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ZILELE UMFST G.E. PALADE TÂRGU MUREȘ 2025

8-13 DECEMBRIE

80 DE ANI DE EXCELENȚĂ ACADEMICĂ

BOOK of ABSTRACTS

No. 8/2025

George Emil Palade University of Medicine, Pharmacy, Science, and Technology of Targu Mures University Days
December 8 - 13, 2025, Targu Mures, Romania

Scientific Session of University Academic Staff
International Conference of PhD Students and Young Doctors

UNIVERSITY PRESS TÂRGU-MUREȘ

ISSN print: ISSN 2602-1609
ISSN-L 2602-1609
ISSN online: ISSN 2734-8199
ISSN–L 2602–1609

www.zilele.umfst.ro

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Table of contents

Scientific Session of University Academic Staff Medicine and Pharmacy

George Emil Palade University of Medicine,
Pharmacy, Science, and Technology of Targu Mures
University Days

December 8-13, 2025, Targu Mures, Romania

Scientific Session of University Academic Staff

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MEDICINE AND PHARMACY

ANATOMY

DOPPLER ARTERIAL EVALUATION AND BIOMARKERS IN THE MANAGEMENT OF THE FETUS WITH INTRA-UTERINE GROWTH RESTRICTION

Liviu Moraru[1]

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Background: A fetus not reaching its growth potential during pregnancy is described as Intra-Uterine Growth Restriction, placental malperfusion being the main cause of this pathology. **Material and methods:** This presentation explore the monitoring and determining of pregnancies with Intrauterine Growth Restriction by ultrasound Doppler evaluation of the umbilical and uterine arteries and the role of different biomarkers in this process in order to determine the time of birth and to reduce the risk of complications. **Results:** The importance of this issue is based on the poor outcomes of the pregnacies with severe Intra-Uterine Growth Restriction, so the study will result in recommendations for diagnosis and management of the patients with this pathology **Conclusions:** Studing specific biomarkers combined with the Doppler evaluation of the specified arteries and finding their relationship with the Intra-Uterine Gowth Restriction are of crucial importance, in the context of multidisciplinary management.

Keywords: Intra-Uterine Growth Restriction, Umbilical Arteries, Doppler Evaluation, Placenta, Biomarkers

ANESTHESIOLOGY AND INTENSIVE CARE MEDICINE

OPERATING ROOM WORK ENVIRONMENT: A CROSS-SECTIONAL SURVEY OF STAFF PERCEPTIONS, KNOWLEDGE AND PRACTICES

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Background: The operating room represents a highly controlled but complex work environment, where medical and auxiliary personnel are exposed to multiple occupational factors such as residual anesthetic gases, surgical smoke, disinfectant vapors, noise, suboptimal temperature and humidity, and ergonomic strain. These exposures may influence both staff wellbeing and patient safety. Despite technical standards for air exchange and scavenging systems, the subjective perception of environmental quality among operating room staff remains insufficiently explored. This study aims to evaluate the perception of environmental and occupational conditions among healthcare personnel working in three surgical operating blocks within a tertiary academic hospital, and to identify the main sources of discomfort and perceived risks. **Material and methods:** A descriptive cross-sectional survey was conducted using an anonymous structured questionnaire distributed to physicians, nurses, scrub nurses, orderlies, and porters working in the operating rooms of General Surgery, Vascular Surgery, Plastic surgery and Orthopedics. The instrument included demographic data, professional role and seniority, perception of key environmental factors (air quality, surgical smoke, noise, microclimate, ergonomics), and self-reported symptoms. Responses were rated on a five-point Likert scale and analyzed descriptively and comparatively across professional categories and experience levels. **Results:** Most respondents reported discomfort related to air quality, unpleasant odors from anesthetic gases or surgical smoke, temperature variations, and musculoskeletal strain associated with prolonged standing. Perceptions differed significantly across professional categories and levels of experience, with senior medical staff demonstrating greater awareness of occupational risks. **Conclusions:** Operating room personnel frequently experience environmental discomfort and occupational strain. These findings underline the need for continuous monitoring of workplace conditions, structured educational programs, and institutional measures aimed at improving ventilation, ergonomics, and overall safety culture in the surgical environment.

Keywords: operating room, occupational exposure, workplace safety

ROLE OF GASTRIC ULTRASONOGRAPHY IN PREDICTING FULL STOMACH DURING EMERGENCY ANESTHESIA

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Background: Pulmonary aspiration remains a major concern during emergency anesthesia, as fasting status is frequently unknown. Gastric ultrasonography (GUS) allows bedside assessment of gastric content and may assist in estimating aspiration risk. In emergencies, however, some patients present with pre-existing nasogastric tubes (NGT), which may alter gastric volume and sonographic interpretation. The aim of the study is to evaluate the feasibility and clinical utility of gastric ultrasonography before induction of emergency anesthesia, and to explore its correlation with residual gastric content in patients with and without pre-existing NGT drainage. **Material and methods:** A prospective observational pilot study was conducted in ten adult emergencycases requiring general anesthesia and tracheal intubation. Pre-induction GUS was performed in supine and right lateral decubitus positions using a 2-5 MHz curvilinear probe. The gastric antrum was identified, content qualitatively classified (empty, liquid, solid), and cross-sectional area (CSA) measured. For patients without NGT, aspiration was performed immediately afterintubation. For those with pre-existing NGT, residual volume at induction and pre-induction drainage outputs were documented.Estimated gastric volume was calculated using a validated formula and compared descriptively with aspirated or residual volumes. **Results:** GUS was feasible in all patients and provided interpretable images despite the presence of NGT. Sonographic evidence offluid or particulate content corresponded with measurable residual volumes, whereas empty antrum findings were consistent withminimal or absent aspirate. Prior NGT drainage did not always ensure gastric emptying. **Conclusions:** Gastric ultrasonography is afeasible bedside tool in emergency anesthesia, even in patients with existing nasogastric tubes. Its integration into rapid pre-induction assessment may improve identification of patients at high risk for aspiration and guide airway management strategies.

Keywords: gastric ultrasonography, emergency anesthesia, full stomach

MODERN METHODS OF FEEDBACK AND MENTORING IN THE TRAINING OF YOUNG ANESTHESIOLOGISTS

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Background: Professional training in Anesthesiology and Intensive Care Medicine requires a balanced development of both technical competencies and non-technical skills, including communication, teamwork, situational awareness, and decision-making under pressure. Structured feedback and personalized mentoring are recognized as core components of modern medical education, fostering reflective practice and continuous improvement among trainees. **Material and methods:** The work describes and analyzes the implementation of several modern feedback models—Pendleton, BOOST, and feedforward—within the training program for anesthesia and intensive care residents. Additionally, it presents different forms of mentoring (clinical, academic, and peer-mentoring) and outlines the experience of the ATI Department in Târgu Mureș with integrating these strategies into routine educational activities. Data were collected through direct observation of teaching practices, resident self-reports, and informal evaluations of engagement and communication dynamics. **Results:** Preliminary observations show an increase in resident engagement and motivation, improved quality of bidirectional communication, and enhanced awareness of personal and professional progress. Residents reported clearer learning objectives, more constructive reflections on performance, and better integration within clinical teams. Challenges identified include limited time availability for trainers and the need for specific mentor training to ensure consistency in feedback delivery. **Conclusions:** The systematic use of constructive feedback models and structured mentoring significantly strengthens the educational culture within anesthesia and intensive care training. These strategies promote collaboration, reflective learning, and overall performance, contributing to the development of competent, confident, and resilient young anesthesiologists.

Keywords: Anesthesiology training, Feedback models, Mentoring

INFLAMMATORY INDICES AS PREDICTORS IN ICU PATIENTS DIAGNOSED WITH BACTERIAL PNEUMONIA

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Background: Severe bacterial pneumonia is a frequent cause of critical illness, particularly in elderly and those with multiple comorbidities. Because early clinical evaluation influences treatment decisions, inflammatory indices calculated from routine blood tests are increasingly examined as possible tools for early assessment. This study examined whether these indices contribute useful prognostic information when compared with clinical scoring systems. **Material and methods:** Fifty patients with confirmed bacterial pneumonia were included prospectively in the Intensive Care Unit (ICU) of the Clinical County Emergency Hospital of Târgu Mureș between January and May 2025. Arterial blood gases, complete blood count, markers of kidney and liver function, C-reactive protein, procalcitonin, fibrinogen and erythrocyte sedimentation rate were obtained at admission and at the day of discharge. These measurements were used to calculate the systemic immune–inflammation index, the systemic inflammatory response index, the neutrophil–lymphocyte ratio, the platelet–lymphocyte ratio and the monocyte–lymphocyte ratio. Disease severity was evaluated using the Acute Physiology and Chronic Health Evaluation score and the Sequential Organ Failure Assessment score. **Results:** The mean age was 67.8 years, and mortality rate was high (82%). Lactate, creatinine and blood pH showed consistent correlations with both severity scores (lactate $p=0.0006$ and $p<0.0001$, creatinine $p<0.0001$ and $p=0.0304$, pH $p=0.0012$, respectively $p<0.0001$). At admission, the calculated inflammatory indices did not differ between survivors and non-survivors. During admission only the systemic inflammatory response index declined significantly in survivors ($p=0.0371$). The remaining indices showed no significant modifications and did not predict mortality or the length of stay in ICU. **Conclusions:** In this study, the calculated inflammatory indices did not provide reliable prognostic information, while the clinical scoring systems and physiological markers showed a stronger relationship with patient outcome.

Keywords: bacterial pneumonia, inflammatory indices, intensive care unit, prognostic markers

ASSESSMENT OF RESPIRATORY INDICES IN OBESE CRITICALLY ILL PATIENTS UNDER NON-INVASIVE VERSUS INVASIVE MECHANICAL VENTILATION

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Background: Patients with acute respiratory failure who are critically ill necessitate immediate ventilatory assistance, whether invasive or non-invasive. Precise evaluation of clinical manifestations and paraclinical metrics—such as blood gases, oxygen saturation, respiratory rate, and imaging—is essential for directing treatment and assessing response. Ongoing assessment and prompt modifications are essential for enhancing oxygenation and advancing patient outcomes. **Material and methods:** This prospective, observational study sought to assess the significance of clinical and paraclinical measurements, including respiratory indices, in the management of ventilatory support and the evaluation of respiratory function in obese patients. **Results:** Ninety critically ill obese adults requiring ventilation were enrolled, with informed consent obtained and data confidentiality ensured. The cohort was primarily male and under 35 years of age; 20% had pre-existing chronic respiratory conditions, and more than two-thirds were classified as obese. The average APACHE II score was 19.58 ± 6.94, while the SOFA score was 6.04 ± 3.41. During the ICU stay, approximately one-third of patients received non-invasive ventilation, whereas two-thirds necessitated invasive mechanical ventilation. Blood gas analysis indicated a pH of 7.37 ± 0.12, PaO_2 of 118.60 ± 58.21 mmHg, $PaCO_2$ of 44.29 ± 15.33 mmHg, and a P/F ratio of 220.27 ± 106.39. No substantial differences were observed in ventilatory requirements across various obesity classifications ($p > 0.05$). **Conclusions:** Our findings underscore the significance of respiratory indices in directing ventilatory management for obese critically ill patients experiencing acute respiratory failure.

Keywords: critically ill, acute respiratory failure, mechanical ventilation

BIOCHEMISTRY

EVALUATION OF GENETIC RISK FOR THROMBOSIS IN PATIENTS WITH PERIPHERAL ARTERY DISEASE

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Background: Disturbances in thio amino acids' metabolism leading to hyperhomocysteinenemia are closely related to the risk of thrombosis. The aim was to reveal possible genetic background in patients with severe peripheral artery disease with/without type 2 diabetes. **Material and methods:** The survey was conducted during the coronavirus pandemic at the Clinical County Hospital in Târgu Mureş on selected critical cases of peripheral artery disease (29.5% of the 105 total arteriopathy cases) admitted for surgery to the General or Vascular Surgery Department. Serum and whole blood were stored at the Center of Advanced Medical and Pharmaceutical Research for further processing, including photometric serum homocysteine measurement (Cobas Integra, Roche Diagnostics) and assessment of methylenetetrahydrofolate reductase (MTHFR) mutation (Cytosine677Tymine) by RT Polymerase Chain Reaction. Statistics were calculated using GraphPad InStat3. **Results:** Mean age was 71 years, 28% were females, about two third had type 2 diabetes mellitus, slightly more than three quarters were hypertensive subjects. The proportion of cases with homozygous vs. heterozygous MTHFR mutation was 1:2 and 1:2.17 homozygous vs. patients with wild type allele. Hyperhomocysteinemia occured in more than half of the participants (n=18 cases), the highest levels were found in subjects with homozygous mutation, significantly higher compared to those with normal allele ($p<0.05$). **Conclusions:** More than half of the patients with severe peripheral artery disease had disturbances of the thio amino acids' metabolism. Impaired carbohydrate metabolism represents an additional risk factor for poor prognosis. Complex biochemical and genetic evaluation of these patients can reveal patients at risk for complications, which can benefit of proper secondary prevention.

