, e.g. abnormal penile appearance or length, bothered up to 35% of men. One-third of patients (32%) felt shame related to undressing.

Conclusions. Hypospadias repair is a challenging reconstructive surgery, with incidence of postoperative complications rate reaching up to 30%. Long-term follow-up results indicate ongoing functional and cosmetic concerns in a significant subset of patients, emphasizing the importance of continued follow-up into adolescence and adulthood.

Keywords. Hypospadias; urinary outcomes; cosmetic outcomes; psychosexual outcomes; childhood hypospadias repair; long-term outcomes;

INCONSPICUOUS PRESENTATION OF CONGENITAL TRANSMESENTERIC HERNIA IN A 4-YEAR-OLD FEMALE

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Introduction. Congenital transmesenteric hernia is a rare cause of intestinal obstruction in children, with an incidence of 0.6–5.8%. Arising from mesenteric defects or agenesis in roughly 1 in 20,000 pediatric admissions, it accounts for 5-10% of all internal hernias. Because these defects lack a limiting hernial sac, they pose a high risk for rapid bowel strangulation and ischemia. Due to its inconspicuous nature on imaging, a high index of clinical suspicion remains vital for prompt surgical intervention.

Case report. A 4-year-old female presented with acute abdominal pain and persistent emesis. Initial examination showed significant distension without peritonitis. Early radiography suggested high ileus; symptoms briefly improved after an enema, but the patient later became subfebrile with worsening distension. Ultrasonography revealed dilated bowel loops, significant ascites and fibrin strands, indicating evolving peritonitis and compromised intestinal integrity. Emergency laparoscopy was initiated but promptly converted to laparotomy upon visualizing "cherry-colored" ischemic bowel loops. Surgical exploration revealed a extensive mesenteric agenesis with a strangulated ileum. Following hernia reduction, the bowel regained viability. The defect was sutured to prevent recurrence, and a prophylactic appendectomy was performed. Following a seven-day postoperative stay, the patient was discharged in good health.

Discussion. This case highlights the inconspicuous nature of transmesenteric hernias. Lacking a protective sac, these rare defects allow large segments of bowel to undergo rapid strangulation. As demonstrated, temporary relief from enemas can be misleading. Findings like ascites and fibrin on ultrasound must trigger immediate surgical intervention to prevent necrosis despite non-specific initial imaging.

Conclusions. Congenital transmesenteric hernias require a high suspicion due to their rapid progression and often misleading initial clinical presentation. Early surgical intervention is vital to prevent irreversible bowel ischemia when imaging remains inconclusive despite deteriorating symptoms.

Keywords. Congenital internal hernia; Congenital transmesenteric internal hernia; Mesenteric defect; Transmesenteric hernia.

MINIMALLY INVASIVE REPAIR OF TRAUMATIC BLADDER RUPTURE IN A CHILD: A CASE REPORT

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Introduction. Bladder injuries are rare in children and usually present as intraperitoneal rupture following suprapubic trauma during a vehicle collision. Laparoscopic repair in the pediatric population remains uncommon, with only 10 published cases in the literature.

Case report. A 4-year-old girl sustained blunt abdominal trauma during a car accident, resulting in an intraperitoneal bladder rupture related to seatbelt restraint. CT imaging of the abdomen demonstrated free intraperitoneal fluid and areas of bladder fundus irregularity with extravasated contrast, indicative of an intraperitoneal bladder rupture. Laparoscopic exploration was performed using four 5-mm ports. Extravasated urine was aspirated, and injury to surrounding organs was excluded. Intraoperatively, a Y-shaped bladder rupture extending from the pubis to the uterus was identified. This configuration was not previously reported in pediatric cases, since other reported cases typically involved linear ruptures. The bladder was repaired laparoscopically in two layers, and the integrity of the repair was confirmed intraoperatively. A pelvic drain and urinary catheter were placed. The child had an uneventful postoperative course.

Discussion. Pediatric bladder rupture is rare but a life-threatening injury. Due to the bladder's intraperitoneal position, blunt forces often cause injuries at the dome. While literature typically documents linear tears, the observed Y-shaped configuration suggests a more complex, high-energy detrusor rupture. This intricate geometry presents a heightened surgical challenge, requiring meticulous reconstruction to ensure a watertight closure, preserve bladder function, and thereby prevent serious complications.

Conclusions. This case highlights a rare Y-shaped intraperitoneal bladder rupture in children. It contributes to the limited literature on laparoscopic repair and management of pediatric intraperitoneal bladder ruptures in hemodynamically stable patients. Laparoscopic repair of intraperitoneal bladder rupture in children is a safe, minimally invasive procedure that facilitates earlier postoperative recovery.

Keywords. Intraperitoneal bladder rupture; pediatric bladder injury; traumatic bladder rupture; laparoscopic repair

NERVE-SPARING TECHNIQUES IN RADICAL PROSTATECTOMY:A SYSTEMATIC REVIEW OF FUNCTIONAL AND ONCOLOGICAL OUTCOMES

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Background and aim of the study. Radical prostatectomy (RP) is a standard treatment method for localized or locally advanced disease in men with a life expectancy over 10 years. The rise of aggressive disease in younger men over the past decades highlights the need to refine nerve-sparing techniques to reduce complications and preserve quality of life. This systematic review aims to compare functional and oncological results of these approaches.

Methods and materials. A systematic literature search was conducted in the PubMed and ScienceDirect databases using keywords “radical prostatectomy”, “neuroSAFE”, “nerve-sparing techniques”. The review was performed following PRISMA guidelines and PICO framework. A total of 129 articles published between 2020 and 2025 were reviewed, of which 17 were included after screening.

Results. Intra- and interfascial nerve-sparing (NS) techniques maintain oncologic outcomes comparable to extrafascial dissection while improving functional recovery, but careful patient selection is essential. Intrafascial NS provides faster return of continence and potency than interfascial NS but increases the likelihood of positive surgical margins, making it most suitable for lower-risk patients. The NeuroSAFE technique helps determine when nerve preservation is feasible, increasing nerve-sparing while reducing positive margins. Athermal and traction-free NS approaches, as employed in the ‘Veil of Aphrodite’ and ‘Super Veil’ techniques, also improve postoperative potency without compromising oncological outcomes. Meanwhile, Retzius-sparing robot-assisted RP is linked to earlier urinary continence return postoperatively but does not improve sexual function. No evidence confidently supports functional or oncological superiority of bilateral versus unilateral or antegrade versus retrograde NS.

Conclusions. No single nerve-sparing technique demonstrates clear superiority in functional or oncological outcomes. Results depend on the surgeon’s experience and selecting the most appropriate approach or combination of techniques for each individual case. NeuroSAFE enables reliable nerve preservation while reducing positive margins.

Keywords. Radical prostatectomy; Nerve-sparing techniques; NeuroSAFE; Interfascial dissection; Intrafascial dissection.

AGGRESSIVE HIGH-GRADE PROSTATIC STROMAL SARCOMA IN A 51-YEAR-OLD MAN WITH RAPID PROGRESSION TO EARLY DEATH – A CASE REPORT

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Introduction. Prostatic stromal sarcomas are rare mesenchymal tumors, accounting for <0.1% of prostate cancers. They typically present in middle-aged men with obstructive urinary symptoms and normal prostate-specific antigen levels. High-grade tumors are associated with aggressive behavior and poor prognosis, and optimal management remains undefined.

Case report. A 51-year-old man presented with constant coccygeal pain and acute urinary retention. Initial CT and MRI revealed a large (up to 109 mm) irregular cystic-solid mass originating from the prostate, containing necrotic areas and suspected invasion of the bladder, rectum, obturator internus muscles, seminal vesicles, and prostatic urethra. Repeat MRI two weeks later showed marked tumor enlargement, indicating rapid progression. Due to acute urinary retention, percutaneous cystostomy was performed. TRUS-guided biopsy revealed a sarcoma-type tumor consistent with intermediate- to high-grade (G2/G3) prostatic stromal sarcoma. Due to ongoing bleeding and extensive local invasion, a multidisciplinary team recommended radical surgery. Total pelvic exenteration was performed without intraoperative complication. Histopathology reported a high-grade (G3) undifferentiated pelvic soft tissue sarcoma (pT4) with lymphovascular invasion and involved resection margins. Immunohistochemistry showed focal positivity for TLE1, ERG, and CD99, and a high proliferative index (Ki-67 30-40%). Although the postoperative course was initially uncomplicated, the patient rapidly deteriorated, developing peritonitis and widespread metastatic disease involving the lungs, liver, peritoneum, and lymph nodes, and died approximately seven weeks after surgery.

Discussion. The rapid radiological progression and high Ki-67 index reflected the aggressive biological behavior of this tumor. Margin involvement and lymphovascular invasion contributed to early systemic dissemination. Despite radical surgery, outcome for high-grade prostatic sarcomas remain poor, and effective multimodal treatment options are limited.

Conclusions. High-grade prostatic stromal sarcoma is a highly aggressive malignancy with dismal prognosis. Early recognition, prompt multidisciplinary management, and advances in systemic and targeted therapies are essential to improve outcomes.

Keywords. Prostate sarcoma; pelvic exenteration; management

Vilnius Surgical Symposium
for Young Surgeons

ORAL SESSION E

Vital Systems: Neurosurgery, Cardiac & Vascular Surgery

Jury members:

1. Mindaugas Budra
2. Artūras Mackevičius
3. Kipras Jauniškis
4. Taras Kobza
5. Tomas Baltrūnas

Speakers:

1. Ignas Ruškys, *Vilnius, Lithuania*
2. Vilius Ogaras; Domas Drazdauskas; Augustas Poškus, *Vilnius, Lithuania*
3. Ignas Ruškys, *Vilnius, Lithuania*
4. Viltė Vigelytė, *Kaunas, Lithuania*
5. Augustė Melaikaitė, *Vilnius, Lithuania*
6. Grigory Matvienko, *Vilnius, Lithuania*
7. Andrius Mašonis, *Vilnius, Lithuania*
8. Sepideh Shiroudbozorgi, *Rome, Italy*

RESULTS OF PEDIATRIC HEART TRANSPLANTATION IN LITHUANIA BETWEEN 2001 AND 2026

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Background and aim of the study. We present our experience in maintaining the only pediatric heart transplant program in Lithuania, serving a population of 2.5 million at the country's sole center for congenital cardiac surgery.

Methods and materials. A retrospective analysis was conducted which included all pediatric patients who underwent heart transplantation in Lithuania from, 2001 to 2026.

Results. The study sample consisted of 22 patients: 16 (72.7%) boys and 6 (27.3%) girls. Patients were divided into three age groups: infants (n=5), children aged 1-12 years (n=11) and adolescents aged 13-18 years (n=6). The median age of transplantation was 2.25 years (1 month – 17 years). The median organ waiting time was 8.1 months (2 days – 3.64 years). 5 (22.7%) patients were kept alive with mechanical circulatory support before heart transplantation. 10 (45.5%) patients underwent heart transplantation for dilated cardiomyopathy, 7 (31.8%) for congenital heart disease that cannot be corrected in any other way, 3 (13.6%) for restrictive cardiomyopathy, 2 (9.09%) for hypertrophic obstructive cardiomyopathy. No mechanical circulatory support was required after heart transplantation. In the early postoperative period, 5 patients (22.73%) died. 3 (13.6%) more patients died in the late post-transplant period, median survival time was 7.3 years (1.8 – 11.1 years). The overall survival rate of the transplanted children was 63.6%. Actuarial survival rates were 77.3% at 1 year, 59.1% at 5 years, 27.3% at 10 years and 9.1% at 15 years.

Conclusions. Regardless of age, gender and the need for mechanical assisted circulation, the results of heart transplantation in children are good. More than two-thirds of patients survive early heart transplantation, with the majority living 5 years or more after heart transplantation.

Keywords. Cardiac surgery; congenital heart disease; pediatric heart transplantation.

POSTOPERATIVE DYNAMICS OF LIPOPOLYSACCHARIDE-BINDING PROTEIN AND INTESTINAL FATTY ACID-BINDING PROTEIN AS POTENTIAL BIOMARKERS OF SURGICAL SITE INFECTION AFTER GASTROINTESTINAL CANCER SURGERY

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Background and aim of the study. Surgical site infection (SSI) is a frequent complication in gastrointestinal surgical oncology. Biomarkers reflecting intestinal barrier dysfunction and systemic inflammatory response may improve postoperative risk stratification. Lipopolysaccharide-binding protein (LBP) reflects endotoxin exposure, while intestinal fatty acid-binding protein (iFABP) indicates intestinal permeability. This study aimed to evaluate perioperative changes in serum LBP and iFABP and their association with SSI.

Methods and materials. A prospective cohort of 110 patients undergoing gastrointestinal cancer surgery was analyzed. Serum samples were collected preoperatively and on postoperative day (POD) 2 and 4. LBP and iFABP were measured using ELISA kits (Elabscience®). Patients were divided into SSI-positive (SSI+) and SSI-negative (SSI-) groups.

Results. Postoperative LBP concentrations increased on POD2 and POD4 compared with baseline ($p \leq 0.0001$), followed by a decrease from POD2 to POD4 ($p=0.03$). SSI+ patients had higher LBP levels on POD4 ($p=0.007$) and demonstrated significant LBP elevations from baseline across all postoperative time points and during infection. In contrast, iFABP concentrations decreased on POD2 and POD4 compared with baseline ($p \leq 0.0001$). SSI+ patients showed higher iFABP levels on POD2 ($p=0.01$), although no significant dynamic changes were observed.

Conclusions. RLBP demonstrates significant postoperative dynamics and is associated with SSI development after gastrointestinal cancer surgery, supporting its potential role as an early biomarker of postoperative infection. In contrast, iFABP reflects postoperative intestinal injury but shows limited association with SSI progression.

Keywords. Gastrointestinal cancer surgery; surgical site infection; LBP; iFABP; biomarkers

ELEVEN-YEAR SINGLE-CENTER EXPERIENCE IN SURGICAL MANAGEMENT OF ACUTE TYPE A AORTIC DISSECTION

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Background and aim of the study. Acute type A aortic dissection is one of the most lethal cardiovascular emergencies, associated with high early mortality if not treated surgically. Despite advances in perioperative management, outcomes remain highly variable and dependent on institutional experience. The aim of this study was to evaluate early and long-term outcomes after surgical treatment of acute type A aortic dissection over an eleven-year period in our tertiary center.

Methods and materials. This retrospective single-center cohort study included all consecutive patients who underwent surgery for acute type A aortic dissection between 2014 and 2025. Data was retrieved from electronic medical records. Patient demographics, operative details, and postoperative complications were analyzed. The primary endpoints were early (in hospital) mortality and long-term survival.

Results. A total of 171 patients were included, of whom 111 (65%) were male. Median age at surgery was 60 years (IQR 52-72). The most common procedure was ascending aorta replacement (61%), followed by the Bentall procedure (18%). Median operative time was 7.9 hours (IQR 6.7-9.8). Preoperative and perioperative stroke occurred in 14 patients (8.2%), and renal replacement therapy was required for 30 patients (18%). Five patients (2.9%) required intraoperative extracorporeal membrane oxygenation (ECMO), while an intra-aortic ballon pump was used in two patients (1%). Bleeding-related complications were frequent. Resternotomy for bleeding was needed in 34 (20%) patients. Red blood cell transfusion was required in 153 patients (89%). Early perioperative mortality was 30% (n=52). There was no statistically significant difference in age between survivors and non-survivors (median 58 vs 59 years, p=0.11). Overall ten-year survival was 60%.

Conclusions. In this study, surgical treatment of acute type A aortic dissection was associated with high early mortality but acceptable long-term survival, comparable to contemporary published data.

Keywords. Acute type A aortic dissection; cardiac surgery; single-center experience

SURGICAL MANAGEMENT OF FUNGAL PROSTHETIC MITRAL VALVE ENDOCARDITIS WITH PANNUS FORMATION AND MULTIPLE EMBOLIC STROKES: A CASE REPORT

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Introduction. Fungal prosthetic valve endocarditis (PVE) is a challenging condition with high mortality and limited treatment options. Candida albicans PVE is characterized by a high embolic burden and systemic inflammatory response. Subacute onset may delay recognition, allowing rapid progression. We present a case of Candida albicans infective endocarditis of a mechanical mitral valve prosthesis with multiple ischemic cerebral infarctions and progressive sepsis, in which emergent redo valve surgery constituted the only viable therapeutic option.

Case report. A 56-year-old female with a history of multiple cardiac surgeries was admitted with fever and neurological deterioration. Brain CT was initially negative; MRI demonstrated multiple lacunar ischemic infarctions in both cerebral hemispheres. CRP increased to 91,76 mg/L, and blood cultures grew Candida albicans. TTE revealed a hypermobile mass (~ 1,7 cm) near the posteromedial papillary muscle; TEE demonstrated multiple mobile structures on both mitral prosthetic leaflets (up to 1.2 × 0.9 cm), with one leaflet immobile, the other severely restricted, and increased transprosthetic gradients. Despite antifungal therapy, clinical deterioration persisted. Emergent redo mitral valve surgery was undertaken. Intraoperatively, extensive pannus formation and adherent vegetations overgrowing both leaflets and extending into the left atrium and ventricle were identified. The prosthetic valve was explanted, the annulus was treated with an antiseptic, and the mitral valve re-prosthetized. Postoperatively, the patient stabilized and was transferred for rehabilitation.

Discussion. Fungal PVE is rare and associated with high mortality, reported to reach 50–56 % in published studies. Candida spp. infections frequently produce aggressive systemic inflammatory response, contributing to poor outcomes. This case shows that surgical intervention may remain pivotal despite severe systemic complications.

Conclusions. Management of fungal PVE requires individualized decision-making. In selected cases, timely surgical intervention based on overall clinical context may determine patient outcome.

Keywords. Fungal PVE; Candida albicans; Redo valve surgery.

PEDAL ACCELERATION TIME AS A PREDICTOR OF WOUND HEALING IN CHRONIC LIMB-THREATENING ISCHEMIA: A SYSTEMATIC REVIEW

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Background and aim of the study. Chronic limb-threatening ischemia (CLTI) is associated with poor wound healing, high amputation risk, and limited accuracy of traditional non-invasive perfusion tests, particularly in patients with medial arterial calcification. This systematic review evaluated the association between pedal acceleration time (PAT), a Doppler-derived hemodynamic marker, and wound healing outcomes in patients with ischemic lower-extremity wounds.

Methods and materials. A systematic literature search of PubMed, EMBASE, Scopus, and Cochrane Database was performed up to November 2025 using the terms “pedal acceleration time” and “plantar acceleration time”. Human original research studies reporting the relationship between PAT and wound healing in patients with peripheral arterial disease or CLTI were included if full text was available and the Methodological Index for Non-Randomized Studies (MINORS) score exceeded 6. Data on patient population, PAT measurement, and wound healing outcomes were extracted. Owing to heterogeneity, a descriptive synthesis was conducted.

Results. Four observational single-centre studies met inclusion criteria. All demonstrated a consistent inverse association between PAT and wound healing, with lower PAT values associated with higher healing rates. Clinically relevant thresholds around 180–186 ms emerged as markers of impaired healing potential. One study identified PAT >186 ms as a strong predictor of non-healing diabetic foot ulcers with high specificity, while another showed lower post-revascularization PAT correlated with improved healing. Heterogeneous reporting and limited confounder adjustment precluded meta-analysis.

Conclusions. PAT is a reproducible, non-invasive, continuous hemodynamic marker associated with wound healing outcomes in CLTI and diabetic foot wounds. PAT may complement existing perfusion tests, particularly in patients with arterial calcification, but larger multicentre prospective studies with standardized protocols are required to validate cut-off values and define its incremental prognostic value.

Keywords. Pedal acceleration time; Chronic limb-threatening ischemia; Wound healing; Doppler ultrasound.

ENDOVASCULAR TREATMENT OF GRAFT PSEUDOANEURYSM AFTER HYBRID TAAA REPAIR IN A YOUNG PATIENT

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Introduction. Hybrid TAAA repair offers an alternative for patients unfit for open or total endovascular repair. Nowadays, hybrid approach is reserved for high-risk or elderly patients. This case describes a unique complication after hybrid TAAA repair, treated endovasculary.

Case report. A 24-year-old male with a Crawford type III thoracoabdominal aortic aneurysm and associated dissection underwent staged hybrid repair due to limited open-surgery volume and the unavailability of specialized grafts. Initial visceral debranching included synthetic and venous grafts. Endovascular aneurysm exclusion was performed 31 days later. Seven years later, the patient presented with acute abdominal pain. Computed tomography revealed thrombosis of left-sided grafts, occlusion of the right renal venous graft, and a large pseudoaneurysm. Aneurysm exclusion and successful restoration of blood flow were achieved using an endovascular approach, deploying overlapping stent grafts in a telescopic manner from the native right renal artery to the right common iliac artery.

Discussion. Thoracoabdominal aortic aneurysm repair is still a challenging task. Open repair remains the gold standard in young patients; endovascular repair is a minimally invasive alternative, and hybrid repair is usually reserved for high-risk cases. Each approach carries risks, including graft thrombosis, pseudoaneurysm, and the need for reintervention. Outcomes depend on graft type, patient comorbidities, and center experience, underscoring the importance of individualized treatment and careful follow-up.

Conclusions. The literature reveals a clear shift toward endovascular repair of thoracoabdominal aortic aneurysms, with lower early mortality but higher reintervention rates. Hybrid repair remains a viable option for selected patients, although it is associated with specific risks. This case demonstrates that late complications of hybrid repair can be successfully managed using an endovascular approach.

Keywords. Thoracoabdominal aortic aneurysm, hybrid repair, endovascular repair, telescopic stent-graft, graft complications, case report

BEYOND CRANIOTOMY: ENDOVASCULAR APPROACH TO BRAIN-COMPUTER INTERFACE

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Background and aim of the study. As ergonomics of prosthetic limbs continue to develop, parsing instructions from the brain to move it remains to be a challenge. Balancing between surgical invasiveness and spatio-temporal resolution tends to be the main scope of today's research bringing both novel approaches and resurrection of "ancient" technology to the brain-computer interface (BCI). This study aims to bring current research of the brain sensors to spotlight.