Keywords: homocysteine, MTHFR mutation, peripheral artery disease, prognosis, type 2 diabetes mellitus

PERIOPERATIVE PROGNOSTIC ROLE OF DERIVED INFLAMMATORY PARAMETERS IN LOWER LIMB VASCULOPATHY

Eniko Nemes-Nagy[1], Orsolya-Zsuzsa Akácsos-Szász[2], Zsuzsánna Simon-Szabó[3], Mónika Szilveszter[2], Sándor Pál[4], Mariana Cornelia Tilinca[5]

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Background: Inflammation is a contributing factor to lower limb vasculopathy. Blood count-derived inflammatory parameters can be used as perioperative prognostic markers. The aim of the study was to evaluate the predictive role of blood count-derived parameters for postoperative evolution of diabetic and non-diabetic patients with lower limb arteriopathy hospitalized during the novel coronavirus pandemic period. **Material and methods:** The survey was conducted during the pandemic on hospitalized diabetic and non-diabetic patients with lower limb arteriopathy undergoing surgery at the Clinical County Hospital in Târgu Mureş. 94% of the one hundred five total cases with this pathology were eligible for the study. Derived inflammatory markers were calculated using the measured blood count parameters (Cell Dyn Ruby, Abbott Laboratories), their correlation and prognostic role was statistically assessed. GraphPad InStat 3 and R softwares were used for statistical processing of the data. **Results:** Mean age of the selected participants was 68 years, about half were also diabetic, and 79% of them were male patients. Neutrofil-to-lymphocyte ratio positively correlated with platelet-to-lymphocyte ratio and negatively with lymphocyte-to-monocyte ratio. Patients whose blood count-derived inflammatory parameters remained within the normal range presented a significantly shorter ($p<0.05$) length of stay compared to those with one or more pathological markers. Length of stay showed inverse relationship with lymphocyte-to-monocyte ratio. **Conclusions:** Accessible and cost-efficient, blood count-derived inflammatory markers show promise as prognostic role in arteriopathy progression. Calculation of several derived parameters for each patient is recommended for a more accurate assessment. Future clinical trials should evaluate their utility in predicting favorable or unfavorable disease outcomes.

Keywords: blood count-derived inflammatory parameters, cost-efficient, lower limb arteriopathy, postoperative evolution, prognostic role

CARDIOLOGY

CURRENT STATUS OF ATRIAL FIBRILLATION SCREENING IN CLINICAL PRACTICE

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[2],

Background: Atrial fibrillation (AF) is the most frequently occurring sustained arrhythmia in clinical practice. Its prevalence is continuously increasing, mainly due to population ageing. Due to its major clinical consequences, especially cardioembolic complications, its timely diagnosis, mainly by screening, and treatment are very important. **Material and methods:** Screening of AF is a frequent challenge in daily practice. It can be done opportunistically, at every patient-physician encounter, or systematically, mainly in patients after a cryptogenic ischemic stroke and in those with risk factors for atrial fibrillation/cardioembolic events. The methodology of screening involves many possibilities, from a simple pulse palpation to non-ECG methods and, finally, to ECG-based devices. AF screening is based on a paradoxical fact: the more efficient the screening, the more AF is found, but many without clinical significance. **Results:** Current Guidelines emphasize the importance of opportunistic screening, mainly in patients >65 years, and of the systematic screening, involving diverse devices, in post-stroke patients, persons >75 years and those >65 years with risk factors for stroke. **Conclusions:** An important aspect of AF screening is the initiation of anticoagulant treatment. Clinical AF mandates anticoagulation, however, the anticoagulant treatment in <24 hours episodes of subclinical (silent) AF is still under debate. In the case of shorter AF episodes, the embolic risk score (CHADS-VA) has to be considered in this regard.

Keywords: atrial fibrillation, screening, stroke

DENTAL MEDICINE

EVALUATION OF THE CORROSIVE EFFECTS OF FLUORIDE-CONTAINING ORAL HYGIENE PRODUCTS ON ARCHWIRES MADE FROM DIFFERENT ALLOYS: AN IN VITRO STUDY

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Background: This study aimed to evaluate how fluoride-containing mouthwashes and toothpastes influence and alter the surface structure of archwires made from different metallic alloys. The in vitro analysis of fluoride-induced corrosion was complemented by a questionnaire assessing the use of fluoride-based oral hygiene products among patients with fixed appliances. **Material and methods:** Four types of orthodontic archwires —Nickel-Titanium (NiTi), Stainless Steel (SS), and Cobalt-Chromium (CoCr) — were immersed in five fluoride-containing products: two toothpastes (Colgate, Sensodyne) and three mouthwashes (Listerine, Elmex, GUM Ortho). Physiological saline (0.9% NaCl) served as the control. Samples were incubated at 37 °C for 1 h, 24 h, and 168 h, followed by scanning electron microscopy (SEM) examination and statistical analysis using ANOVA and Tukey HSD tests. **Results:** The questionnaire data indicated that 55.8% of respondents consciously selected fluoride toothpastes, while 27.9% consciously selected fluoride mouthwashes. SEM analysis revealed no corrosion after 1 h and 24 h exposure, while after 168 h, corrosion lesions were evident, particularly on NiTi wires. Significant differences ($p = 0.04$) were observed between the toothpaste-treated samples and the control. Colgate produced the strongest corrosive effect, whereas Listerine showed the least. **Conclusions:** Fluoride-containing oral hygiene products can induce surface corrosion on archwires, depending on exposure time and alloy type. While these products are beneficial for caries prevention, their potential effects on corrosion should be monitored in patients with fixed orthodontic appliances.

Keywords: fluoride, corrosion, archwires, scanning electron microscopy (SEM), oral hygiene

PATIENTS' DEMAND FOR REMOVABLE DENTURES IN THE INTEGRATED CENTER OF DENTAL MEDICINE

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Background: The study aimed to assess the patients' demand for prosthetic dental care provided by the Faculty of DentalMedicine of the George Emil Palade University of Medicine, Pharmacy, Science, and Technology of Targu Mures. **Material and methods:** A retrospective study was conducted to evaluate the prosthetic rehabilitation of patients through removable denture inthe Integrated Center of Dental Medicine (ICDM) between 1st September 2021 and 31st May 2025. Patients' dental records anddental technics laboratory records were analyzed. The ethical approval was obtained from the Ethics Committee for ScientificResearch of our university (approval no. 3828/23.06.2025). Descriptive statistics and Student t-test were used for statistical analyses($p<0.05$). **Results:** In the study period a total of 456 patients received 711 removable dentures and a vast majority of these werecomplete dentures (84.25%). The number of patients grew with 55.10% in the second study year after total reimbursement ofacrylic based removable dentures was introduced. More female patients (57.46%, mean age 64.6±11.3) than male patients(42.54%, mean age 65.5±11) were treated. Significant differences were recorded between the percentage of urban and rural patients($p<0.05$). **Conclusions:** The results suggest that patients' demand for prosthetic dental care in the ICDM of the Faculty of DentalMedicine increased since the acrylic based removable dentures were publicly funded.

Keywords: publicly funded, dental care, removable denture, retrospective study

GENOTOXIC EFFECTS OF AGED AMALGAM AND COMPOSITE RESTORATIONS

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Background: Dental restorative materials, such as amalgams and methacrylate-based composites, contain chemical components that may pose biological risks, particularly as these materials deteriorate over time. The micronucleus (MN) assay is a widely recognized, simple, and non-invasive method for detecting genotoxic damage in exfoliated oral epithelial cells. The present study aimed to assess the occurrence and morphological features of MN in oral mucosal cells collected near aged dental restorations. **Material and methods:** A total of 87 volunteers (aged 31-63 years) with 115 aged dental restorations were enrolled. Each participant underwent a clinical examination assessing oral health status using the Plaque Index (PI), Gingival Index (GI), and Papillary Bleeding Index (PBI), recorded by the same calibrated operator to minimize bias. Epithelial cells were collected from gingival tissues adjacent to composite and amalgam restorations of varying ages, fixed, and stained with hematoxylin-eosin (HE). Micronuclei (MN) were identified and quantified according to Tolbert's criteria. Statistical analyses were conducted using Chi-square tests, with the level of significance set at $p < 0.05$. **Results:** Micronuclei (MN) were observed in a higher percentage of cells adjacent to amalgam restorations (49%) compared to composite restorations aged 1-5 years (45%), 5-10 years (43%), and over 10 years (36%), indicating a slight decreasing trend with restoration age. Most composite samples contained fewer than five MN per cell, whereas 86% of amalgam samples exhibited 5-10 MN per cell ($p = 0.00001$). Morphological assessment revealed no significant differences in MN location ($p = 0.11$), staining ($p = 0.11$), or morphology ($p = 0.18$) between groups. Overall, composite restorations showed a lower genotoxic impact compared to amalgam fillings. **Conclusions:** Within the limitations of this study, particularly the absence of a control group, the results indicate that chronic exposure to dental restorative materials and their progressive ageing may contribute to localized DNA alterations in the adjacent oral mucosa.

Keywords: genotoxicity, micronucleus, material ageing, restorative materials, dental amalgam

INTRAORAL LYMPHOMA – CHALLANGING FOR THE DENTIST AND ORAL SURGEON

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Background: Lymphomas in the oral cavity are rare types of extranodal non-Hodgkin lymphoma and they represent the third most common malignancy in the oral cavity, surpassed by squamous cell carcinoma and malignancies of the salivary glands. Its location in the oral cavity represents a differential diagnosis challenge not only for the oral surgeon but for the dentist as well. Approximately 1/3 of lymphomas arise from other sites than the lymph nodes, bone marrow or spleen and their prevalence has increased. Traditional chemotherapy and radiation therapy can improve survival for patients with common lymphomas, but in extranodal lymphoma the prognosis remains unsatisfactory. **Material and methods:** We present two clinical cases of extranodal lymphoma developed in oral cavity, which appeared on clinical examination as intraoral massive swelling with rather rapid evolution. Because intraoral lymphomas are rare and the clinical and radiological presentation may resemble other or benign conditions, they have a high risk for diagnostic delay. **Results:** The diagnosis of extranodal lymphoma needs an extensive assessment of each case including physical examination and laboratory tests together with imaging studies, such as X-rays, CT scans, MRIs, and PET scans, enabling the identification of the extent of lymphoma involvement. Biopsy is performed to obtain tissue samples, which provide definitive evidence for lymphoma diagnosis. Immunohistochemistry and genetic tests are mandatory to determine the specific subtype and prognosis of the lymphoma. The treatment of extranodal lymphoma depends on aspects such as subtype, stage of the disease and the patient's overall health. Conventional treatments include chemotherapy, radiation therapy, targeted therapy, and immunotherapy. Surgical treatment has limited value being contraindicated, even if some lesions may appear resecable. **Conclusions:** The nonspecific clinical appearance of intraoral lymphomas can delay in establishing an accurate diagnosis and unwanted postpone in applying the correct complex oncological treatment.