Methods and materials. A literature search was conducted using the following keywords: "brain-computer interface", "Stentrode", "ECoG" in the databases Pubmed and ScienceDirect. The articles from the last 10 years were read and reviewed.

Results. Analysis of the selected literature indicates that endovascular stent-electrode arrays (Stentrode) provide high-fidelity electrocorticography signals which are sufficient to decode multidimensional motor intentions. Unlike the traditional electrode arrays that suffer from signal degradation due to foreign body response, intravascular interfaces demonstrate long-term viability via endothelialization effectively bypassing it. Furthermore, neuroplasticity studies show that the motor cortex is able to adapt to control supernumerary prosthetic limbs without significant cognitive load. These findings converge into endovascular BCI access being clinically viable, low-risk surgical pathway for human augmentation, overcoming safety barriers of open craniotomy.

Conclusions. Endovascular approaches suggest a paradigm shift in functional neurosurgery, bringing neural access with minimal cranial trauma. By mitigating risks associated with open craniotomy, this technology creates a pathway for both restorative prosthetics and human augmentation.

Keywords. Brain-computer interface; ECoG; Stentrode.

MINIMALLY INVASIVE ENDOSCOPIC EVACUATION OF SPONTANEOUS INTRACEREBRAL HEMORRHAGE: CURRENT EVIDENCE AND SURGICAL OUTCOMES

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Background and aim of the study. Spontaneous intracerebral hemorrhage (ICH) remains one of the most devastating forms of stroke, associated with high mortality and long-term disability. Conventional craniotomy has failed to demonstrate consistent functional benefit, leading to increasing interest in minimally invasive surgical techniques. The aim of this study was to review current evidence on minimally invasive endoscopic evacuation of ICH and evaluate its impact on surgical outcomes and functional recovery.

Methods and materials. A narrative review of clinical studies published over the last decade was conducted using PubMed and ScienceDirect databases. Keywords included "intracerebral hemorrhage," "minimally invasive neurosurgery," and "endoscopic hematoma evacuation." Randomized controlled trials, multicenter studies, and large observational cohorts assessing surgical efficacy, safety, and functional outcomes were included.

Results. Recent studies demonstrate that minimally invasive endoscopic evacuation achieves higher hematoma evacuation rates with reduced perioperative brain injury compared to open craniotomy. Multiple trials reported decreased mortality and improved functional outcomes, particularly when surgery was performed early and combined with optimized neurocritical care. Reduced operative time, lower infection rates, and shorter intensive care unit stays were also observed. Patient selection, hemorrhage location, and surgical timing were identified as critical factors influencing outcomes.

Conclusions. Minimally invasive endoscopic evacuation represents a promising surgical strategy for selected patients with spontaneous ICH. Current evidence suggests improved safety profiles and potential functional benefits compared to traditional approaches. Further randomized trials and standardized protocols are required to define optimal patient selection and establish its role in routine neurosurgical practice.

Keywords. intracerebral hemorrhage; minimally invasive neurosurgery; endoscopic surgery; hematoma evacuation; stroke surgery

Vilnius Surgical Symposium
for Young Surgeons

E-POSTER SESSION I

Visceral, Vascular and General Surgery

Jury members:

1. Kristupas Puodžiukas
2. Dominykas Gerasimovas

Speakers:

1. Simona Leonavičė, *Vilnius, Lithuania*
2. Aurelio Aquila; Buse Onur; Roberto Falla; Michela Pizzale, *Rome, Italy*
3. Kristiina Tamm, *Tartu, Estonia*
4. Liza Loce, *Riga, Latvia*
5. Katarzyna Biedrzycka; Maria Chodurska, *Warsaw, Poland*
6. Karlīna Vegere, *Riga, Latvia*
7. Lelde Kalniņa, *Riga Latvia*
8. Aleksandra Rapa, *Lublin, Poland*
9. Buse Onur; Aurelio Aquila; Roberto Falla; Manuela De Pascalis, *Rome, Italy*
10. Beatrise Alise Sarkanābola, *Riga, Latvia*
11. Radvilė Kadytė; Kornelija Venclovaitė, *Vilnius, Lithuania*
12. Rokas Kašėta, *Vilnius, Lithuania*
13. Kornelija Venclovaitė; Radvilė Kadytė, *Vilnius, Lithuania*
14. Giedrė Zdanavičiūtė, *Vilnius, Lithuania*

MANAGEMENT OF COLORECTAL CANCER IN LATE-DIAGNOSED FAMILIAL ADENOMATOUS POLYPOSIS: A CASE REPORT

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Introduction. Familial adenomatous polyposis (FAP) is a genetic condition caused by an autosomal dominant mutation of the APC gene. Such mutation leads to development of colorectal polyps and subsequently colorectal cancer (CRC) by the age of 50 in almost all cases. Thus, early genetic screening is critical for highest chances of appropriate CRC prevention and timely coordinated medical response.

Case report. A 48-year-old female with a family history of malignancy was diagnosed with an APC mutation. Clinical examination revealed over 20 polyps throughout the colon and a 6 cm rectal adenocarcinoma. The patient underwent a laparoscopic proctocolectomy with ileal pouch-anal anastomosis (IPAA) and a temporary ileostomy. Following 11 cycles of FOLFOX6 adjuvant chemotherapy, the ileostomy was successfully closed 1.5 years later with a positive prognosis.

Discussion. FAP patients typically develop colorectal polyps in adolescence, which leads to malignancy by age 39. This patient didn't have any symptoms until age 47. IPAA surgery was the optimal choice due to the rectum being involved. In addition, such approach enabled the patient to maintain bowel function which significantly improved their quality of life. Delayed diagnosis in this case necessitated a more aggressive surgical method and adjuvant chemotherapy compared to prophylactic measures.

Conclusions. This clinical case highlights that late stage FAP diagnosis increases the necessity of more radical surgical interventions and thus might lead to greater physical exhaustion from adjuvant therapy. Fortunately, radical treatment still offers high survival rates. Proactive genetic testing for at-risk patients is essential to prevent subclinical cancer progression and improve quality of life.

Keywords. Familial adenomatous polyposis, colorectal cancer, proctocolectomy, oncogenetics.

MULTIDISCIPLINARY ASSESSMENT OF HETEROGENEOUS CLINICAL PRESENTATIONS LEADING TO SURGICAL MANAGEMENT OF ACUTE ABDOMINAL COMPLICATIONS: A TWO-CASE SERIES

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Introduction. Acute abdominal surgical emergencies may present with nonspecific symptoms, particularly in patients with complex medical histories, delaying diagnosis and management. Initial clinical presentations of non-evident surgical conditions can obscure the development of life-threatening intra-abdominal complications. Therefore, early multidisciplinary collaboration, including general surgeons, is essential to identify urgent surgical conditions.

Case report 1. A 61-year-old female admitted for subacute neurological symptoms, including left-sided hyposthenia and gait disturbance. Unidentified neurological disorder due to the history of major depressive and bipolar disorder, was initially considered, along with obesity and severe constipation. During hospitalization, the patient developed neurological deterioration leading to coma, bowel obstruction and perforation. Emergent Hartmann procedure was performed. After removal of chronically obstructed sigmoid and constipation was relieved, the patient's neurological conditions returned to original state.
Case report 2. A 69-year-old female with multiple comorbidities and chronic abdominal pain recently associated with Crohn's disease, presented three times in three months to the ER. Repeated CTs showed mildly thickened descending colon and widespread arteriopathy without emergency or vascular surgical indications. During diagnostic gastroenterologic investigations, worsened abdominal pain led to repeat CT, revealing severe preocclusive superior mesenteric artery stenosis, complete occlusion of celiac trunk and inferior mesenteric artery, colonic and gallbladder perforation, and clear mesenteric ischemia. After endovascular stenting of superior mesenteric artery, emergent open left hemicolectomy, cholecystectomy, terminal colostomy and laparostomy was performed. Despite intensive care management, the patient developed refractory septic shock and died.

Discussion. These cases demonstrate how heterogeneous clinical presentations may mask surgical emergencies. Early multidisciplinary discussion proved crucial in recognizing deterioration and establishing timely surgical indications. Chronic comorbidities contributed to diagnostic delay, underscoring the need for high clinical suspicion.

Conclusions. Surgeons' early involvement should be considered when patients demonstrate clinical deterioration, even when initial presentations suggest chronic non-surgical conditions.

Keywords. **M**ultidisciplinary assessment; Emergency surgery; Diagnostic challenge; Sepsis.

BOWEL OBSTRUCTION CAUSED BY A CAPSULE ENDOSCOPY VIDEO DEVICE

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Introduction. Capsule endoscopy is used as a diagnostic tool for detecting the obscure source of gastrointestinal bleeding, as well as for identifying and monitoring pathological changes in the small intestine. After the video capsule is swallowed, it passes passively through the gastrointestinal tract while capturing images throughout its course and excretes naturally within the stool. Capsule endoscopy is regarded as a relatively low-risk and well-tolerated procedure. It also allows full-length visualization of the small intestine, which is not achievable with first-line diagnostic methods (gastroscopy, colonoscopy) in the aforementioned indications. The most frequent complication of capsule endoscopy is capsule retention within the gastrointestinal tract, occurring in 1.3–1.4% of procedures, and up to 13% in patients previously diagnosed with Crohn's disease. The procedure is contraindicated during pregnancy and in patients with known or suspected obstructions, fistulas, or strictures.

Case report. The case report describes capsule endoscopy performed to identify the underlying cause of recurrent episodes of bowel obstruction, which was complicated by capsule retention in a small-bowel stricture, leading to another obstruction. Conservative management failed to resolve the condition, and the patient was subsequently referred to a central hospital for surgical treatment. During small-bowel resection, the stricture and the retained video capsule were removed.

Discussion. This case highlights the need for careful risk assessment prior to performing capsule endoscopy in patients with recurrent symptoms of intestinal obstruction. In retrospect, although capsule endoscopy proved informative in elucidating the etiology—by visualizing a stricture and associated ulceration—it also underscored the limitations and risks of this technique in situations where radiological imaging may fail to detect small or functionally insignificant strictures. Notably, the most common complication of the procedure materialized: capsule retention within a previously undiagnosed small-bowel stricture, resulting in an obstruction and necessitating surgical intervention.

Keywords. Capsule endoscopy; Bowel obstruction; Bowel strictures

DELAYED DIAGNOSIS OF TRAUMATIC BOWEL MICROPERFORATIONS AFTER AN INITIALLY NEGATIVE CT SCAN: A CASE REPORT

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Introduction. Blunt abdominal trauma may result in delayed bowel ischemia or perforation despite initially negative CT findings. This case demonstrates the role of serial clinical assessment and timely laparotomy when peritonitis is suspected.

Case report. A 68-year-old male was admitted after a motorcycle accident. On presentation, he complained predominantly of right leg pain and mild lower abdominal pain. During observation, abdominal pain and distension progressively increased. Initial abdominal CT revealed no acute pathology. On the second day, contrast-enhanced CT showed signs of small bowel obstruction with marked gastric distension, small-volume ascites, and minor bilateral pleural effusions. Although perforation was not reported radiologically, the patient developed diffuse abdominal tenderness with positive peritoneal signs. Emergency exploratory laparotomy revealed multiple microperforations with intestinal pneumatosis. Right hemicolectomy and small bowel resection were performed, followed by stapled jejuno–transverse anastomosis using the overlap technique. Postoperatively, the patient required intensive care. Intermittent diarrhea was reported during recovery.

Discussion. Traumatic bowel injury may be radiologically occult in the early phase. CT can miss evolving ischemia, microperforation, or pneumatosis, particularly in dynamic post-traumatic conditions. In this case, imaging suggested ileus, but clinical deterioration with peritoneal signs was the main indication for surgery. This supports prioritizing clinical findings over imaging alone. Delayed operative management may lead to sepsis, bowel necrosis, and the need for extensive resections.

Conclusions. In patients with blunt abdominal trauma, progressive abdominal symptoms and peritoneal signs should prompt early surgical exploration, even after an initially negative CT scan.

Keywords. Blunt abdominal trauma; Negative CT scan; Bowel microperforation; Intestinal pneumatosis; Emergency laparotomy

BEYOND THE LIVER: A RARE CASE OF CUTANEOUS METASTASIS IN HEPATIC EPITHELIOID HEMANGIOENDOTHELIOMA

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Introduction. Hepatic epithelioid hemangioendothelioma (HEHE) is a rare vascular neoplasm of endothelial origin, classified as a tumor of borderline malignancy with behavior between benign hemangioma and malignant angiosarcoma. Clinical course varies from asymptomatic disease to aggressive, rapidly progressive forms with distant metastases, most commonly in the lungs. An important diagnostic challenge is the differential diagnosis with hepatic angiosarcoma, a highly aggressive malignant vascular tumor.

Case report. A 35-year-old female was referred to our department with a diagnosis of HEHE, established from histopathological examination of pulmonary metastatic lesions obtained via thoracoscopy. Progression of hepatic disease led to initiation of the liver transplant qualification. While awaiting evaluation, the patient reported a cutaneous lesion located on the left side of the neck, clinically suspected to represent a fibroma and surgically excised. Histopathology revealed it was a metastasis from the primary hepatic tumor - an exceedingly rare event, with only a few cases reported in the literature.

Discussion. Due to its rarity and lack of standardized treatment guidelines, HEHE remains a diagnostic and therapeutic challenge. Pulmonary metastases are frequently present at diagnosis and do not preclude liver transplantation, which can achieve favorable long-term outcomes and satisfactory survival rates. In contrast, cutaneous involvement in exceedingly rare and has been reported only sporadically, typically as an incidental finding rather than a marker of disease progression.

Conclusions. Liver transplantation remains a recognized therapeutic option in selected patients and may achieve long-term survival despite extrahepatic metastases. This case highlights the heterogeneous metastatic pattern of HEHE and underscores the importance of an individualized, multidisciplinary approach.

Keywords. Hepatic epithelioid hemangioendothelioma; liver transplantation; cutaneous metastasis; vascular neoplasm

MANAGEMENT CHALLENGES IN ACUTE NECROTIZING PANCREATITIS COMPLICATED BY COLONIC FISTULA: A CASE REPORT

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Introduction. Acute necrotizing pancreatitis (ANP) represents the most severe form of pancreatic inflammation, with a mortality rate of up to 30%. The current management strategy, guided by international recommendations, emphasizes early enteral nutrition, restrictive use of antibiotics, and a step-up approach for infected necrosis – progressing from percutaneous or endoscopic drainage to surgical necrosectomy only when less invasive measures fail. Colonic complications are rare (3 – 10% of ANP cases) but carry a high risk of perforation, fistula formation, and sepsis.

Case report. A 60 year-old female was admitted with acute epigastric pain and was diagnosed with alimentary necrotizing pancreatitis, further complicated by extensive peripancreatic infiltration and multiple infected collections. Cultures revealed a polymicrobial infection comprising Klebsiella pneumoniae, Escherichia coli, Morganella morganii, Bacteroides fragilis group, and Peptoniphilus species. Despite intensive conservative therapy – including antibiotics, nutritional support, and image – guided drainage – persistent purulent output and elevated inflammatory markers raised suspicion of a colonic fistula involving the transverse colon. A McBurney laparotomy with terminal ileostomy was performed, resulting in effective sepsis control and gradual recovery.

Discussion. Colonic fistulization secondary to ANP remains a rare but severe complication. Management requires balancing infection control with surgical timing. When conservative treatment fails, fecal diversion effectively controls sepsis and allows later reconstruction once inflammation subsides.

Conclusions. This case emphasizes the complexity of managing infected necrotizing pancreatitis complicated by secondary colonic fistula. Adherence step – up principles and timely surgical interventions are essential to improve outcome and reduce mortality.

Keywords. Necrotizing pancreatitis; colonic fistula; infected pancreatic collections; necrosis

COMPLICATED CHRONIC PANCREATITIS WITH BLEEDING FROM A PSEUDOANEURYSM OF THE GASTRODUODENAL ARTERY

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Introduction. Vascular complications in pancreatitis are reported in up to 25% of cases. The gastroduodenal artery (GDA) pseudoaneurysm is affected in 20–24% of cases. Ruptured pseudoaneurysms carry an exceptionally high risk of mortality, approaching 50–100% if left untreated. This report discusses a complex case of a GDA pseudoaneurysm combined with a ruptured pseudocyst.

Case report. A 46-year-old male was hospitalized with complaints of yellowing of the skin and sclera and pain in the upper quadrants of the abdomen. Patient was diagnosed with chronic calcifying pancreatitis with pseudocysts. Subsequently, the patient underwent ERCP, plastic stent was placed in pancreatic duct. Almost two weeks later percutaneous transhepatic cholangiography was performed. Patient had CT scan which showed gastroduodenal artery pseudoaneurysm with active extravasation, followed by arterial embolization. The next day general decompensation was observed, and laparotomy was performed due to repeated active extravasation from the gastroduodenal artery, rupture of a pancreatic pseudocyst into the abdominal cavity, followed by ligation of the gastroduodenal artery, cysto-jejunal anastomosis, EEA m. Roux, abdominal cavity sanation and drainage. Postoperative, the patient was transferred to the intensive care unit (ICU). During the ICU stage, general decompensation was observed again, and relaparotomy and abdominal cavity sanation were performed. Following intensive care and a multidisciplinary rehabilitation program, the patient was stabilized and discharged for outpatient follow-up.

Discussion. This case illustrates the significant diagnostic and therapeutic challenges associated with vascular complications of chronic pancreatitis. While endovascular embolization is the primary modality for controlling such hemorrhages, this case highlights that surgical intervention is vital when minimally invasive procedures fail to achieve hemostasis.

Conclusions. Early diagnosis is essential to prevent catastrophic intra-abdominal bleeding from ruptured pancreatic pseudocyst and pseudoaneurysm. Ultimately, successful treatment is based on a multidisciplinary approach.

Keywords. Chronic pancreatitis; Pseudoaneurysm; Pseudocyst rupture; Gastroduodenal artery; Laparotomy; Embolization

UNUSUAL CLINICAL MANIFESTATION OF A GASTROINTESTINAL STROMAL TUMOR (GIST) - A CASE REPORT

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Introduction. Gastrointestinal stromal tumors (GISTs) are rare lesions but represent the most common mesenchymal tumors of the gastrointestinal tract. Most GISTs are detected incidentally. Endoscopic ultrasound (EUS) with fine-needle biopsy remains the diagnostic gold standard. The disease is often associated with few, nonspecific symptoms. Urgent surgical intervention is rare. Risk assessment of GIST is based on tumor location, size, and mitotic index.

Case report. A 72-year-old woman was admitted to hospital due to severe abdominal pain and suspected small-bowel intussusception detected on abdominal ultrasound. Previous colonoscopy revealed no abnormalities. Abdominal CT confirmed intussusception with compression and narowing of the bowel lumen in the ileocecal region. Segmental resection of approximately 30 cm of the small intestine was performed. Histopathological examination revealed a GIST measuring 8×4×4.5cm, composed of spindle cells, highly vascularized, with CD117 (+) positivity and a point mutation of the KIT gene in exon 11. The patient remains under regular follow-up.

Discussion. GIST incidence is 1–1.5 per 100,000 annually. The most common location is the stomach (56%), followed by the small intestine (32%), and the colon and rectum (6%). Diagnosis is based on histopathological evaluation and immunohistochemical expression of KIT, CD34, and DOG. Radical surgical resection remains the most effective treatment for GIST and involves open resection of the stomach, small bowel, colon, or intra-/retroperitoneal tumors with macroscopically negative margins. Gastric GISTs are usually treated with wedge resection of the gastric wall, while other locations undergo segmental small-bowel resection or hemicolectomy. In patients at high risk of recurrence, adjuvant therapy with imatinib or other tyrosine kinase inhibitors is recommended.

Conclusions. The clinical behavior of GIST is variable. This case highlights the importance of considering atypical presentations and locations to achieve accurate diagnosis. Radical surgical resection remains the most effective treatment for primary GIST.

Keywords. Gastrointestinal stromal tumour; GIST

RAPIDLY EVOLVING THREE LIMBS NECROTIZING FASCIITIS DUE TO CLOSTRIDIUM SEPTICUM IN AN IMMUNOCOMPROMISED PATIENT : A FATAL CASE REPORT

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Introduction. Necrotizing fasciitis is a rare but serious bacterial infection that can rapidly progress into a life-threatening emergency, with a mortality rate of 23%. As its clinical course is complicated by rapid progression of extensive tissue necrosis, early diagnosis and prompt treatment are necessary.

Case report. A 72-year-old man presented to the emergency department with inflammation of the subcutaneous tissue of the right forearm and mild pain associated with a small hematoma on the left thigh. Initial vital signs revealed hypotension, and the patient reported fever for 12 hours. His medical history was significant for lymphocytic non-Hodgkin lymphoma, with ongoing chemotherapy. Two hours after admission, the left thigh rapidly enlarged with hemorrhagic suffusion and progression to widespread ecchymotic lesions with brown–black discoloration, involving the left thigh, right leg, and right forearm, associated with sub-cutaneous emphysema and severe systemic deterioration requiring transfer to intensive care unit. Laboratory testing showed severe leukopenia, thrombocytopenia, procalcitonin > 100 ng/ml and creatinine 1.9 mg/dl. Total-body CT revealed extensive soft-tissue gas dissecting along myofascial planes across multiple limbs, supporting the diagnosis of necrotizing soft-tissue infection. After a 17-hour multidisciplinary effort, with broad-spectrum antibiotics and vasopressor support, the patient progressed to septic shock. The needed three-limb fasciotomy was complicated by intraoperative brady-asystolic arrest and the patient died despite maximal resuscitation. Clostridium septicum was found in the hemoculture.

Discussion. Time is critical in necrotizing fasciitis and early surgery is essential to prevent septic shock. Physicians and immunocompromised patients at risk of severe infections should be aware of this predisposition and potential presentations to avoid delays. This case also supports that, even though necessary, early broad-spectrum antibiotics do not replace surgical intervention.