Keywords: intraoral lymphoma, extranodal lymphoma, oral cavity

ACRYLIC RESINS USED IN THE DENTAL LABORATORY: ERRORS AND CONSEQUENCES

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Background: The correct execution of acrylic prostheses depends largely on the precision of the technical and technological steps involved in the preparation, polymerization and processing of the acrylic material. Errors occurring in these phases can significantly affect the success of the finished work, affecting both the adaptation, resistance and aesthetics of the final prosthesis, as well as the comfort and satisfaction of the patient. **Material and methods:** Errors that can occur at any time during the use of a type of acrylic resin were identified, simulated and highlighted. We used the Vertex Rapid Simplified acrylic resin, a material that is mainly used in the execution of the base of partial and complete dentures. Errors occurred in the dosing and preparation phase of the acrylate paste, during pressing, during polymerization, but also after polymerization, unpacking the prosthesis and in the processing stages. **Results:** Laboratory stages can be followed by the appearance of errors. We identified visible errors such as porosities, granular appearance, the appearance of inclusions of different shapes, volumetric variations and shrinkage during polymerization. Visible but also superficial errors can generate deformations of the prostheses and represent "practical" aspects regarding the avoidance and/or possibility of correcting these errors. Quality-control at each stage of the acrylic prosthesis manufacturing-process is necessary to obtain functional, durable and aesthetic results, in accordance with modern standards of dental prosthetics, but also with the critical requirements of the patient. **Conclusions:** By rigorously following the technological protocol, the correct use of laboratory instruments and equipment and, last but not least, continuous training of technical personnel, errors can be avoided. less susceptible to internal defects and cracks compared to other materials, if used according to the manufacturer's instructions and standard hot pressing techniques. Most problems arise from non-compliance with the manufacturing steps.

Keywords: acrylate, errors, polymerization, acrylic dentures

POST-RETAINED RESTORATIONS: DIRECT OR INDIRECT?

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Background: In today's dental practice, we often encounter cases in which restoring teeth is challenging, particularly when the crown is severely damaged. In fact, it is worth saving the tooth root if endodontic treatment is performed correctly.Fixed restorations supported by post-and-core systems are designed to restore the tooth's morphological and functional integrity by replacing the lost crown portion.This paper aims to draw a parallel between the clinical and technical phases of manufacturing cast post-and-core systems and direct restorations with glass fiber posts. **Material and methods:** At the current stage of the in vitro study, 18 extracted human teeth have been prepared and restored: 7 with custom cast post-and-core systems, fabricated in the dental laboratory and 11 with prefabricated glass fiber posts using the direct technique. The teeth were extracted due to complicated tooth decay and periodontal disease, as well as for orthodontic purposes. They were sectioned at the cervical level to remove the coronal portion and underwent endodontic treatment according to clinical and technological protocols at each stage of the procedure. **Results:** When choosing a single-tooth fixed restoration, it is important to consider its advantages and limitations. Direct fiber post restorations have proven to save time, labor, and materials. However, the success of cast post-and-core systems depends on the dental technician's skills, and the technological process is more complex, consuming more time and resources. **Conclusions:** Even though cast post-and-core systems offer a precise fit to the root canal shape and can withstand greater compressive forces, the resulting fractures are often catastrophic in case of failure and can compromise the entire tooth root. The results obtained depend largely on the materials used for everything from root canal impressions to crown restorations.

Keywords: Cast post-and-core systems;, Glass fiber posts;, Extracted human teeth;, Endodontic treatment, In vitro study

DIGITAL SCANNING AS A SUPPORT TOOL FOR STUDENTS

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Background: This paper is analyse the process of learning and practical skills acquisition among students with minimal or no experience in the digital realm of dentistry. **Material and methods:** The study included 20 students from preclinical and clinical years of the Faculty of Dental Medicine, within the "George Emil Palade" University of Medicine, Pharmacy, Sciences and Technology in Târgu Mureş;- The participants were divided into two equal groups. Group 1 performed a scan of a teaching model (in vitro) and then intraoral digital scans (in vivo). Group 2 performed the intraoral scans directly using the scanner in the Dental Medicine;The scanning time, number of repetitions required, errors and difficulties encountered were recorded, thus obtaining a comparable, clear and objective statistical analysis **Results:** The average time for the initial scan of the didactic model (in vitro) was 10-15 minutes for group 1, compared to the average time for the initial in vivo scan was 22-25 minutes for group 2 and a difference of 10-15 minutes between the 2 types of scans. The average time for the intraoral scan of group 1 was 17-19 minutes, a difference of 3-8 minutes less than the initial results of group 2. Multiple scanning attempts revealed a significant increase in quality, accuracy and a considerable decrease in errors. There were fewer difficulties when scanning the model, compared to the intraoral scan of the patient (no soft tissue, no saliva, easy positioning of the scanner and model during scanning). **Conclusions:** Adaptation to digital technology is achieved gradually, and success in digital impression occurs after at least 8 intraoral scans. Success in digital scanning also based on theoretical notions, thus acquiring working technique and digital dexterity. The participating students' impression was that they overestimated their scanning abilities and the study confirms that repeated practical training plays an essential role in achieving efficiency and accuracy in intraoral scanning.

Keywords: Digital intraoral scanning, scanning time, digital dexterity

MONOLITHIC ZIRCONIA CROWNS BY CAD/CAM TECHNOLOGY

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Background: Zirconia has become one of the most widely used ceramic materials in restorative dentistry due to its excellent **mechanical strength, biocompatibility, and esthetic potential**. The development of **CAD/CAM technology** and improved **translucent zirconia formulations** has enabled the fabrication of durable, highly aesthetic **monolithic restorations** without the need for veneering ceramics. **Material and methods:** The fabrication of the monolithic zirconia crown was carried out entirely through a **digital workflow**, including **intraoral scanning, computer-aided design (CAD), milling, finishing, glazing,** and **sintering**. The crown was designed using an intuitive CAD software and subsequently milled from a **ZR 3D Pro zirconia disc (Ytral)** with a **CNC Imes Icore 250i** milling machine. After milling, the restoration underwent **finishing and glazing** with **Vita Glaze LT**, following the manufacturer's recommendations to enhance surface smoothness and esthetics. The **sintering process** was performed at **1450°C for 8 hours** to achieve full material densification and optimal mechanical properties. Throughout each stage, the **dimensional accuracy, surface quality, esthetic appearance,** and **processing time** were systematically assessed to evaluate the efficiency and reproducibility of the digital protocol. **Results:** The total time required for the digital stages—**design-milling**—ranged between **25-30 minutes**, while the **sintering process** took approximately **8 hours**. The fabricated crown exhibited **high dimensional precision**, a **smooth and uniform surface finish**, and required **minimal post-processing adjustments** to achieve the desired fit and esthetic appearance. The fully digital workflow proved to be **efficient and consistent**, significantly reducing the potential for manual errors and improving the **reproducibility** of the fabrication process. **Conclusions:** Adherence to a precise and standardized **digital workflow** enables the **efficient and predictable fabrication** of **monolithic zirconia crowns**. Mastering each step of the **CAD/CAM process**—from design to sintering—ensures superior accuracy, surface quality, and esthetic results. A thorough understanding of **zirconia's material properties** and its behavior throughout the digital manufacturing process is essential for achieving consistent, high-quality restorations.

Keywords: monolithic zirconia crowns, CAD/CAM, digital workflow, dental technology

LITHIUM DISILICATE VENEERS IN ANTERIOR ESTHETICS: A CASE REPORT

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Background: Dental veneers represent a conservative and highly esthetic solution for the restoration of anterior teeth affected by discoloration, minor malformations, or enamel defects. Advances in **ceramic materials** and **adhesive technologies** have significantly improved the predictability, durability, and natural appearance of veneer restorations. Among the available materials, **lithium disilicate ceramics** stand out for their excellent **mechanical strength**, **translucency**, and **bonding capacity** to enamel and dentin. **Material and methods:** The treatment involved a **conservative preparation** of the two maxillary central incisorsperformed by the clinician, followed by **close communication with the dental laboratory** regarding **shade selection, translucency, design,** and **veneer fabrication parameters**. The fabrication of the **lithium disilicate veneers** was completed inthree main stages: **Model fabrication** – verification of the digital files and impressions, followed by the preparation of accurateworking models. **CAD/CAM stage** – digital scanning of the models, 3D design of the veneers, and milling of the restorations fromlithium disilicate ceramic blocks. For this case, a **temporary mock-up** made from **polymethyl methacrylate (PMMA)** wasfabricated and evaluated during the try-in phase to ensure harmony with the patient's natural dentition in terms of **shape, color, and proportion**. Throughout the entire workflow, special attention was given to **marginal accuracy**, **internal fit**, **surface quality**,and **esthetic integration** within the smile line. **Results:** The lithium disilicate veneers exhibited **excellent marginal adaptation**, **high translucency**, and **natural optical properties**, ensuring seamless **esthetic integration** with the adjacent dentition. A review ofthe current literature supports these findings, indicating **survival rates exceeding 90%** for lithium disilicate veneers when **proper adhesive techniques** and **conservative preparation protocols** are followed. These results emphasize the **clinical reliability**of lithium disilicate ceramics and highlight the importance of precise **laboratory–clinician collaboration** in achieving durable and predictable outcomes. **Conclusions: Lithium disilicate veneers** represent a **predictable and highly esthetic restorative solution** for the rehabilitation of anterior teeth.

Keywords: Dental veneers, Cosmetic restorations, Lithium disilicate, CAD/CAM

A HYBRID ANALOG–DIGITAL WORKFLOW FOR METAL–CERAMIC IMPLANT-SUPPORTED RESTORATIONS

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Background: Implant-supported restorations have become a reliable and predictable treatment option for the replacement of missing teeth, offering excellent **functional stability**, **esthetics**, and **patient comfort**. Continuous advancements in **implantology**, **prosthetic materials**, and **digital technologies** have significantly improved both the precision and efficiency of restorative workflows. **Material and methods:** The laboratory protocol began with the insertion of the implant analogs—**three in the maxillary arch** and **two in the mandibular arch**. An **artificial gingiva** was then fabricated using an **injectable silicone material**, applied up to the analog margins to replicate the peri-implant soft tissue. The **models were mounted in an articulator**, allowing verification of **occlusal stability** and **functional movements**. In the **digital phase**, the models were scanned **with and without the artificial gingiva**, and **scan bodies** corresponding to the implant systems were attached for precise digital positioning. Theobtained files were processed in **Exocad software**, where the **implant library** was selected and the **virtual teeth** were anatomically adjusted. The veneering process involved the sequential application of a pink bonding layer, followed by two opaque porcelain layers with intermediate firings. Subsequently, dental ceramics in shade D2 were layered to reproduce the desired morphology and color. Two additional firing cycles and a final glaze firing were performed to obtain the definitive esthetic and functional **outcome Results:** The metal-ceramic implant-supported restoration demonstrated excellent marginal adaptation, accurate occlusal contacts, and high prosthetic stability after insertion. The veneering ceramics exhibited a natural translucency and shade match with the adjacent dentition, ensuring a harmonious esthetic integration. No discrepancies in the fit of the metal framework or porcelain defects were observed after the final firings. **Conclusions:** The integration of analog and digital techniques in the fabrication of metal-ceramic implant-supported restorations allows for a precise, efficient, and predictable workflow. This hybrid approach combines the accuracy and reproducibility of CAD/CAM technology with analog.

Keywords: implant prosthetics, metal–ceramic restoration, CAD/CAM, dental technology

METAL-CERAMIC BRIDGE ON MIS IMPLANTS

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Background: Metal-ceramic implant bridge is a screw-retained, partially fixed prosthesis supported by intra-alveolar dental implants. This type of restoration is commonly indicated in cases of partial edentulism where adequate implant distribution allows for the replacement of multiple missing teeth with a single, unified prosthetic structure. **Material and methods:** The workflow commences with the acquisition of a high-resolution digital impression obtained via intraoral scanning. This dataset serves as the foundation for the CAD/CAM-based design of the metal-ceramic restoration. The prosthetic assembly comprises titanium implants and the suprastructure, joined through multi-unit abutments, using the MIS Multi-Unit (2017) screw-retained system and its corresponding digital library. Within the digital environment, occlusal relationships, tooth morphology, emergence profiles, and insertion axes are systematically optimized. After finalizing the virtual design, the metal framework is fabricated and clinically evaluated to confirm passivity and precision of fit. The working model is subsequently mounted in an articulator to refine dynamic and static occlusion. The metal substructure undergoes standardized surface conditioning—oxidation, sandblasting, and application of a bonding agent—prior to veneering. An opaque ceramic layer is applied to mask the metal, followed by stratified ceramic layering and controlled firing to reproduce anatomical contours and optical properties. Final adjustments are made to harmonize occlusion and functional dynamics. **Results:** This therapeutic approach is indicated for patients with partial edentulism requiring the replacement of one or more missing teeth. The incorporation of multi-unit abutments facilitates the correction of implant divergence, ensuring proper alignment for a predictable prosthetic outcome. The implant-supported restoration effectively re-establishes the patient's smile, re-creates dental arch continuity, and restores functional masticatory efficiency by enabling a more uniform distribution of occlusal forces across the arch. **Conclusions:** Dental implants provide durable and stable results. Compared to conventional prostheses, implant-supported restorations offer a superior alternative, especially in cases with multiple missingteeth or total edentulism.