Conclusions. A high index of suspicion is crucial, as delayed management may result in fatal outcomes despite aggressive treatment.

Keywords. Necrotizing fasciitis; Immunocompromised patients

LAPAROSCOPIC MANAGEMENT OF SMALL BOWEL ILEUS CAUSED BY MIGRATION OF AN INTRAGASTRIC BALLOON: A CASE REPORT

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Introduction. Adiposity and obesity rates are increasing worldwide. Several modern techniques exist to manage overweight, including intragastric balloon (IGB) – a silicone balloon, filled with air or fluid, placed endoscopically in the stomach. The procedure is fast, minimally invasive, and promotes weight loss by increasing satiety. Rarely adverse events occur, with IGB rupture and migration leading to intestinal obstruction being among the most severe.

Case report. A 39-year-old otherwise healthy male presented to the emergency department with sudden lower abdominal pain, diarrhea and vomiting. He underwent IGB implantation for weight loss a month prior. Abdominal CT showed the IGB was not visualised in the stomach, a dense structure was noted in the proximal ileum with features of small bowel ileus. Diagnostic laparoscopy revealed ileal obstruction and a cyanotic bowel loop containing a foreign body. Enterotomy was performed, and the IGB is visualised and further evacuated. Postoperative period is uneventful and the patient on postoperative day five was discharged.

Discussion. IGB is considered safe and effective, with serious complications being rare. This case illustrates a rare occurrence of IGB rupture and migration causing mechanical intestinal obstruction, requiring acute surgical intervention. In patients with IGB presenting with symptoms of ileus, IGB migration should be considered in the differential diagnosis. Laparoscopic management demonstrates the benefits of minimally invasive surgery, including faster patient recovery and shorter hospital stay, and shows that such complications can be safely managed laparoscopically, avoiding laparotomy.

Conclusions. IGB migration causing small bowel obstruction is a rare complication. IGB rupture and migration should be considered in patients presenting with acute abdominal symptoms after IGB implantation. Laparoscopic management is a feasible and potentially beneficial approach for treating IGB migration and mechanical ileus.

Keywords. Intragastric balloon; Bowel obstruction; Laparoscopic surgery

DIAGNOSIS AND MANAGEMENT OF CARDIAC VENOUS MALFORMATIONS: A CASE REPORT

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Introduction. Cardiac venous malformations (VMs) are rare slow-flow vascular anomalies, characterised by abnormally dilated veins, typically located in the atrial septum. Clinical presentation varies from asymptomatic to severe complications, including arrhythmias, pericardial effusion, systemic embolism and heart failure. Given their diverse locations and manifestations, an accurate early diagnostic approach is essential. We present a rare case of underdiagnosed cardiac VM, requiring a multidisciplinary approach to the treatment.

Case report. A 37-year-old woman presented with recurrent tachycardia, lightheadedness and generalized weakness. Since 2013, she experienced controlled paroxysmal supraventricular tachycardia and was previously diagnosed with congenital left ventricular (LV) mass, initially misdiagnosed as a rhabdomyoma. Cardiac MRA revealed a large (70 x 30 x 65 mm) heterogenous, hypervascular mass in the basal-to-mid posterolateral LV wall, extending beyond myocardium, with partially thrombosed venous components and reduced LV ejection fraction (30%). Given the symptomatic presentation and high surgical risk, a multidisciplinary team recommended targeted therapy with Rapamycin (*Sirolimus*).

Discussion. Cardiac VMs are diagnostically and therapeutically challenging due to their rarity (<1% of cardiac masses) and variable clinical course. Cardiac MRI/ MRA is crucial in lesion characterization, assessment of vascularity, and differentiation from rhabdomyoma, hemangioma or angiosarcoma. Although surgical resection or sclerotherapy is considered standard for symptomatic lesions, extensive involvement and high bleeding risk, may limit these options. In such cases, targeted pharmacotherapy is favored for symptom control.

Conclusions. Cardiac VMs are frequently misdiagnosed and require advanced cardiac imaging for accurate diagnosis. Sirolimus offers a promising, non-invasive therapeutic option in high-risk patients, when surgical intervention is contraindicated.

Keywords. Cardiac; venous malformations; sirolimus; targeted therapy; misdiagnosis

ENDOVASCULAR MANAGEMENT OF HEMOSUCCUS PANCREATICUS SECONDARY TO SUPERIOR MESENTERIC ARTERY PSEUDOANEURYSM

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Introduction. Hemosuccus pancreaticus (HP) is a rare cause of gastrointestinal bleeding, accounting for approximately 1 in 1,500 cases of GI hemorrhage. It is characterized by intermittent hemorrhage from the pancreatic duct into the gastrointestinal tract, most commonly resulting from ruptured pseudoaneurysm, which form in the setting of pancreatitis. Superior mesenteric artery (SMA) involvement occurs in only 2.3% of the cases. Early diagnosis and prompt endovascular intervention are critical to prevent life-threatening hemorrhage.

Case report. The patient with a history of pancreatitis presented with maroon-colored stool, melena, and intense abdominal pain. Despite hemodynamic stability, laboratory evaluation revealed severe anemia with hemoglobin of 60 g/L. Contrast-enhanced abdominal CT scan demonstrated an SMA pseudoaneurysm measuring ~19x19x20 mm adjacent to the body of the pancreas. The patient underwent selective angiography with successful endovascular exclusion using a covered stent graft. Post-procedural angiography confirmed complete psuedoaneurysm exclusion with no residual filling. Follow-up ultrasound after 12 days and CT scan after one month demonstrated absent blood flow within the pseudoaneurysm and patent stent graft function.

Discussion. The intermittent bleeding pattern of HP often delays diagnosis (median 10 days). CT angiography demonstrates 83.9% diagnostic yield and should be performed in patients with GI bleeding and pancreatitis history. SMA pseudoaneurysms are particularly challenging given their proximity to critical mesenteric vasculature. Society for Vascular Surgery guidelines recommend repair of all SMA pseudoaneurysms with an endovascular-first approach when feasible. Covered stent grafts exclude the pseudoaneurysm while maintaining parent vessel patency, critical for preserving intestinal perfusion. Technical success rates approach 96-100% with lower morbidity versus open surgery.

Conclusions. HP secondary to SMA pseudoaneurysm represents a rare but life-threatening complication requiring high clinical suspicion. Endovascular stent graft placement provides safe and effective treatment. This approach should be first-line therapy for anatomically suitable SMA pseudoaneurysms, preserving mesenteric flow while avoiding surgical morbidity.

Keywords. Hemosuccus pancreaticus; superior mesenteric artery pseudoaneurysm; endovascular stent graft.

MANAGEMENT OF PROTEUS SYNDROME: A CASE REPORT

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Introduction. Proteus syndrome is a rare, mosaic overgrowth disorder driven by somatic activating mutations in AKT1 (14q32.3). It features progressive disproportionate tissue and skeletal overgrowth, cerebriform connective tissue nevi, hamartomas, and complex vascular malformations. Due to its diverse clinical manifestations and progressive nature, management is challenging, requiring repeated interventions. We present a clinical case of a pediatric patient, illustrating the long-term course and therapeutic challenges of Proteus syndrome.

Case report. An 18-year-old boy with genetically confirmed Proteus syndrome (molecular testing identified an activating AKT1 mutation with PIK3/AKT/mTOR pathway activation) underwent multidisciplinary surgical review for progressive slow-flow vascular malformations in the trunk, both legs, and left arm. Since childhood, he underwent multiple surgical procedures, including resections of vascular and soft tissue overgrowths, lipomectomies, and (hemi)epiphysiodesis. In 2021, a left below-knee amputation was performed due to infected trophic necrotizing ulcers. Despite ongoing surgical management, the malformations progressed, causing impaired mobility and wheelchair dependence. Given the diffuse, refractory disease course, treatment with Sirolimus was initiated.

Discussion. Proteus syndrome's progressive vascular malformations necessitate repeated surgical interventions, as illustrated by this case. Multimodal approaches combining surgery, pharmacotherapy, and monitoring via MRI and genomics optimize outcomes. While surgery remains essential for localized complications, its long-term efficacy is limited. Sirolimus, an mTOR inhibitor, offers a promising alternative, with reports showing malformation stabilisation and symptom relief in Proteus and other related overgrowth syndromes.

Conclusions. Surgical intervention remains an important therapeutic modality in Proteus syndrome. The progressive and refractory nature of vascular malformations implies additional treatment strategies. Genetic confirmation of AKT1 mutation supports the integration of targeted therapy with mTOR inhibitor, Sirolimus.

Keywords. Proteus syndrome; limb amputation; vascular malformations; Sirolimus

SEROUS BORDERLINE OVARIAN TUMOR MIMICKING MALIGNANCY: A CASE REPORT

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Introduction. Borderline ovarian tumors (BOTs) are epithelial neoplasms intermediate between benign and invasive malignant lesions. Serous borderline ovarian tumors (SBOTs) are the most common BOT subtype. They are more frequently diagnosed in women of reproductive age and generally have a favorable prognosis.

Case report. A 38-year-old woman presented with a one-month history of dull–stabbing right lower abdominal pain. Transvaginal ultrasound revealed a large adnexal mass occupying most of the pelvis. Computed tomography demonstrated a right ovarian lesion with both cystic and solid components, septations, and scattered microcalcifications, with radiological suspicion of micronodular pelvic peritoneal involvement. Serum markers were elevated (CA-125 611.7 kU/L, HE4 76.8 pmol/L, ROMA (premenopausal) 22.0%). At laparotomy, an 18 cm cystic right ovarian mass with a 6 cm exophytic papillary component and implants in the pouch of Douglas were found. Right adnexectomy with surgical staging was performed. Histopathology confirmed a serous borderline papillary tumor with micropapillary features and peritoneal implants (TNM pT2b). The omentum and lymph nodes showed no pathological involvement.

Discussion. This case highlights that SBOT can present with imaging and tumor markers suspicious for malignancy, making histopathology and staging essential. Prognosis is influenced by stage and adverse histopathological features, particularly implant type, micropapillary pattern, microinvasion, lymph node involvement, and bilaterality. Management is surgical and should be individualized by age, fertility wishes, and disease extent. Long-term follow-up is essential due to possible recurrence or rare progression to low-grade serous carcinoma.

Conclusions. BOTs may mimic both benign and malignant ovarian tumors. Therefore, histopathology and adequate surgical staging are critical for accurate diagnosis, risk stratification, and optimal management.

Keywords. Borderline ovarian tumor; serous; micropapillary; peritoneal implants

Vilnius Surgical Symposium
for Young Surgeons

E-POSTER SESSION II

Specialized and Structural Surgical Disciplines

Jury members:

1. Kamilė Bagdonaitė
2. Gabija Grinkevičiūtė

Speakers:

1. Gabija Dadurkaitė; Agnė Talačkaitė, *Kaunas, Lithuania*
2. Maria Żak; Joanna Żak; Hanna Kubik, *Zabrze, Poland*
3. Greta Ždankutė; Greta Miškinaitė, *Kaunas, Lithuania*
4. Alicja Szklarska, *Lublin, Poland*
5. Marija Kairāne, *Riga, Latvia*
6. Vytautas Radavičius, *Vilnius, Lithuania*
7. Kristė Maldauskaitė, *Kaunas, Lithuania*
8. Elizabete Gitendorfa, *Riga, Latvia*
9. Gintarė Donata Kubiliūtė; Pijus Vainius, *Vilnius, Lithuania*
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15. Jonas Tamosiunas, *Kaunas, Lithuania*
16. Patricija Glovackaitė, *Vilnius, Lithuania*

MYOPERICYTOMA ARISING IN THE UROGENITAL TRACT: A CASE REPORT

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Introduction. Myopericytoma is a rare mesenchymal tumor emerging from perivascular myoid cells. Most of the time, it appears in the skin and superficial soft tissues of the extremities, while visceral-level involvement is infrequent.

Case report. A 21-year-old woman complained of a hard 2.5 cm mass in her vagina near the lower part of the urethra, extending to the front wall of the vagina, which was painful when sitting and during sexual intercourse. The urinary tract was normal, and the mass was homogeneous with a volume of 5 ml. Pelvic CT-scan showed same size non-homogeneous mass between the urethra and the lower parts of the vagina, with possibly reactive inguinal lymph nodes. The paraureteric formation seen on abdominal MRI was not malignant. Excision of the mass was performed in January 2018. The results of the pathological examination showed that it was mostly consistent with myopericytoma – the lesion was composed of fibromyxoid stroma with abundant blood vessels and small monomorphic spindle cells. The neoplastic cells reacted positively with actin, focally with CD34, negatively with desmin, CD31, pS100, ER, PER, Ki67.

Discussion. Myopericytoma is an uncommon tumor, with involvement of the genital tract being exceedingly rare. The histopathological appearance and clinical course are typically benign. Most patients present with an asymptomatic, slowly growing nodule or mass. Some may report progressive lower abdominal pain or metrorrhagia. Diagnosis of myopericytoma relies on histopathological findings and while confirmation of the diagnosis relies on histological analysis, ultrasound plays a crucial role in guiding diagnosis and managing surgical intervention. Surgical removal of myopericytoma is the primary treatment.

Conclusions. Myopericytoma of the female genital tract is extremely rare. Diagnosis relies on histopathology, and surgical excision with clear margins is essential due to the risk of recurrence.

Keywords. Myopericytoma; Female genital tract; Mesenchymal tumor.

A SMALL FINGER, A COMPLEX APPROACH: THENAR FLAP RECONSTRUCTION AFTER TRAUMATIC DISTAL PHALANX AMPUTATION

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Introduction. Practical vocational training is a core component of technical education in Poland. Despite safety protocols, occupational injuries occur among students. We present the clinical management and outcomes of a traumatic finger injury sustained by a teenage girl working in a bakery.

Case report. A 16-year-old female was urgently admitted to the Department of Children's Developmental Defects Surgery and Traumatology in Zabrze following a traumatic amputation of the left fifth finger during vocational training. Examination revealed a wound with total nail plate avulsion and exposure of the distal phalanx. Due to the bone exposure, a two-stage thenar flap reconstruction was performed. During the first stage, a flap was raised from the palmar skin fold lateral to the thenar eminence and the stump was inset. After a five-week incorporation period, the flap was divided and contoured to fully cover the fingertip. Postoperatively, ischemic necrosis of the flap tip required minor intervention in the admission room. Although full coverage was achieved, a hypertrophic scar with secondary contracture developed at the donor site. Fractional CO2 laser therapy was implemented, resulting in satisfactory tissue remodeling and improved functional and aesthetic outcomes.

Discussion. Reconstructing soft tissue defects of the fingertips in pediatric patients is challenging, as it requires balancing grip function, sensation preservation, and cosmetic appearance.

Conclusions. Thenar flap reconstruction is an effective method for treating traumatic amputations of the distal phalanx in adolescents. However, it requires precise flap sizing and donor-site monitoring. This case demonstrates that even when local complications or hypertrophic scarring occur, adjunctive therapies like laser treatment can ensure a successful clinical outcome.

Keywords. Finger Injuries; Traumatic Amputation; Thenar Flap

SEVERE CONGENITAL DIAPHRAGMATIC HERNIA IN A PRETERM LOW BIRTH WEIGHT INFANT: IS SURGICAL REPAIR ENOUGH?

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Introduction. Congenital diaphragmatic hernia (CDH) is a rare congenital anomaly caused by incomplete formation of the diaphragm during fetal development. Abdominal organs herniate into the thoracic cavity and impair lung growth leading to pulmonary hypoplasia and respiratory failure after birth. Outcomes remain particularly poor in preterm low birth weight infants with large diaphragmatic defects and stabilization sufficient to allow surgical repair is rarely achieved.

Case report. A preterm male infant, the second of MCDA twins, was delivered at 35 weeks with a birth weight of 1620 g. A left-sided CDH was diagnosed at birth, requiring immediate resuscitation and ventilation. Prenatal prognosis was assessed as extremely poor. Imaging revealed extensive herniation of the stomach, intestines, liver and spleen into the left hemithorax, causing marked mediastinal shift, esophageal displacement and severe left lung hypoplasia. Despite a critical initial condition, gradual cardiorespiratory stabilization was achieved enabling surgical treatment on day 4 of life. Surgical repair via left subcostal transverse laparotomy revealed a large diaphragmatic defect with preservation of only approximately 1/5 of the diaphragm, requiring mesh repair. Postoperatively, the course was complicated by severe respiratory failure, persistent pulmonary hypertension and progressive multiple organ failure. Despite maximal intensive care, the infant died on day 18.

Discussion. Severe CDH in preterm low birth weight infants is rare and presents significant perioperative challenges. This case demonstrates the impact of extensive diaphragmatic defects and profound pulmonary hypoplasia. Although temporary stabilization allowed surgical repair, the outcome was limited by pulmonary hypertension and multiple organ failure rather than surgical complications.

Conclusions. Even in extremely high-risk CDH infants with low birth weight and a massive diaphragmatic defect, temporary stabilization and surgical correction may still be achievable. Nevertheless, the outcome may remain limited primarily by profound pulmonary hypoplasia and progressive organ dysfunction rather than operative complications.

Keywords. Congenital diaphragmatic hernia.

NEUROMONITORING CHALLENGES: SUPPLEMENTARY MOTOR AREA DISFUNCTIONS AFTER COMPLETE RESECTION OF A PARASAGITTAL MENINGIOMA

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Introduction. Intraoperative neurophysiological monitoring (IONM) is frequently employed in neurosurgery to provide real-time alerts regarding potential intraoperative injuries. However, certain brain regions remain challenging to monitor effectively.

Case report. A 47-year-old female was admitted to the Neurosurgery Department for the resection of a 59x58x42 mm parasagittal meningioma affecting the left frontal and parietal lobes. Symptoms included episodes of left-sided limb and facial stiffening, along with left lower limb pain. The surgery, preceded by tumor embolization, used IONM. Motor evoked potentials (MEPs) and sensory evoked potentials (SEPs) remained stable throughout the whole process. Following the complete tumor resection, the patient's condition declined significantly. Tetraplegia and mutism were observed for several days following the surgery. Before the operation, she had a score of 1 on the modified Rankin Scale (mRS) and 100 on the Barthel Index. After the operation, her scores were 5 on the mRS and 0 on the Barthel Index. Neurological status gradually improved during the patient's stay in the Rehabilitation Department. Three months after the operation, distal paraparesis was noted on neurological examination. The patient's current clinical condition is assessed as 3 points on the modified Rankin Scale (mRS) and 65 points on the Barthel Index.

Discussion. Parasagittal tumors resection risks supplementary motor area (SMA) injuries, manifesting as transient SMA syndrome with tetraparesis and mutism despite stable MEPs/SEPs. This highlights the limitations and indicates importance of further IONM improvements, which might enable the neurosurgeons to avoid the intraoperative lesions that worsen the patient’s state despite successful tumor resection.

Conclusions. Surgery involving parasagittal tumors may result in SMA injuries through various mechanisms. Such procedures require special attention and careful selection of neurosurgical techniques. Although IONM may not reliably indicate real-time injury, it can offer prognostic insight into long-term outcomes.

Keywords. meningioma; neuromonitoring; neurosurgery

ISOLATED LEFT SPHENOID WING HYPOPLASIA INDEPENDENT OF NEUROFIBROMATOSIS TYPE 1

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Introduction. Sphenoid wing dysplasia presents as hypoplasia or as partial to complete defects of the sphenoid wing. Most reported cases of congenital sphenoid wing dysplasia are associated with neurofibromatosis type 1 (NF1), whereas isolated cases without NF1 are uncommon. We report a case of isolated left sphenoid wing hypoplasia with dysplastic features in a 16-year-old.

Case report. A 16-year-old patient was admitted for surgical management of congenital deformity of the left sphenoid bone, characterized by dysplastic changes and hypoplasia of both the greater and lesser sphenoid wings, resulting in left-sided exophthalmos. Notably, no radiological features of fibrous dysplasia were identified, and no clinical signs of NF1 were present. The patient initially underwent osteoplastic craniotomy, duraplasty, and cranioplasty using an implant to reconstruct the sphenoid wing. One year later, revision surgery was performed with implant modification and extension because, despite partial reduction of exophthalmos, pulsation in the left orbital region persisted. Although the extent of reconstruction was limited by scarring, the surgery resulted in resolution of the pulsation. One year after revision, patient underwent an additional surgery due to aesthetic discomfort caused by implant prominence, during which superficial implant layer was contoured and partially removed.

Discussion. Sphenoid wing defects can occur for a variety of reasons. Regardless of the cause, the primary goal of surgical treatment is to restore the cranio-orbital barrier to prevent intracranial content herniation, reduce pulsatile exophthalmos, and protect visual function. In particular, defects of the greater sphenoid wing may compromise the floor of the middle cranial fossa, allowing transmission of intracranial pulsations into the orbit.

Conclusions. Isolated sphenoid wing hypoplasia in the absence of NF1 is rare. This case highlights the importance of adequate reconstruction of the cranial base and the potential need for staged surgical procedures to achieve satisfactory functional and aesthetic outcomes.

Keywords. Sphenoid wing hypoplasia; pulsatile exophthalmos

COMPLICATED MULTI-STAGE INTERVENTION FOR HVI-RELATED SPONDYLODISCITIS AND SPINAL CANDIDAL ABSCESS

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Introduction. HIV-related spinal infections require multidisciplinary approach. While early-stage cases in immunocompetent patients often respond to antibiotics, surgery is necessary for instability, neurological decline, conservative treatment failure, or abscess formation.

Case report. A 50-year-old patient presented with debilitating symmetrical waist and leg pain, marked by mechanical instability and rapid worsening upon exertion. HIV-positive with a low viral load and a history of L4-L5 spondylodiscitis with candidal urosepsis two-years-prior, treated with IV fluconazole. Repeat MRI showed progressive vertebral destruction, oedema, fluid collection, and complete disc loss at L4-L5. Due to radiological progression, instability, and failed conservative care, surgery was indicated. A planned two-stage procedure commenced with posterior L2-S1 spinopelvic fixation. The second stage—anterior L4-L5 corpectomy, abscess drainage, and spondylodesis—was aborted due to vascular involvement of the vena cava and iliac veins. The patient was discharged with partial mobility and mild perineal symptoms. Three weeks later, surgical revision included right L5 hemilaminectomy, L4-S1 foraminotomies, L4-L5 abscess evacuation, and circumferential spondylodesis. Postoperative recovery was stable, with regained mobility and diminished pain. Eight days post-revision patient developed lumbar pain, antalgic gait and drain-site exudate. Blood cultures grew MSSA and MRSE, leading to IV vancomycin. A subsequent revision involved necrectomy and removal of bone graft.