Keywords: multi-unit abutment, functionality, implant, metal framework.

SALIVARY PH CHANGES INDUCED BY DISINFECTANT MOUTHRINSES USED FOR ABUTMENT SURFACE DISINFECTION

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Background: Chlorhexidine 0.2% and hydrogen peroxide 3% solutions are commonly used for dentin surface disinfection before adhesive cementation. Studies from the literature evaluate the effects of a 1.5% hydrogen peroxide concentration when used as a mouthwash. This study investigates the effect of both disinfectants on salivary pH when used for mouthwash, as pH modifications may influence dentin characteristics and the outcomes of the adhesive bonding. **Material and methods:** This study investigated salivary pH changes after rinsing (1 minute) with 0.2% chlorhexidine (Corsodyl) and 1.5% hydrogen peroxide (prepared by diluting 3% hydrogen peroxide with distilled water 1:1). Sixty participants were enrolled (20 per group: control, chlorhexidine, hydrogen peroxide) in this study conducted at the Faculty of Dental Medicine of "George Emil Palade" UMPhST of Târgu Mureş. Saliva samples were collected using 5 ml sterile containers from each participant. The salivary pH was determined by using a Hanna Instruments HI-2022 edge pH meter before rinsing, immediately after rinsing, and at 30 and 60 minutes post-rinse. **Results:** The initial salivary pH values did not show statistically significant differences ($p > 0.05$). Both chlorhexidine and hydrogen peroxide induced statistically significant changes in salivary pH. The highest modifications were measured after rinsing with chlorhexidine ($p < 0.05$). The significant changes caused by clorhexidine were highest immediately after rinsing ($p < 0.05$) and 30 minutes post-rinse. Hydrogen peroxide decreased the pH value immediately after rinsing ($p < 0.05$), although the effect diminished at 30minutes and returned to initial values within one hour for both rinsing solutions. **Conclusions:** Chlorhexidine induced a greaterand more sustained rise in salivary pH compared to hydrogen peroxide, resulting in a pH increase approximately twice that of theinitial value caused by hydrogen peroxide. (This work was supported by the George Emil Palade University of Medicine, Pharmacy, Science, and Technology of Târgu Mureş, Research Grant number 792/8/22.01.2025)

Keywords: disinfection, salivary pH, mouthrinse, clorhexidine, hydrogen peroxide

INFLAMMATOY MAXILLARY CYSTS COMMON BUT POTENTIALLY DANGEROUS

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Background: Inflammatory maxillary cysts are frequent lesions that derive from inflammation-activated Malassez epithelial cells. Usually, they present as small periapical radiotransparencies, the implicated tooth being non-vital. Chronic evolution of these benign inflammatory tumors can determine great dimensions, bone destruction, and implication of important anatomical structures. In case of infection, large lesions can have dire local and general complications. **Material and methods:** We selected the cases of patients who presented with large maxillary or mandibular cysts. These patients were admitted to the Maxillofacial Clinicin Târgu Mureș in the last 5 years, complaining of facial swelling/intraoral swelling and discomfort when chewing on the affectedarea, percussion being positive.Management of the patients consisted of paraclinical examinations, including orthopantomogram or CBCT, general antibiotic prophylaxis, and surgical intervention regarding the lesion and the implicated teeth. **Results:** We present several cases of large periapical maxillary and mandibular cysts managed surgically in the OMF Clinic Târgu Mureș. Because of the large size of the lesions, surgery was performed under general anesthesia, requiring a general blood panel, cardiological and pulmonary investigations. Additional imaging was performed to assess the implicated teeth. When performing the surgical interventions, large flaps were raised for optimal visibility, careful cystectomy, minding the important anatomical structures, and implicated teeth are either resected or extracted, depending on the implantation and the amount of crown/root destruction.Because of the large defect, antibiotic prophylaxis is considered, and regular follow-ups are scheduled. After the successful excisionof the lesions and treatment of the causal teeth, evolution was without any complications. **Conclusions:** Even though chronicevolution of periapical cysts is not life-threatening, these lesions may acquire impressive dimensions, destroying the surroundingbone and implicating important anatomical structures, a potential infection having disastrous effects on the patient's local andoverall health, with surgical intervention being mandatory

Keywords: maxillary, cysts, lesions, inflammatory, surgical intervention

ENT (OTORHINOLARYNGOLOGY)

VARIATIONS IN COCHLEAR DIMENSIONS AND THEIR ROLE IN COCHLEAR IMPLANTATION

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Background: Hearing loss is a deficit in the sense of hearing and refers to a decrease in hearing capacity.The main purpose of this work is to evaluate the dimensions of the cochlea, identify the main cochlear malformations, as well as evaluate some correlations between these and other factors such as the type of implant used and the type of insertion approached **Material and methods:** For this study, we selected a sample of 100 patients who underwent cochlear implantation between 2012 and 2024. We analyzed CT scans to measure the height of the cochlea, When measuring the base of the cochlea, the section where the round window could be observed was identified, representing the beginning of the base of the cochlea. All measurements were expressed in millimeters, and for patients with cochlear malformations, the modiolar section was predominantly used. The study included the analysis of cochlear volume **Results:** Descriptive statistics showed the following results: cochlear volume of 84.58 mm^3 and a standard deviation of 14.92 mm^3. The minimum volume i was 57.04 mm^3, and the maximum was 129.8 mm^3. The standard error of the mean was calculated to be 1,734 mm^3. The normal group, which also included 74 values, presented a mean cochlear volume of 81.54 mm^3, with a standard deviation of 15.10 mm^3. The minimum volume was 52.83 mm^3, and the maximum was 130.2 mm^3, with a standard error of the mean of 1,755 mm^3. **Conclusions:** The results indicated that there were no significant differences between the volume of cochlea, both in the right and left ears. The dimensions of the cochlea did not show statistically significant variations between the right and left ears,These findings suggest that the volume of the cochlea is consistent between the different groups studied and is not influenced by the presence of malformations or by the demographic variables analyzed

Keywords: cochlear implant, cochlea, inner ear malformation, computer tomography, inner ear

FORENSIC MEDICINE

RE-EVALUATING THE ETIOLOGY AND DIAGNOSTIC UTILITY OF PETECHIAL HEMORRHAGES: A FORENSIC MEDICINE PERSPECTIVE

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Background: This study critically examines the mechanisms, distribution, and diagnostic utility of petechial hemorrhages in forensic pathology. Traditionally, the term 'asphyxial petechiae' has denoted punctate hemorrhages associated with mechanical asphyxia; however, contemporary forensic research increasingly challenges this nomenclature due to the non-specific nature of these findings. **Material and methods:** A comprehensive systematic literature review was conducted, encompassing classical and contemporary forensic pathology studies. This included experimental and autopsy-based investigations that explored the occurrence and underlying mechanisms of petechiae in both asphyxial and non-asphyxial fatalities. **Results:** Findings consistently demonstrate that petechiae primarily arise from venous congestion and capillary rupture, attributed to impaired venous return, rather than direct hypoxic injury. Their manifestation is influenced by factors such as pressure duration, vascular fragility, and individual physiological variations, occurring across both violent and natural death contexts. Crucially, neither the absence nor the presence of petechiae serves as a definitive indicator for the exclusion or confirmation of asphyxia. While histological and molecular markers—including inflammatory infiltrates or upregulation of DUSP1 and KCNJ2—offer supplementary diagnostic insights, they currently lack pathognomonic specificity. **Conclusions:** Based on these findings, it is advocated that the term 'asphyxial petechiae' be superseded by more physiopathologically precise descriptors, such as 'venous stasis petechiae' or 'congestive petechiae'. This re-evaluation underscores the necessity of a comprehensive, multidisciplinary interpretative framework, integrating autopsy findings, histological and molecular analyses, and circumstantial evidence, to mitigate diagnostic and legal misclassification in forensic practice.

Keywords: petechiae, asphyxia, forensic medicine, venous congestion, histopathology

EVALUATION OF THE ANALYTICAL SPECIFICITY OF DRÄGER DRUGTEST 5000 FOR PSYCHOACTIVE SUBSTANCES IN COMPARISON WITH RANDOX EVIDENCE INVESTIGATOR

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Background: Rapid immunoassay devices used for on-site toxicological screening, such as the *Dräger DrugTest 5000*, provide a quick means of detecting psychoactive substances; however, they are prone to false-positive results due to cross-reactivity and matrix interferences. This study aimed to evaluate the concordance of positive results obtained with the Dräger 5000 for amphetamines, benzodiazepines, and THC, in comparison with qualitative laboratory analysis performed using the Randox Evidence Investigator system. **Material and methods:** A total of 70 biological samples (saliva) that initially tested positive on the Dräger 5000 for one or more of the three substance classes were subsequently processed in the forensic toxicology laboratory. Qualitative testing on blood samples (serum) was conducted on the Randox Evidence Investigator platform based on chemiluminescence detection, according to the laboratory's standard operating procedure. **Results:** Comparative analysis reveals significant discrepancies between field screening results and laboratory confirmation. For amphetamines, the false-positive rate was approximately 67.34%. For benzodiazepines, discrepancies were most frequent, with a false-positive rate of 80%. For THC, we observed a false-positive rate of 9.52%. Potential causes may include cross-reactivity with structurally related compounds and matrix effects related to sample composition. **Conclusions:** The findings emphasize the need for cautious interpretation of rapid toxicology screening tests and highlight the importance of **laboratory confirmation** before drawing medico-legal conclusions. The Randox system provided higher analytical specificity, reducing the likelihood of misclassification. In the medico-legal context, results from the Dräger 5000 should be considered **strictly presumptive**, carrying no evidential value without laboratory confirmation.

Keywords: Forensic toxicology, Analytical specificity, Randox, Drager 5000

GENETICS

HETEROGENITY OF HPO TERMS USED FOR WHOLE EXOME SEQUENCING

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Background: In this presentation, we will present the diversity and heterogenity of HPO Terms used for whole exome sequencing (WES) and the Regional Center for Genetics Mureș (CRGM) experience with WES. **Material and methods:** he presentation is based on CRGM's experience as well as scientific data from the literature. Using WES tehnology we investigate more than 150 patients annually, and this number is continuously increasing, primarily due to the constant expansion of knowledge in the field and the decreasing costs of these technologies. **Results:** Patients have been referred to us from a wide range of medical specialties, without limitations regarding sex or age—medical genetics being by its nature an interdisciplinary specialty. Through WES, we have succeeded in increasing the rate of identification of genetic variants and obtaining a precise diagnosis in approximately 60% of our patients. The majority of patients come from the fields of cardiology, oncology, immunodeficiencies, infertility, neurology and psychiatry—with epilepsy, behavioral disorders, ADHD, autism spectrum disorders, rare genetic disorders, etc. **Conclusions:** Each genetic testing technique has its own limitations and benefits, which are important to understand in order to select the most appropriate testing method for each patient. WES technique increase the detection rate of genetic variants in cases where larger genetic causes provide no answers (investigated by techniques with lower resolution). There are a high variability and heterogenity of HPO Terms used for WES.Acknowledgement: This work was supported by the project "Dezvoltarea cercetării genomice în România (ROGEN)", contract no. 96006/17.12.2024, project code SMIS 324809. PS/272/PS_P5/OP1/RSO1.1/PS_P5_RSO1.1_A9, Funding was provided by the European Regional Development Fund.

Keywords: WES, HPO, RARE, DISESEAS

CACNA1E ENCEPHALOPATHY- A VERY RARE DISORDER. CASE REPORT

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Background: Cav2.3, referred to as the R-type calcium channel, is a voltage-gated calcium channel encoded by the CACNA1E gene. It is located predominantly in the brain, as well as throughout the central and peripheral nervous systems. Cav2.3 is essential for mediating calcium entry, which drives neurotransmitter release and affects various neuronal functions, including actionpotential generation, synaptic plasticity, and pain processing. Mutations in the CACNA1E gene have been linked to developmentaland epileptic encephalopathies (DEE), characterized by seizures and developmental impairments. At least 14 missens mutationshave been identified, in this cases changes occur at cytoplasmic ends of all S6 transmembrane segments that form the activationgate, with gain of function effects. In cases with loss of channel function, milder phenotype ocure. **Material and methods:** 2ndpregnancy, at risk, painful intrauterine contractions (dystonia), Influenza A infection treated with Tamiflu, N at 40 weeks, naturalbirth, 3300g, APGAR 9/10. Initially suspected of brachial plexus paresis, physiotherapy started, unfavorable evolution of theneurological picture. Repeated neurology evaluations, in Mures, Cluj, Sibiu. Suspicion of neurodegenerative disease, Krabbedisease, leukodystrophy. WES identifies point mutation in the CACNA1E gene c.2104G>A, p.(Ala702Thr) heterozygous, missensevariant, pathogenic. Brain MRI identifies delayed myelination. **Results:** At the age of 6 months epileptic spasms occurred, withhypsaritmia on EEG; physical examination highlight hypotrophy, gastroesophageal reflux, laringomalacia, feeding difficulties;neurological exam reveals floppy infant, no head control acquired, no prehension, grasping preserved, dystonia, diskinesia; cognitivehas social smile, turns her head toward sounds. **Conclusions:** In evolution DEE with CACNA1E gene mutations, developrefractory epilepsy (87% of pacients); movement disorders (60%); spastic cvadriplegia (53%); profund developmental impairments(nonverbal and non-ambulatory) (80%); congenital joint contractures and macrocephaly (43%). Management of the diseaseinvolves various combinations of antiepileptic drugs, miorelaxant medication, neurorehabilitation, physiotherapy, and preventionof contractures and joint degeneration. Recurrent respiratory infections remain a challenge that requires much attention.

Keywords: CACNA1E, gene, Developmental, Epileptic, Encephalopathy

BURNING PAIN IN CHILDREN: AN EARLY WARNING SIGN OF RARE GENETICDISORDER

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Background: Fabry disease is a rare lysosomal storage disorder caused by a mutation in the GLA gene that encodes the enzyme alpha-galactosidase A (GLA), resulting in the accumulation of globotriaosylceramide (GL3) and globotriaosylsphingosine (lyso-GL3) within lysosomes. These deposits affect multiple cell types, leading to systemic, multiorgan damage. Fabry disease can present early in life with a wide spectrum of clinical manifestations. Neuropathic pain is a common early symptom and is often triggered by fever, heat, or physical activity. Symptoms are typically localized at the soles and palms and may manifest as episodic burning sensations in the hands or feet. Diagnosing Fabry disease in children can be challenging due to its subtle early symptoms and broad clinical spectrum. **Material and methods:** The authors report the case of a 14-year-old girl presenting with acroparesthesia,burning pain in her hands, heat intolerance, and unexplained recurrent abdominal pain and bloating. Her initial symptoms beganearly in life, around the age of 7 years, initially with numbness and later abdominal discomfort and other symptoms. **Results:** Thepatient's family history revealed a high incidence of cardiovascular and renal disorders, including heart failure, myocardialinfarction, stroke, and kidney failure. Laboratory tests demonstrated a low alpha-galactosidase A activity and elevated plasma lyso-Gb3 levels. Genetic testing identified a missense mutation in the GLA gene, specifically c.644A>G (p.Asn215Ser). Withsymptomatic treatment and enzyme replacement therapy, the patient experienced significant clinical improvement and with near-complete resolution of symptoms. **Conclusions:** Burning pain is frequently ignored, although it may represent an early sign of thedisorder. Accurate diagnosis is frequently delayed because the clinical phenotype of Fabry disease overlaps considerably with thesymptomatology of common pediatric conditions. Acknowledgment: This work was supported by the project "Dezvoltareacercetării genomice în România (ROGEN)", contract no. 96006/17.12.2024, project code SMIS 324809.

Keywords: burning pain, child, Fabry, acroparesthesia, lysosomal storage disorder

THE UTILITY OF NEXT-GENERATION SEQUENCING (NGS) IN MYELOPROLIFERATIVE NEOPLASMS

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Background: Classical chronic myeloproliferative neoplasms consist of three main entities: essential thrombocythemia (ET), polycythemia vera (PV), and primary myelofibrosis (PMF). A remarkable progress in the field of hematological diseases was marked by the discovery of driver mutations in *JAK2, CALR*, and *MPL*. Approximately 10-15% of patients with NPN, called triple-negative (TN) patients, do not have any of these driver mutations, but may have others that may be associated with decreased overall survival. **Material and methods:** The application of next-generation sequencing (NGS) to discover mutations in driver genes and signaling pathway components in myeloproliferative neoplasms (MPN) has been of great help in understanding both the pathogenic mechanisms underlying these disorders and their subsequent clinical evolution. **Results:** Triple-negative MPNs display an elevated risk of progression to leukemia. Distinct differences between post-MPN acute myeloid leukemia and de novo leukemia indicate that their leukemogenic mechanisms are not identical. Patients with PV and ET exhibit a comparable range and frequency of detectable mutations. In contrast, individuals with myelofibrosis display a more heterogeneous mutational profile, characterized by a greater number of mutations per patient. **Conclusions:** The main advantage of NGS testing is the ability to simultaneously identify mutations in multiple genes. The extensive information generated through NGS can have a substantial impact on clinical treatment decision-making. **Acknowledgment:** This work was supported by the project "Dezvoltarea cercetării genomice în România (ROGEN)", contract no. 96006/17.12.2024, project code SMIS 324809. Funding was provided by The Ministry of Investments and European Projects, through the Managing Authority for the Health Program, PS/272/PS_P5/OP1/RSO1.1/PS_P5_RSO1.1_A9-ROGEN

Keywords: myeloproliferative neoplasms, triple negative, NGS, next-generation sequencing

CLINICAL AND PROGNOSTIC SIGNIFICANCE OF TP53 MUTATIONS AND DEL(17P) IN CHRONIC LYMPHOCYTIC LEUKEMIA: FROM MOLECULAR DIAGNOSIS TO TARGETED THERAPY

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Background: Alterations of the TP53 gene, including point mutations and/or deletion of the 17p13 locus [del(17p)], represent one of the most important prognostic biomarkers in chronic lymphocytic leukemia (CLL). TP53 plays a critical role in DNA repair, apoptosis, and cell cycle regulation; its inactivation is strongly associated with genomic instability, treatment resistance, and poor clinical outcomes. **Material and methods:** Genetic profiling of our 154 CLL patients integrated Multiplex Ligation-Dependent Probe amplification (MLPA) and next-generation sequencing (NGS) to detect both del(17p) and TP53 mutations. These analyses allow precise risk stratification and guide individualized therapy selection, particularly in patients with high-risk molecular profiles. **Results:** Approximately 6,5% (n=10) of treatment-naive CLL patients harbor TP53 aberrations, with frequency increasing to 30–50% in relapsed or refractory cases. Patients presenting TP53 mutations and/or del(17p) show significantly reduced progression-free and overall survival (OS of 6 months, being the shortest survival rate compared to other cytogenetic anomalies). However, targeted therapies—such as Bruton's tyrosine kinase (BTK) inhibitors (ibrutinib, acalabrutinib) and BCL2 inhibitors (venetoclax)—have demonstrated superior efficacy and durability of response in this subgroup, overcoming resistance mechanisms linked to TP53 loss. **Conclusions:** Routine assessment of TP53 status through sequencing and molecular cytogenetic testing is crucial in CLL management, enabling early identification of high-risk patients and optimized use of targeted therapies that significantly improve survival outcomes.Acknowledgement: This work was supported by the George Emil Palade University of Medicine, Pharmacy, Science and Technology of Targu Mures Research Grant number 171/1/09.01.2024.

Keywords: CLL, TP53, Therapy

IMPLEMENTATION OF COMPREHENSIVE GENOMIC TESTING IN CHRONIC LYMPHOCYTIC LEUKEMIA WITHIN THE ROGEN NATIONAL GENOMICS PROGRAM

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Background: Chronic lymphocytic leukemia (CLL) is a genetically heterogeneous malignancy characterized by recurrent cytogenetic alterations and somatic mutations that strongly influence prognosis and therapeutic selection. Comprehensive genomic profiling—encompassing del(17p13.1), TP53 mutations, IGHV mutational status, and additional mutations such as NOTCH1, SF3B1 and MYD88—is essential for risk stratification and individualized management. The ROGEN national genomics project aims to implement standardized, high-quality genomic testing across Romania, harmonizing diagnostic approaches and enhancing access to precision medicine for CLL patients. **Material and methods:** Genomic analyses within ROGEN are performed using an integrated workflow that combines next-generation sequencing (NGS), multiplex ligation-dependent probe amplification (MLPA), fluorescence in situ hybridization (FISH), and confirmatory Sanger sequencing. **Results:** Early implementation demonstrates that standardized genomic testing within a unified national network improves detection of prognostically relevant biomarkers, including low–variant allele frequency TP53 mutations. Consistent application of validated protocols supports reliable identification of high-risk features which directly inform therapeutic selection, guiding clinicians toward targeted agents such as BTK and BCL2 inhibitors. **Conclusions:** Advanced genomic testing implemented through the ROGEN platform enhances diagnostic precision, supports evidence-based therapy decisions, and ensures equitable access to personalized CLL care in Romania. Standardized workflows and longitudinal genomic surveillance are expected to significantly improve clinical outcomes. Acknowledgement: This work was supported by the project "Dezvoltarea cercetării genomice în România (ROGEN)", contract no. 96006/17.12.2024, project code SMIS 324809. Funding was provided by The Ministry of Investments and European Projects, through the Managing Authority for the Health Program, PS/272/PS_P5/OP1/RSO1.1/PS_P5_RSO1.1_A9-ROGEN

Keywords: ROGEN, CLL, Advanced genomic testing

DIAGNOSTIC YIELD OF WHOLE-EXOME SEQUENCING IN PEDIATRIC PATIENTS WITH INTELLECTUAL DISABILITY AND GLOBAL DEVELOPMENTAL DELAY

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Background: Intellectual disability (ID) and global developmental delay (GDD) impact approx. 1-3% of the pediatric population exhibits a wide range of genetic causes accounting for approx. 25-50% of cases. NGS technologies, such as Whole-exome sequencing (WES), have emerged as a pivotal diagnostic tool; however, the diagnostic yields published vary across different studies. The study aimed to evaluate the genetic variant spectrum, phenotype, and integrate available evidence regarding the diagnostic yield of WES in children with unexplained ID/GDD. **Material and methods:** The literature search was conducted on PubMed for papers published between 2020 and 2025 that enrolled more than 10 pediatric patients, using keywords such as 'intellectual disability', 'global developmental delay', and 'whole-exome sequencing'. **Results:** The results showed a diagnostic yield of 27% to 61%. Trio-WES exhibited markedly superior yields (~44%) compared to combined techniques, and this improvement was also observed when Copy Number Variant (CNV) calling from WES data was integrated. The diagnostic rate was significantly increased in patients with an early onset and showing distinctive clinical features such as epilepsy or seizures, neurological anomalies (hypotonia) and more than three dysmorphic traits. The genes *MECP2, CREBBP, SCN2A, KCNQ2,* and *SHANK3* were identified as the most frequently occurring gene variants. Novel genes have been reported in several recent studies, which expanded the genetic variant spectrum of unexplained ID/GDD. **Conclusions:** WES increases diagnostic rates, especially when combined with trio analysis and CNV analysis. This approach enhances our understanding of the genetic diversity of ID/GDD, allowing for accurate genetic counselling and targeted treatment options. Future research should focus on reanalyzing WES data and conducting functional studies on novel gene-disease associations within children with ID/GDD.Acknowledgement: This work was supported by the project "Dezvoltarea cercetării genomice în România (ROGEN)", contract no. 96006/17.12.2024, project code SMIS 324809. Funding was provided by The Ministry of Investments and European Projects, through the Managing Authority for the Health Program, PS/272/PS_P5/OP1/RSO1.1/PS_P5_RSO1.1_A9-ROGEN

Keywords: Intellectual disability, global developmental delay, whole-exome sequencing