Discussion. Spondylodiscitis encompasses vertebral osteomyelitis, spondylitis, and discitis as a single disease spectrum. Fungal spinal infections are non-caseating, acid-fast-negative, and primarily opportunistic in immunocompromised hosts. Surgical management in immunocompetent patients often involves a single-stage procedure with posterior stabilization, anterior debridement, and column reconstruction. For high-risk patients, two-stage operations yield better correction and lower implant failure risk by allowing infection control between stages.

Conclusions. Immunocompromised patients with suggestive symptoms require evaluation for spondylodiscitis, including atypical fungal pathogens such as Candida. When antifungal therapy fails, surgical intervention is often necessary to restore spinal integrity and eradicate persistent infection.

Keywords. candida; fixation; abscess; spondylodesis.

LOW-GRADE LARYNGEAL CHONDROSARCOMA: A DIAGNOSTIC CHALLENGE

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Introduction. Laryngeal chondrosarcoma (LCS) is a rare, slow-growing malignancy accounting for less than 1% of laryngeal cancers and most commonly arising from the cricoid and thyroid cartilages. It predominantly affects men over 50 years of age and typically presents with hoarseness or dyspnea. Histologically, LCS is classified into low-, intermediate-, and high-grade tumors, with low-grade lesions being the most frequent. CT and MRI are the primary imaging modalities for diagnosis. Surgery is the first-line treatment and ranges from local resection to total laryngectomy, with generally favorable long-term outcomes.

Case report. The patient presented with slowly progressive hoarseness for 5 years. Endoscopic evaluation revealed a right-sided subglottic mass. Preoperative biopsy demonstrated a well-differentiated cartilaginous tumor, with features insufficient to reliably distinguish between chondroma and low-grade chondrosarcoma. Imaging tests revealed a calcified lesion measuring approximately 4 cm, associated with the thyroid and cricoid cartilages. The patient underwent open right-sided partial laryngectomy with temporary tracheostomy. Histopathological examination of the surgical specimen confirmed a well-differentiated chondrosarcoma (G1), stage pT1 with negative surgical margins (R0). The postoperative course was complicated by cicatricial laryngeal stenosis, treated with CO_2 laser excision and topical mitomycin C. During follow-up, respiratory and phonatory function improved, the tracheostomy tube was removed, and no recurrence was observed.

Discussion. Low-grade laryngeal chondrosarcoma is difficult to distinguish from chondroma due to overlapping histopathological features. Malignancy is indicated by increased cellularity, atypical chondrocytes, binucleation, nuclear atypia, and the presence of giant cartilage cells. These features support the diagnosis of chondrosarcoma and help differentiate it from chondroma. Preoperative biopsy is often inconclusive, and definitive diagnosis relies on histopathological examination of surgical specimens.

Conclusions. This case demonstrates that definitive diagnosis of low-grade laryngeal chondrosarcoma often relies on histopathological examination of surgical specimens and underscores the importance of comprehensive diagnostic evaluation in rare cartilaginous laryngeal tumors.

Keywords. Low-grade laryngeal chondrosarcoma; Cartilaginous tumor; Partial laryngectomy;

ORBITAL WALL OSTEOSYNTHESIS PLATE MIGRATION FOLLOWING ENDOSCOPIC FRONTAL SINUS SURGERY FOR MUCOPYOCELE WITH ORBITAL INVOLVEMENT

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Introduction. This case is notable for the delayed onset of orbital symptoms caused by migration of orbital wall osteosynthesis material and demonstrates that conservative management may be sufficient in carefully selected patients.

Case report. A female patient with a history of endoscopic surgery for frontal sinus mucopyocele with orbital involvement, including superior orbital wall osteosynthesis using a mesh plate, presented to the emergency department two weeks postoperatively. She reported progressive left periorbital pain, pain exacerbated by eye movement, decreased sensation in the ipsilateral forehead, intermittent fever, generalized weakness, and local swelling. Ophthalmological evaluation excluded acute ocular pathology. Computed tomography of the orbit revealed soft tissue swelling and displacement of the orbital wall osteosynthesis plate, with close proximity to the extraocular muscles and surrounding orbital soft tissues. No abscess formation or intracranial extension was identified. In the absence of visual impairment or acute orbital complications, conservative management was initiated with antibacterial and analgesic therapy. The patient was closely monitored, and surgical revision was deferred. Over the following days, symptoms and swelling gradually minimised. At one-week follow-up the patient was asymptomatic with no functional deficits and has remained so.

Discussion. Complications related to orbital wall osteosynthesis materials like migration or displacement are considered rare and are most commonly described in maxillofacial and orbital trauma surgery. Proposed mechanisms include postoperative inflammation or infection, inadequate initial fixation and altered anatomy due to chronic sinus disease. Clinical presentation may be nonspecific and resemble orbital infection, recurrent sinus disease, or ophthalmologic pathology. Symptoms such as pain with eye movement, periorbital swelling, and sensory disturbances require immediate imaging of the involved structures.

Conclusions. Migration of orbital wall osteosynthesis material is a rare but important postoperative complication that may present with delayed orbital symptoms. Conservative management may be effective in selected patients without visual compromise or progressive complications.

Keywords. Orbital osteosynthesis; mesh plate migration

PERI-IMPLANT DISEASE: CLINICAL AND RADIOLOGICAL ASSESSMENT

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Background and aim of the study. Peri-implant inflammatory conditions represent a major etiology of dental implant failure. Early diagnosis is often hindered by nonspecific clinical and radiological presentations. This study aimed to identify clinical and radiological risk factors associated with peri-implantitis and evaluate their discriminative performance in a surgical patient cohort.

Methods and materials. A cross-sectional study was conducted in 2025 at the Institute of Dentistry, Vilnius University and Periodont Dental Clinic. Patients with at least one osseointegrated dental implant were included. Standardized clinical and radiological examinations were performed. Ethical approval was obtained from the Lithuanian Regional Bioethics Committee. Statistical associations between peri-implant disease status and demographic, clinical, periodontal, and radiological variables were evaluated using comparative analysis, with significance set at $p<0.05$.

Results. Among 184 patients enrolled, the prevalence of peri-implantitis (PI) was 25% (n=46), peri-mucositis (PM) was 30% (n=55), and clinically intact implants (CI) 45% (n=83). The PI group included significantly more older and smoking patients compared with the CI group ($p<0.001$ and $p=0.017$, respectively). Further analysis demonstrated that increasing severity of peri-implant disease (from CI to PM and PI) was associated with significantly higher periodontitis stages ($p<0.001$), higher bleeding on probing index ($p<0.001$), greater tooth loss ($p<0.001$), and deeper periodontal probing depths ($p<0.001$). Radiologically, generalized alveolar bone atrophy was most prevalent in the peri-implantitis cohort ($p=0.006$), with progressive alveolar bone loss significantly more frequent ($p=0.001$).

Conclusions. Peri-implant inflammatory conditions affected nearly half of the implant population studied. Peri-implantitis was strongly associated with older age, smoking, advanced periodontal disease, tooth loss, deeper probing pockets, and radiological signs of alveolar bone loss. These findings emphasize the importance of comprehensive risk stratification, structured follow-up protocols, and early preventive measures in oral surgery to reduce the need for surgical intervention in implant patients.

Keywords. Dental implants; peri-implantitis; peri-mucositis; alveolar bone loss.

FACIAL AND DENTAL TRAUMA WITH MULTIDISCIPLINARY MANAGEMENT AFTER AN ELECTRIC SCOOTER ACCIDENT: A CASE REPORT

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Introduction. The increasing use of electric scooters has led to a growing number of accidents resulting in maxillofacial injuries, particularly facial and dental trauma. Such injuries may initially appear minor but can lead to delayed complications, including tooth loss and temporomandibular joint disorders. This case report highlights the clinical course and long-term consequences of electric scooter–related facial injury.

Case report. A 32-year-old woman sustained facial and dental trauma after falling from a rented electric scooter. The patient experienced a brief loss of consciousness. Initial evaluation without radiological imaging led to discharge. Subsequent dental assessment revealed avulsion of one maxillary anterior tooth and loss of vitality of three adjacent incisors. Temporary splinting and restorations were performed. During follow-up, pulp necrosis of teeth 11, 21, and 23 was treated endodontically, and the residual root of tooth 22 was surgically removed. Dental trauma was accompanied by periorbital edema and superficial facial abrasions. Associated injuries included superficial abrasions of the upper extremities and a conservatively managed fissure fracture of the patella. One year after the trauma, temporomandibular joint pain developed, requiring occlusal splint therapy and multidisciplinary rehabilitation including bone and soft tissue augmentation and implant placement. The patient remains under ongoing clinical follow-up three years after the accident.

Discussion. Electric scooter accidents pose a significant risk of facial and dental injuries, including tooth avulsion, pulp necrosis, and injuries to multiple body regions. Even seemingly minor falls may result in delayed temporomandibular joint disorders, emphasizing the traumatic potential of micromobility devices and the need for thorough assessment and prevention.

Conclusions. Electric scooter accidents can cause complex facial and dental injuries with long-term consequences. This case demonstrates the traumatic potential of electric scooters and emphasizes the need for awareness of delayed complications and multidisciplinary management.

Keywords. Electric scooter, Maxillofacial trauma, Dental trauma, Case report.

COMPLEX ZYGOMATICOMAXILLARY AND ORBITAL FLOOR FRACTURE WITH EXTENSIVE SOFT TISSUE INJURY AFTER AN EXPLOSION: A CASE REPORT

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Introduction. High-energy midface trauma caused by explosions is rare in practice and is often associated with complex fracture patterns, extensive soft tissue damage, and an increased risk of neurological complications. Zygomaticomaxillary complex fractures with orbital involvement and full-thickness soft tissue defects present significant reconstructive and functional challenges, requiring a well-planned surgical management.

Case report. A 38-year-old male presented with facial trauma caused by an explosion while welding in a garage. He presented with severe left-sided facial pain and a bleeding wound on the left cheek. The patient was conscious and hemodynamically stable, with no signs of loss of consciousness or intracranial injury. Computed tomography revealed a comminuted fracture of the left zygomatic bone and maxilla, a fracture of the anterior wall of the maxillary sinus, and a left orbital floor fracture. Clinical examination showed a 10 cm full-thickness laceration with exposed bone fragments. Surgical management consisted of open reduction and internal fixation using titanium mesh combined with primary soft tissue wound closure under general anesthesia. The postoperative course was uncomplicated; however, left-sided facial nerve paresis developed and was managed conservatively.