OPTICAL GENOME MAPPING – A NOVEL AND ACCURATE TOOL FOR DIAGNOSIS IN ACUTE LEUKEMIA

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Background: Acute myeloid and lymphoblastic leukemias are genetically heterogeneous malignancies characterised by structural and numerical chromosomal aberrations with prognostic impact. Cryptic chromosomal abnormalities are not always detected by traditional methods such as karyotyping, FISH, and PCR-based techniques. **Material and methods:** Optical Genome Mapping (OGM) is a new technology that allows the detection of numerical and structural abnormalities (including deletions, duplications, inversions, translocations, insertions) and may also provide information on gene fusions. This work summarises the utility, advantages and limitations of OGM compared to standard techniques performed in acute myeloid and lymphoblastic leukemia. **Results:** The clinical utility of OGM in newly diagnosed and relapsed acute leukemia has been shown by its capacity to identify more than 90% of numerical and structural chromosomal abnormalities revealed by karyotype, and additionally showing about 10-20% clinically relevant genetic aberrations missed by traditional methods. OGM revealed additional abnormalities in >50% of patients, with 10-15% having a clinical impact (for diagnosis, prognosis and treatment) **Conclusions:** OGM represents a powerful and useful tool for detecting gene fusions and cryptic chromosomal abnormalities that may be missed by traditional methods. Its increased resolution contributes to accurate diagnosis, risk stratification and treatment in acute leukemia. Acknowledgment: This work was supported by the project "Dezvoltarea cercetării genomice în România (ROGEN)", contract no. 96006/17.12.2024, project code SMIS 324809. Funding was provided by The Ministry of Investments and European Projects, through the Managing Authority for the Health Program, PS/272/PS_P5/OP1/RSO1.1/PS_P5_RSO1.1_A9-ROGEN

Keywords: Optical genome mapping, leukemia, diagnosis

CLINICAL IMPLEMENTATION STRATEGIES FOR CARDIOVASCULAR GENETIC TESTING

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Background: Molecular diagnostics is increasingly central in inherited cardiovascular diseases (ICDs), where monogenic variants influence phenotype severity and arrhythmic risk. Recent guideline frameworks from ACMG/AMP, ClinGen, and HRS/EHRA highlight the need for standardized variant interpretation and phenotype-integrated genomic testing. **Material and methods:** This synthesis evaluates current evidence on targeted NGS panels and whole-exome sequencing (WES), focusing on test performance, variant classification algorithms, and applicability of ACMG/AMP criteria refined through ClinGen expert curation. Emphasis is placed on phenotype-first testing pathways recommended in recent electrophysiology and cardiomyopathy guidelines. **Results:** Targeted cardiovascular panels show the highest clinical efficiency, both in analytical sensitivity and in minimizing VUS rates, with diagnostic yields typically between 30-60% in cardiomyopathies and 20-40% in channelopathies. WES provides added value in atypical or unsolved cases, but with higher interpretive complexity. Literature consistently supports guideline-driven cascade testing for risk detection in relatives. **Conclusions:** A tiered testing strategy aligned with ACMG/AMP and ClinGen standards, combined with HRS/EHRA phenotype-based recommendations, enhances diagnostic precision and clinical utility. Integrating structured variant interpretation with longitudinal clinical data remains key for advancing genomic management in ICDs.Acknowledgment: This work was supported by the project "Dezvoltarea cercetării genomice în România (ROGEN)", contract no. 96006/17.12.2024, project code SMIS 324809. Funding was provided by The Ministry of Investments and European Projects, through the Managing Authority for the Health Program, PS/272/PS_P5/OP1/RSO1.1/PS_P5_RSO1.1_A9-ROGEN

Keywords: Cardiovascular genetics, Variant interpretation, Next-generation sequencing

HEMATOLOGY

FACTORS ASSOCIATED WITH GLOMERULAR FILTRATION RATE (GFR) REDUCTION IN PATIENTS WITH MULTIPLE MYELOMA

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Background: In patients with multiple myeloma, the decrease in GFR can occur through various, often intricate mechanisms. Kidney damage can occur from the time of diagnosis and has varying degrees of reversibility. **Material and methods:** The study group consisted of 50 patients diagnosed with multiple myeloma (MM). Among them, 52% were men, and the median age was 68 years. Notably, 84% of the patients were considered non-candidates for transplantation. In terms of disease classification, 52% had IgG secretory MM, 32% were diagnosed with micromolecular multiple myeloma, which included 8 cases with kappa free light chains. Additionally, 53% of the patients had a median clonal/non-clonal free light chain ratio exceeding 100. The study also identified several comorbidities that could aggravate kidney impairment: 62% of patients had arterial hypertension, 22% had diabetes, and 22% presented with other cardiovascular issues. **Results:** 32% of the cases had creatinine >2mg/dL, 16% >7mg/dL, and a median value of 2.85 mg/dL. The median glomerular filtration rate (GFR) was 55.28 ml/min, with 15.36% <40ml/min and 46%<60 ml/min. 12% of patients required dialysis, 8 patients chronically. GFR did not correlate with gender or age group but significantly with gradient subtype, clonal/nonclonal free chain ratio, hemoglobin<10g/dl, calcemia>2.62mmol/l, increased LDH, beta2microglobulin>5.5mg/dl, and uric acid>7 mg/dl. Patients with 2-3 supplementary renal risk factors had GFR<40 ml/min much more frequently. The overall survival(OS) was lower in cases with GFR<40ml/min, but without statistical significance. **Conclusions:** Renal impairment in the studied cases is influenced by several factors associated with a more aggressive disease, at a more advanced stage, which impacts survival.

Keywords: multiple myeloma, glomerular filtration rate, kidney impairement

PRIMARY MYELOFIBROSIS PRESENTING WITH POLYARTICULAR PAIN AND SECONDARY LOSS OF RESPONSE TO RUXOLITINIB

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Background: Primary myelofibrosis (PMF) is a chronic myeloproliferative neoplasm characterized by clonal proliferation of hematopoietic stem cells, bone marrow fibrosis, and extramedullary hematopoiesis. Its early manifestations can mimic autoimmune or rheumatologic diseases, leading to diagnostic delay. JAK inhibitors, such as ruxolitinib, significantly improve splenomegaly and constitutional symptoms, but resistance may occur after prolonged use. **Material and methods:** We report the case of a 60-year-old female, known with arterial hypertension, who presented with polyarticular, excessive sweating, early satiety, and weight loss oversix months. She was diagnosed with rheumatoid polyarthritis and treated with methotrexate, with minimal improvement. Physical examination revealed significant splenomegaly, 10 cm below the left costal margin. Laboratory tests showed leukocytosis (WBC 29,070/µL), without anemia or thrombocytosis and elevated LDH. Peripheral smear demonstrated leuko-erythroblastosis and teardrop-shaped erythrocytes. Bone marrow biopsy was hypercellular with marked reticulin fibrosis (MF-2). Molecular analysis identified a JAK2 V617F mutation. Based on the WHO 2022 criteria, a diagnosis of primary myelofibrosis was established. **Results:** The patient was classified as intermediate-2 risk and started on ruxolitinib (15 mg twice daily), achieving significantclinical and hematologic improvement. Over the next seven years, she maintained good symptom control and reduced splenic size. However, she subsequently developed progressive splenomegaly, anemia, and fatigue, indicating secondary loss of response to ruxolitinib. The treatment was switched to fedratinib, second-generation JAK inhibitor, with good tolerance and early signs of response. **Conclusions:** This case illustrates the diagnostic complexity of PMF with atypical rheumatologic onset and the therapeutic challenge of managing long-term JAK inhibitor resistance. Transitioning to a second-generation JAK inhibitor such as fedratinib can offer renewed disease control and symptoms improvement.

Keywords: Primary myelofibrosis, JAK2 mutation, ruxolitinib resistance, fedratinib

SPLENIC MARGINAL ZONE LYMPHOMA: CLINICAL AND THERAPEUTIC CHARACTERISTICS

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Background: Splenic marginal zone lymphoma (SMZL) is a B-cell lymphoma characterized by splenomegaly, bone marrow infiltration, and peripheral lymphocytosis, with an indolent course. The tumor cells express IgM and CD20 on their surface, butare CD5 negative. **Material and methods:** We performed a retrospective study of patients diagnosed with splenic lymphoma in the Hematology Department of the Internal Medicine Clinic 1, in the years 2024 and 2025. Previously diagnosed patients were also included in the study. The diagnosis of patients was made by immunophenotyping of lymphocytes from peripheral blood or by examining bone marrow biopsy. **Results:** 21 patients were enrolled in the study. The diagnosis of splenic marginal zone lymphoma was confirmed in 16 patients, 3 men and 13 women. Two patients underwent splenectomy. Four patients were initially followed without treatment, and three of them eventually received immunochemotherapy. Rituximab monotherapy was the most common treatment, all patients were negative for antibodies against HCV (hepatitis C virus). Most patients had at least partial remission. Rituximab monotherapy was administered as first-line treatment to all patients with an indication for treatment (symptomatic, some with transfusion requirements). The results were generally suboptimal and many patients requiredcombination chemotherapy. In all patients, spleen size decreased (complete remission was rare), hemoglobin increased, andthrombocytopenia improved. The most common side effects were neutropenia, associated or not with infections, and asthenia.Most patients were diagnosed after 2024 (75%, 12 patients). 4 previously diagnosed patients were also included in the study. **Conclusions:** Most patients can be diagnosed by immunophenotyping of peripheral blood lymphocytes or by immunohistochemistry from bone marrow biopsy. Complete remissions are rare, subsequent lines of treatment may be necessary, but overall survival was excellent in our group, 100%, (there were no deaths).

Keywords: splenic lymphoma, rituximab, bone marrow biopsy, peripheral blood immunophenotyping

HYGIENE

GOOGLE AND CHATGPT CHATBOT ON ERECTILE DYSFUNCTION: HOW COMPLETE ARE THEIR ANSWERS?

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Background: Searching for information on the internet about symptoms, diseases, and treatments has become a widespread practice nowadays. From 1998 to 2022, patients searched various web pages using the Google search engine (Dr. Google). With the launch of ChatGPT in 2022, users around the world began to use this information tool extensively. The aim of the study was to evaluate and compare the quality of informations on the internet in 2019 on websites and in 2025 pn ChatGPT. **Material and methods:** We evaluated in 2019 the quality of medical information in terms of accuracy and completeness on the top 25 websites listed in a Google search, resulting in an overall score. We evaluated in 2025 the quality of information generated by ChatGPT by testing two approaches: asking one comprehensive question and asking several specific questions for each item in the evaluation criteria, assigning a score from 0 to 10 for each aspect of quality. **Results:** The quality results for the evaluation of websites in 2019 were 4.7 for completeness and 6.4 for accuracy. The results for the evaluation of information quality generated by ChatGPT using the single-question approach were 4.4 for completeness and 2.4 for accuracy. The results for the evaluation of information quality generated by ChatGPT using the multiple-question approach were 8.5. **Conclusions:** The chatbot responses to single, general questions were relatively incomplete and showed mediocre accuracy. The ChatGPT chatbot provided more accurate answers to multiple, targeted questions. The chatbot's responses appeared to be as complete but less accurate than the information found on websites when evaluating a single question, and more accurate in the case of multiple questions. Chatbot responses are not always complete or correct. For safety, always seek the opinion of a specialist urologist.

Keywords: website, ChatGPT, Google, accuracy, completness

THE IMPACT OF ANTIMICROBIAL USE IN THE AGRI-FOOD INDUSTRY ON THE EMERGENCE OF ANTIBIOTIC-RESISTANT BACTERIA

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Background: The global expansion of antibiotic-resistant bacteria (ARB) and antibiotic-resistance genes (ARGs) poses a major public health challenge. The agri-food industry, through the widespread use of antimicrobials in livestock, aquaculture, and crop production, creates selective pressure that fosters the development and environmental dissemination of ARGs. Manure, wastewater, and processing effluents act as reservoirs and transport media for these genes, which can ultimately reach human and hospital microbiomes through water, food, and environmental exposure. **Material and methods:** This work synthesizes scientific publications addressing antimicrobial resistance genes (ARGs) in the agri-food sector and related environments. Relevant peer-reviewed studies were analyzed, including Zhuang et al. (2021), which highlights mechanisms linking agricultural practices to ARG dissemination. The literature was qualitatively assessed to identify major sources and transmission pathways, such as livestock production, manure, wastewater, and sludge, and the role of mobile genetic elements in horizontal gene transfer. Comparative interpretation illustrates how agricultural antimicrobial use drives the spread of environmental antibiotic-resistant bacteria and its implications for human health. **Results:** Livestock manure, agricultural runoff, and wastewater are major sources of antimicrobial resistance genes (ARGs) in soils and waters. Plasmids and integrons enable horizontal gene transfer between environmental and pathogenic bacteria, allowing ARGs to re-enter clinical settings via contaminated food or water. In Romania, veterinary antimicrobial sales declined from 2014 to 2022, reaching 48.8 mg/PCU, yet the use of 3rd- and 4th-generation cephalosporins rose by 165.2%. Despite progress in stewardship, continued monitoring is needed to link reduced antibiotic use with decreased environmental and clinical resistance. **Conclusions:** The agri-food industry remains a key driver of environmental antibiotic resistance. Although overall antimicrobial use in Romania has declined, the rising use of critically important antibiotics (e.g., cephalosporins) is concerning. These trends emphasize the close links between agriculture, environment, and healthcare sectors. Effective management requires coordinated measures and the implementation of the One Health approach to preserve antibiotic efficacy.