Discussion. Explosion-related maxillofacial injuries often result in combined skeletal, soft tissue, and neural damage due to high-energy force transmission. This case highlights the importance of comprehensive assesment and early surgical intervention in complex midface trauma. Titanium mesh osteosynthesis provides stable fixation in comminuted fractures, while appropriate soft tissue management is essential to reduce complications and achieve good functional and aesthetic outcomes. Facial nerve injury remains a known complication requiring careful postoperative monitoring.

Conclusions. High-energy zygomaticomaxillary fractures with associated soft tissue injury require prompt multidisciplinary management. Early reconstruction can achieve satisfactory outcomes, although neurological complications should be anticipated.

Keywords. Zygomaticomaxillary fracture; Explosion injury; Facial trauma; Soft tissue defect; Facial nerve paresis

PEDIATRIC END-STAGE FEMORAL HEAD AVASCULAR NECROSIS MANAGED WITH SINGLE-STAGE CEMENTLESS TOTAL HIP ARTHROPLASTY: A CASE REPORT

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Introduction. Pediatric total hip arthroplasty (THA) is uncommon in children. However, in end-stage hip disease it can be necessary. The following case involves an 11-year-old with advanced idiopathic avascular necrosis (AVN) treated with single-stage cementless THA.

Case report. An 11-year-old male developed left hip pain and fever three weeks after a knee injury (CRP 82 mg/L). Initial MRI showed coxitis and possible pelvic osteomyelitis. He was treated conservatively with antibiotics and intra-articular hip injections. Symptoms progressed and AVN of the left femoral head was diagnosed. On examination, the left hip was held in flexion with a painful, restricted range of motion. Pelvic obliquity with an antalgic gait produced a functional leg-length discrepancy of ~3 cm. MRI showed effusion, synovial hypertrophy, and a flattened, fragmented femoral head; radiographs showed joint-space loss and deformity. Staging: idiopathic AVN of the left femoral head, Ficat–Arlet IV; ARCO IV. Preoperatively, inflammatory markers were normal (CRP 1 mg/L, ESR 6 mm/h). Intraoperative synovial WBC 657/ μL and PMN 32.1%; cultures were negative at 14 days, supporting infection exclusion. A single-stage cementless THA was performed; no complications occurred and postoperative radiographs showed well-positioned components. At the latest review, gait was pain-free without limping; LLD ≈ 5 mm; follow-up is ongoing.

Discussion. Typical pediatric THA etiologies include AVN, Legg-Calvé-Perthes disease, inflammatory disease, and post-traumatic end-stage joint destruction. Cementless THA has low rates of failure, but malposition, aseptic loosening, and dislocation can occur. Due to high levels of activity and skeletal immaturity in children, implant longevity varies – lifelong surveillance is essential, and revision can be necessary.

Conclusions. In this end-stage idiopathic AVN, single-stage cementless THA resulted in pain-free gait and corrected functional LLD, requiring careful long-term monitoring.

Keywords. Pediatric; Avascular necrosis; Total hip arthroplasty; Cementless fixation.

DIAGNOSTIC CHALLENGES OF OSTEOGENESIS IMPERFECTA: A CASE REPORT

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Introduction. Osteogenesis imperfecta (OI) is a rare inherited connective tissue disorder caused by impaired type I collagen synthesis, resulting in increased bone fragility and low-energy trauma induced fractures. Clinical presentation is highly variable, and diagnosis may be challenging, particularly in patients without typical phenotypic features. This case report describes an adolescent girl with recurrent bilateral proximal tibial fractures following low-energy trauma, where unusual intraoperative bone fragility prompted further evaluation and led to the diagnosis of OI.

Case report. A 13-year-old girl with no previously diagnosed chronic illnesses presented after a low-energy fall while running. Radiographic evaluation revealed bilateral proximal tibial fractures – a displaced avulsion fracture of the right tibial tuberosity and undisplaced left side fracture. The right leg was treated surgically with ORIF, using screws. The left leg was managed conservatively. Both fractures healed without complications and the girl returned to everyday activities. One year later, the patient slipped in water and fell, resulting in recurrent bilateral proximal tibial fractures. Surgical fixation with K-wires was performed on both sides. During the procedure, significantly reduced bone density was noted. Intraoperative finding raised suspicion of an underlying bone fragility disorder. Subsequent genetic testing confirmed the diagnosis of OI.

Discussion. OI is a disorder characterized by increased bone fragility and a broad clinical spectrum. In the absence of typical extra-skeletal features, diagnosis may be delayed. In this case, recurrent low-energy fractures combined with unusual intraoperative findings were key indicators of an underlying bone disorder. The surgeon's observation of reduced bone density played a crucial role in further examination and establishing the diagnosis.

Conclusions. OI may remain unrecognized until recurrent fractures or unexpected intraoperative findings occur. Surgical awareness and intraoperative assessment may be essential in identifying unrecognized bone fragility disorders.

Keywords. Osteogenesis imperfecta; pediatric trauma; bone fragility; low-energy fractures

MANAGEMENT OF DISTAL FEMORAL PERIPROSTHETIC FRACTURE COMPLICATED BY OSTEOMYELITIS: SUCCESSFUL TREATMENT WITH RETROGRADE INTRAMEDULLARY NAILING

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Introduction. Periprosthetic fractures of the distal femur are commonly treated with plate and screw fixation. However, it may provide less stable fixation and carries a higher risk of infection compared with retrograde intramedullary nailing.

Case report. A 64-year-old man with a previously implanted left total knee endoprosthesis was admitted to the hospital after a traffic accident. Radiographic examination revealed a displaced, comminuted periprosthetic fracture of the distal femur. According to the AO Unified Classification System for Periprosthetic Fractures V.3-B1, indicating good bone quality and non-loosened implant. Initial treatment consisted of osteosynthesis using cerclage wire, a plate, and screws. Follow-up radiographs demonstrated loosening of the screws in condylar region and osteolysis around the fixation screws. Laboratory investigations revealed leukocytosis and elevated inflammatory markers. Although no clinical signs of infection were present, osteomyelitis was suspected and subsequently confirmed by biopsy. The fixation plate was removed, followed by surgical debridement. An external fixation device was applied, and culture-guided intravenous antibiotic therapy was initiated. After successful eradication of the infection, inflammatory markers normalised. Definitive osteosynthesis was then performed using a retrograde intramedullary nail, inserted through the knee joint endoprosthesis. Follow-up radiographs demonstrated fracture consolidation without signs of infection or secondary displacement. Additionally, radiographic evaluation of the ipsilateral hip joint revealed joint space narrowing and osteophyte formation, consistent with degenerative changes and suggesting a potential need for future hip arthroplasty.

Discussion. Evaluation of implant compatibility is essential, as not all intramedullary nails can be inserted through every type of knee endoprosthesis. Furthermore, the potential requirement for future hip arthroplasty should be taken into account during treatment planning, as it may influence the choice of fixation strategy.

Conclusions. This case demonstrates that retrograde intramedullary nail can be successfully used for distal femur fractures after successful management of post-traumatic osteomyelitis.

Keywords. Periprosthetic fracture; Retrograde intramedullary nailing; Osteomyelitis

MANAGEMENT OF WAR-RELATED LOWER LIMB FRACTURES COMPLICATED BY BURNS AND MULTIDRUG-RESISTANT INFECTION: A CASE REPORT

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Introduction. Russo-Ukrainian war is associated with application of high-energy weapons, frequently affecting the limbs and causing severe bone defects. Approximately half of war-related fractures fail to achieve uncomplicated union, 25–30% get infected, or often both coincide. This report describes the management of multifragmentary lower limb fractures, complicated by extensive soft-tissue damage and infectious setting, following a combat-related injury.

Case report. A 35-year-old man was admitted one month after sustaining multiple injuries in a drone-related explosion during military service in Ukraine. At presentation, burns involving 20–29% of the total body surface area were noted, together with bilateral open wounds of the distal shins extending into the joints. Imaging revealed multiple comminuted fractures of both shins and ankles, complicated by osteomyelitis. Initial management focused on infection control and stabilization of compromised soft tissues. During the following month, the patient underwent repeated surgical debridements, wound washouts, and split-thickness skin grafting procedures. Empiric antimicrobial therapy with meropenem, metronidazole, and fluconazole was initiated and later modified according to microbiological results. Cultures identified multidrug-resistant Acinetobacter baumannii, Pseudomonas aeruginosa, and Klebsiella pneumoniae, prompting targeted treatment with colistin and cefoperazone/sulbactam. Unfortunately, persistent infection, rising inflammatory markers, and progressive renal deterioration limited further limb-salvage efforts, and a multidisciplinary team decided to proceed with bilateral below-knee amputations. Targeted antimicrobial therapy continued until the wound healed and the signs of inflammation subsided.

Discussion. Main goals for war related injuries are to achieve fracture consolidation with a satisfactory functional outcome and successful soft tissue coverage. Management typically includes operative debridement, washout and early external fixation. Major burns, comminuted fractures, multidrug-resistant bacteria pose significant challenges to limb salvage.

Conclusions. Combat-related injuries cause complex defects that are challenging to treat. Outcomes of fractures are largely dependent on the successful treatment of connected soft tissue injuries and management of infectious setting.

Keywords. Combat orthopedic trauma; amputation; infection.

WHEN A POST-CAESAREAN HERNIA BECOMES A RECONSTRUCTIVE CHALLENGE: SINGLE-STAGE ABDOMINAL WALL REPAIR

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Introduction. Post-Caesarean section incisional hernias are increasingly encountered and often represent a complex failure of the abdominal wall rather than an isolated fascial defect. Large hernia volume, rectus abdominis diastasis, and soft-tissue excess may significantly impair function and body contour. In such cases, isolated hernia repair may be insufficient. This case report highlights the reconstructive value of simultaneous abdominal wall reconstruction and abdominoplasty in a post-Caesarean patient.

Case report. A 42-year-old multiparous woman with a history of three Caesarean sections presented with progressive abdominal wall deformity, discomfort, and functional instability. Computed tomography demonstrated a midline postoperative incisional hernia (M4W2) with a fascial defect measuring approximately 7 × 7 cm and a large subcutaneous hernia sac containing small bowel loops without incarceration. The hernia sac volume was estimated at approximately 1327 ml. Additionally, supraumbilical rectus abdominis diastasis measuring up to 6 cm and significant infraumbilical skin and subcutaneous tissue excess were identified. Given the extent of musculoaponeurotic disruption and three-dimensional soft-tissue deformity, a single-stage reconstructive approach was selected, consisting of incisional hernia repair using synthetic mesh, rectus diastasis plication combined with abdominoplasty under general anesthesia. The postoperative course was uneventful, with primary wound healing, restored abdominal wall stability, and satisfactory abdominal contour.

Discussion. Large post-Caesarean incisional hernias with high sac volume reflect global abdominal wall insufficiency rather than isolated fascial defects. From a plastic surgery perspective, simultaneous abdominal wall reconstruction and abdominoplasty allow comprehensive correction of functional and aesthetic deformities in a single procedure, avoiding staged operations and addressing the long-term sequelae of Caesarean surgery.

Conclusions. In selected post-Caesarean patients, single-stage abdominal wall reconstruction combined with abdominoplasty is a safe and effective reconstructive solution, providing both functional restoration and aesthetic improvement.

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