Keywords: antibiotic-resistant bacteria, antibiotic-resistance genes, agri-food industry, One Health, hospital microbiome

INFECTIOUS DISEASES

NEWLY-DIAGNOSED HIV INFECTION – CASE PRESENTATIONS: FAMILY GROUP

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Background: Newly diagnosed cases of HIV infection often represent a challenge for the consulting physician, both from the point of view of medical management and that of contacts' identification and testing. **Material and methods:** We present three cases of HIV infection, inside a family group. The cases were diagnosed over the course of 2 months (July-August 2024) in the Infectious Diseases I Clinic, department of the County Clinical Hospital Mures. **Results:** A 21-year-old male patient, with no significant previous medical history, presenting for weight loss, prolonged fever and polyadenopathy, tested positive for HIV infection. Subsequently, his female sexual partner and their 3-months son were identified and also tested positive for HIV infection. The infant had already suffered from two episodes of severe pneumonia complicated with acute respiratory failure and was soon afterwards diagnosed with pulmonary tuberculosis. Following paraclinical investigations, the infant's mother was also confirmed with pulmonary tuberculosis, while his father developed urinary tuberculosis 1 year later. Based on the CDC (Centers for Diseases Control) clinical-immunological classification of HIV infection, the infant had stage C3 from diagnosis, while his mother was considered to have stage C2 and his father initially stage B2, then C2 after tuberculosis confirmation. All family members started antiretroviral therapy, associated with anti-tuberculous treatment, achieving control of the mycobacterial infection, increase in the number of CD4 T-lymphocytes and - reduction of the HIV-RNA plasma viral load - up to undetectability for the adults, low level of viremia for the child. **Conclusions:** The presented cases illustrate two of the main means of transmission of HIV infection: sexual and vertical routes. Identification and testing of patient's contacts is just as important as the clinical management of HIV infection and associated comorbidities. Early diagnosis of an HIV case is key to prevent transmission by initiating specific and non-specific prophylaxis.

Keywords: HIV infection, transmission, new diagnosis

POTT'S DISEASE IN AN HIV POSITIVE PATIENT – CASE PRESENTATION

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Background: Pott's disease or tuberculous spondylodiscitis is a rare disease in HIV positive patients. The thoracolumbar localization is the most frequent, multiple vertebras can be involved. The main symptoms are pain, fever, weight loss, kyphosis and paraparesis. Diagnosis is based upon the presence of Mycobacterium tuberculosis in tissue samples and specific MRI changes. **Material and methods:** We present the case of a 37-years-old female patient, known with HIV infection, chronic hepatitis B and osteoporosis, who complained for 3 weeks of pain in the right inguinal region which irradiated towards the thigh. Abdominal CT scan showed spondylodiscitis with epidural and paravertebral abscesses between the 9th thoracal and 1st lumbar vertebra, bilateral psoas abscess, small kidney abscesses. **Results:** Genexpert (PCR) test was positive for Mycobacterium tuberculosis from the urine. The patient started antitubercular therapy, and the antiretroviral therapy was adjusted. She underwent surgery, the right psoas abscess was evacuated, acid fast bacilli were detected. Spine MRI showed spondylodiscitis and paravertebral and vertebral abscesses between the 7th thoracal and 2nd lumbar vertebra. The patient underwent neurosurgical consultation, and thoracolumbar hyperextension orthosis was recommended. The outcome was favorable, the patient was painless, the control abdominal CT scan showed a significant reduction of the size of the right psoas abscess. **Conclusions:** Despite atypical presentation, with lower abdominal pain, Pott's disease can be characterized by extensive lesions at the level of the spine, associated with cold abscesses. Multidisciplinary management can facilitate favorable outcome.

Keywords: tuberculous spondylodiscitis, cold abscess, genitourinary tuberculosis

URETERAL STENTS BETWEEN NECESSITY AND INFECTIOUS RISK: HEALTHCARE-ASSOCIATED URINARY SEPSIS IN A PATIENT WITH CHRONIC KIDNEY DISEASE—CASE REPORT

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Background: To present the clinical evolution of a patient with advanced chronic kidney disease, in whom the maintenance of the ureteral stent contributed to the persistence of urinary infection, the development of urosepsis, and the selection of a strain of Klebsiella pneumoniae PDR CPE NDM. **Material and methods:** A 76-year-old patient with a history of polycystic kidney disease, chronic kidney disease stage G4A1 KDIGO, atrophic pangastritis, hypertension, and old ischemic stroke presented to the Emergency Department in August 2025 at the Urology Clinic in Tg. Mureș for acute chronic renal failure due to obstructive left ureteral lithiasis with secondary ureterohydronephrosis. A left ureteral stent was placed, and intraoperative urine culture was collected. Initially, Klebsiella pneumoniae was isolated, for which he received antibacterial treatment with cephalosporins. Seven days after the procedure, the patient developed urosepsis with Klebsiella pneumoniae (positive blood and urine cultures, procalcitonin >10 ng/mL), requiring broad-spectrum antibiotic therapy with carbapenems. After a new septic episode, Klebsiella pneumonia PDR CPE NDM was isolated from blood and urine cultures. **Results:** The evolution was dominated by recurrent episodes of sepsis with the same bacterial species, in the context of maintaining the ureteral stent and repeated exposure to antibiotics. The transformation of the strain from a sensitive form to a pan-resistant one was documented microbiologically **Conclusions:** Maintaining the ureteral stent favors the persistence of infection and the selection of resistant strains. It is necessary to reassess the duration of stent maintenance and to adapt antibiotic therapy early on based on microbiological data.

Keywords: Klebsiella Pneumoniae PDR CPE NDM, ureteral stents, urosepsis

CEREBRAL TOXOPLASMOSIS – A DEFINING INFECTION IN THE LATE HIV PRESENTER

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Background: Cerebral toxoplasmosis (CT) remains one of the most common opportunistic CNS infections in advanced HIV infection. In Europe in 2025, the majority of new HIV diagnoses still occur at late stages, frequently with neuro-presentation. We aimed to characterize the clinical presentation, therapeutic response, and outcome spectrum of three newly diagnosed HIV patients presenting primarily with neurological impairment secondary to CT. **Material and methods:** We retrospectively reviewed three young male patients, all newly diagnosed with HIV in the context of cerebral toxoplasmosis. Clinical, imaging, virological, and therapeutic information were extracted from hospital records. **Results:** All three patients presented subacutely with broad neurological complaints — including episodic loss of awareness, progressive difficulties with balance or motor control, persistent headache/tremor/cognitive dysfunction, and, in one case dysphagia with unintended weight loss — accompanied by focal signs on exam. Brain CT/MRI consistently showed multiple ring-enhancing lesions with surrounding edema, in the setting of severe immunosuppression (CD4 9-13/µL). Empiric anti-toxoplasma therapy (clindamycin + trimethoprim/sulfamethoxazole [TMP/SMX]) was started in all patients. Early ART initiation was feasible only in the clinically stable patient. Outcomes diverged substantially: case 2 (with concomitant SARS-CoV-2 infection) survived, with gradual neurological improvement under prolonged therapy; case 1 developed acute respiratory failure and died 4 weeks after presentation; case 3 progressed to disseminated varicella-zoster virus (VZV) infection with septic shock and died 10 days after admission. **Conclusions:** Cerebral toxoplasmosis remains a "red flag" of the late HIV presenter. Prognosis depends less on the specific CNS therapy and more on systemic stability, co-pathogen burden, and the feasibility of timely ART initiation. Routine HIV testing should be performed in all patients with subacute focal CNS lesions.

Keywords: HIV late presenter, cerebral toxoplasmosis, opportunistic CNS infection, ART timing

CANDIDOZYMA AURIS – AN UNINVITED GUEST

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Background: The incidence of systemic fungal infections has increased over the last decade, being associated with high morbidity and mortality in immunocompromised and critically ill patients. In 2022, the World Health Organization classified 19 pathogenic fungi into three priority categories - critical, high, and medium. *Candidozyma auris*, identified in 2009, is listed as a critical-priority pathogen due to its high mortality rate (30-70%) and frequent antifungal resistance - almost constant to fluconazole, often to amphotericin B, and occasionally to echinocandins. It particularly affects patients with severe immunosuppression, hospitalized in intensive care units, and is most often associated with simultaneous colonization by *Enterobacterales* and carbapenem-resistant *Acinetobacter* spp. The contagion potential is high, with rapid spread of colonization and infection among immunocompromised individuals in hospitals or affected regions, leading to epidemiological outbreaks. Healthcare-associated infections (HAIs) caused by *C. auris* are well documented. Colonization can persist for prolonged periods, with the skin representing the dominant habitat and the infection source being exogenous. Hospital environment contamination is frequent. *C. auris* is a multidrug-resistant (MDR) fungus with the potential to trigger invasive HAIs. **Material and methods:** We present cases of elderly, critically ill patients admitted to intensive care units at Mureș County Clinical Hospital who were colonized with *C. auris* and with multidrug-resistant Gram-negative bacterial coinfections. Clinical and microbiological data were analyzed. **Results:** All patients exhibited severe immunosuppression and multiple comorbidities. The presence of *C. auris* complicated clinical management, prolonged hospitalization and was associated with poor outcomes. Persistent colonization and environmental contamination suggest exogenous transmission and the potential for nosocomial outbreaks. **Conclusions:** The detection of *Candidozyma auris* in our institution underscores the urgent need for vigilant surveillance, strict infection-control practices, and antimicrobial stewardship to prevent outbreaks that endanger hospitalized immunocompromised patients.

Keywords: Colonization, Candidozyma auris, intensive care

CLINICAL SCORES AND HEMATOLOGIC RATIOS AS PREDICTORS OF COVID-19 SEVERITY IN THE ELDERLY

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Background: Clinical scoring systems use multiple clinical and laboratory parameters to provide standardized assessments for diagnosis, prognosis, and disease monitoring. Hematological indices have recently gained attention as accessible biomarkers for predicting COVID-19 severity. This study aimed to identify reliable, cost-effective, and easily measurable indicators that may assist in early risk stratification and management of elderly patients with COVID-19. **Material and methods:** We conducted a retrospective cross-sectional study including 45 elderly patients with confirmed SARS-CoV-2 infection, admitted to the 1st Infectious Disease County Hospital Târgu Mureș between January and October 2025. Hematological ratios, including theSystemic Inflammation Response Index (SIRI), Neutrophil-to-Lymphocyte Ratio (NLR), Platelet-to-Lymphocyte Ratio (PLR), andC-reactive protein-to-lymphocyte ratio (CLR), were calculated along with clinical scores (NEWS, 4C Mortality Score, MulBSTA,and CURB-65). These parameters were correlated with disease severity and patient outcomes. Diagnostic performance wasevaluated using Receiver Operating Characteristic (ROC) curve analysis. Statistical analyses were performed using SPSS®, withp<0.05 considered statistically significant. **Results:** The mean patient age was 79 years; 26 (57.7%) were male. Severe disease wasobserved in 15 (33.3%) patients, and 3 (6.6%) died. Disease severity showed significant positive correlations with SIRI (p=0.030),NLR (p=0.020), CLR (p=0.014), 4C Mortality Score (p<0.0001), MulBSTA (p=0.001), and NEWS (p<0.0001). NEWSdemonstrated the highest predictive value (AUC=0.997, p<0.0001), followed by the 4C Mortality Score (AUC=0.833, p=0.001)and MulBSTA (AUC=0.811, p=0.002). Regarding patient outcome, only the 4C Mortality Score showed a significant difference(p=0.041) with strong predictive ability (AUC=0.921, p=0.047). **Conclusions:** Among the evaluated indices and scoring systems,the NEWS, 4C Mortality Score, and MulBSTA score demonstrated significant value in predicting COVID-19 severity in elderlypatients, with NEWS showing the highest diagnostic accuracy. These widely available clinical scores may serve as practical, cost-effective tools to support early risk stratification and clinical decision-making in this vulnerable population.

Keywords: COVID-19, elderly, clinical scores, hematological ratios, outcome prediction

COMPLICATIONS AND CLINICAL IMPLICATIONS OF ACUTE HEPATITIS A IN THE ELDERLY

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Background: Acute hepatitis A infection is generally a mild, self-limiting disease, that rarely leads to chronic liver disease or significant morbidity. However, elderly patients and patients with underlying comorbidities, such as malignancy, face a higher risk developing prolonged or severe forms of hepatitis, including acute liver failure. In some cases, the important inflammatory response may extend to the biliary ducts, causing angiocolitis, a pathology that poses a significant diagnostic and therapeutic challenges. **Material and methods:** We report the case of an elderly female patient, 70-years-old, with a history of bilateral breast cancer, who was admitted with chills, fever, nausea, vomiting and serologically confirmed acute HAV infection. Contrary to the expectedclinical improvement, she experienced a prolonged cholestatic syndrome, with jaundice and persistently elevated liver enzymes,bilirubin and gamma-glutamyl transferase over several weeks. Due to the clinical picture being suggestive for biliary obstruction,CT scans and abdominal MRIs were preformed, which ruled out the mechanical blockage, but described diffuse inflammation ofthe biliary tree and gall bladder, suggestive for angiocolotis. Despite receiving multiple courses of broad-spectrum antibiotics,because of the suspicion of biliary infection, her condition deteriorated, developing an altered mental status, confusion andhypotension, suggestive for hepatic encephalopathy. **Results:** The patient was admitted to the intensive care unit and receivedintensive supportive care, including hemodynamic support and infection control with antibiotics. Given the severe coagulationabnormalities and accumulation of toxic metabolites associated with acute liver failure, therapeutic plasma exchange and plasmatransfusions were administrated. This intervention successfully reversed the patient's encephalopathy. Over time the patient showedgradual improvement in both: clinical and laboratory tests, achieving a better overall condition and being discharged. **Conclusions:**This case highlights that prolonged and severe angiocolitis represents a significant complication of hepatitis A infection, that can lead to acute liver failure or shock, particularly in vulnerable elderly patients.

Keywords: Hepatitis A, angiocolitis, hepatic failure

SEVERE HERPETIC NEUROINFECTIONS IN ADULTS: A CASE SERIES

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Background: Herpetic neuroinfections represent a significant cause of acute central nervous system (CNS) diseases in adults, with severe clinical courses especially in immunocompromised hosts. Despite advances in diagnostic techniques and antiviral therapy, outcomes remain heterogeneous, and mortality continues to be substantial. This case series describes three adult patients withsevere herpetic meningoencephalitis caused by Herpes simplex virus 1 (HSV-1), varicella-zoster virus (VZV) and humanherpesvirus 6 (HHV-6), highlighting the variability in presentation, evolution, and prognosis. **Material and methods:** Weconducted a retrospective analysis of three adult patients admitted to a tertiary Infectious Diseases and Intensive Care unit withconfirmed herpetic neuroinfections. Diagnostic confirmation relied on clinical features, neuroimaging, and cerebrospinal fluid PCRtesting. Clinical evolution, complications, treatments, and outcomes were analysed. **Results:** The first patient, a 48-year-old womanwith HHV-6 meningoencephalitis, presented initially with severe headache followed by progressive behavioural changes. Shortlyafter admission, she developed cardio-respiratory arrest requiring intensive care for nine days, but despite maximal supportive,pathogenic and ethiological therapy, the evolution was unfavourable and the patient died. The second case involved a 69-year-oldman with HSV-1 meningoencephalitis, whose course was complicated by haemorrhagic temporal lobe lesions and cerebral edema.His condition progressively deteriorated, and he passed away 16 days after admission. The third patient, a 64-year-old man withVZV meningoencephalitis, was admitted in a comatose state but showed gradual neurological improvement under antiviraltherapy, pathogenic and supportive care, ultimately being discharged after 11 days. **Conclusions:** This case series underscores thewide clinical spectrum and variable outcomes of herpetic neuroinfections. Early diagnosis, rapid antiviral initiation, wheneveravailable, and intensive supportive care remain critical, but prognosis is strongly influenced by the viral etiology, initial neurologicalstatus, immunologic integrity and the presence of CNS complications.

Keywords: Herpes simplex, HHV-6, VZV, Encephalitis, Meningoencephalitis

INTERNAL MEDICINE

ENHANCED DIAGNOSTICS IN ALLERGOLOGY: THE ROLE OF MOLECULAR ALLERGY TESTING IN UNRAVELING SENSITIZATION PATTERNS

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Background: The presentation addresses the increasing prevalence of allergic diseases and the utility of molecular allergy testing (MAT) for precise allergen identification compared to traditional methods with limitations in detecting molecular sensitization. **Material and methods:** A retrospective study analyzed data in 93 patients evaluated in an allergology service in Targu Mures (SCJU Tg.Mures) between September 2023 and September 2024. The study focused on patients with allergic conditions of uncertain origin, using in vitro MAT to detect IgE antibodies against PR10, LTP, and Profilin. Statistical analysis correlated sensitization patterns. **Results:** The study found that 41.27% of adults were sensitized to pollen, compared to 40% of children. Regarding food sensitization, 41.27% of adults were affected, while a higher percentage of children (56.67%) showed sensitization. The distribution of pollen sensitizations varied by age decade, with weed pollen peaking in the 10-19 age group. Food sensitizations also showed age-related trends. Frequency of sensitization by gender indicated differences between males and females for weed pollen, tree pollen, grass pollen, legumes, cereals, fruits, vegetables, nuts and seeds, fish and crustacea. The prevalence of pan allergens sensitization was highest for PR-10 (12.9%) followed by LTP (5.4%) and profilin (3.2%). Correlations between pan allergens and pollen types showed moderate but significant relationships, particularly for tree pollen. Correlations between pollen and food sensitizations were noted. **Conclusions:** Pollen sensitization is more common in adults, while food sensitization is more prevalent in children. Age and gender influence sensitization patterns. The study confirms the value of MAT for identifying cross-reactive panallergens, which is essential for complex allergic profiles.

Keywords: pollen allergy, mollecular diagnosis, cross-reactive panallergens

RENAL ELASTOGRAPHY ASSESSMENT OF CKD DIABETIC PATIENTS

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Background: Diabetic kidney disease is frequent and can lead to chronic kidney disease (CKD) and dialysis. There are some biochemical and imaging models for the non-invasive detection of the condition, especially in early stages, when therapy can help improve kidney function. Elastography is an ultrasound method that detects the hardness of a tissue and in CKD the interstitial renal fibrosis. Our aim was to assess the relation between the renal cortex elastography values and CKD progression. A recent study of Shaker et al found that SWE values were significantly correlated to the stage of CKD and the level of UACR. **Material and methods:** 35 patients with diabetic kidney disease, diagnosed by urine albumin-creatinine ratio (UACR) were examined with shear-wave elastography (SWE), using an Esaote MyLab 9 ultrasound device. We used a standard measurement protocol: a standardized box of 0.5/0.5 cm, placed at 5 cm deep, in the cortical area, with the patient in apnea, voiding state and lateral decubitus. Two measurements were performed in each area and the mean was calculated. We measured the elastography parameters in kPa. Statistical analysis was made using median, stDev and Student's t-test. **Results:** The cortical areas of the kidneys could be easily detected and the SWE box could be correctly inserted in the parenchyma. The SWE parameter measured was the elastic index of the cortical area. Values obtained were measured in kPa, and were higher than 10 kPa. Values were significantly higher in patients with UACR over 300mg/g. **Conclusions:** The speed of these waves indicates tissue stiffness (the higher the speed, the stiffer the tissue), and SWE is a reliable method for the detection of fibrosis. The method needs more studies with a larger group of patientsin order to be standardized.

Keywords: ultrasound, elastography, diabetic nephropathy

IMPACT OF LONG-TERM PROTON PUMP INHIBITOR THERAPY ON HEMATOLOGIC AND GASTRIC MUCOSAL FEATURES IN H. PYLORI–POSITIVE PATIENTS

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Background: This retrospective single-center study examined clinical, laboratory, endoscopic, and histopathological characteristics among H. pylori-infected patients, comparing those with chronic proton pump inhibitor (PPI) exposure to PPI-naive individuals. **Material and methods:** In this study 297 H. pylori-positive patients from the Emergency County Hospital of Târgu Mureș, Romania (2017-2024) were enrolled and divided into two groups: 146 patients with prolonged PPI therapy (>3 months) and 151 PPI-naive patients. We assessed and compared clinical presentations, laboratory findings, and endoscopic and histopathological features across both groups. **Results:** Both groups demonstrated comparable rates of dyspeptic complaints and alarm symptoms (all $p > 0.05$). Chronic PPI users had significantly lower hemoglobin levels (12.45 vs. 13.35 g/dL, $p = 0.0033$) and mean corpuscular volume (85.7 vs. 88.3 fL, $p = 0.0045$), suggesting an increased risk of anemia. Serum iron, ESR, fibrinogen, INR, and lipid parameters showed no significant differences between the groups. Long-term PPI users had significantly lower frequencies of antral (25.34% vs. 42.38%, $p = 0.0022$; OR = 0.46; 95% CI: 0.28-0.76) and corporal erosive gastritis (3.42% vs. 10.60%, $p = 0.022$; OR = 0.30; 95% CI: 0.12-0.84). No significant differences were observed regarding gastric ulcers, submucosal hemorrhages, or duodenal lesions. The prevalence of atrophic gastritis and intestinal metaplasia was comparable. Spearman correlation analysis identified weak yet significant negative associations between long-term PPI use and both hemoglobin ($r = -0.17$, $p = 0.003$) and MCV values ($r = -0.17$, $p = 0.004$). **Conclusions:** In H. pylori-infected individuals, long-term PPI therapy is associated with significantly lower hemoglobin and MCV values, indicating increased susceptibility to anemia. Chronic PPI users showed a reduced prevalence of erosive gastritis, suggesting that prolonged acid suppression may confer mucosal protective effects even in the presence of persistent H. pylori infection. These findings underscore the importance of regular hematologic monitoring in H. pylori-positive patients undergoing long-term PPI therapy.

Keywords: Helicobacter pylori, proton pump inhibitors, anemia

THE ANEMIC SYNDROME: STUDY OF ETIOLOGY, COMORBIDITIES AND PROGNOSTIC FACTORS

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Background: Anemia represents a highly prevalent clinical syndrome, and identifying the underlying etiology is essential due to its frequent association with significant systemic disorders.This study aimed to investigate the etiological spectrum of anemia, evaluate associated comorbidities, and identify prognostic factors in a hospitalized adult population. **Material and methods:** A retrospective analysis was conducted on 100 patients admitted with anemic syndrome to the 1st Department of Internal Medicine in Târgu Mureş between September 2023 and September 2024. Demographic characteristics, anemia etiology and severity, accompanying symptoms, and comorbidities were assessed. **Results:** The cohort showed a 1:1 male-to-female ratio, with a mean age of 71 years; 54% of patients resided in rural areas. Iron-deficiency anemia accounted for 35% of cases, primarily due to lower gastrointestinal bleeding (16%), upper gastrointestinal bleeding (6%), and occult blood loss (4%). Megaloblastic anemia was detected in 19%, associated with alcoholic liver cirrhosis (14%), atrophic gastritis (4%), and pernicious anemia (1%). Paraneoplastic anemia occurred in 39% of patients, most frequently linked to hematologic malignancies (11%), prostate cancer (10%), respiratory neoplasms (9%), and gastrointestinal cancers (8%). Chronic kidney disease was identified in 21% of cases. Anemia secondary to acute infection was present in 39%, most commonly related to sepsis originating from urinary (16%), respiratory (15%), or skin infections (7%). Acute blood loss anemia represented 9% of cases. Based on severity, 36% of patients had mild, 29% moderate, 23% severe, and 12% very severe anemia; 41% required transfusion support. **Conclusions:** Determining the etiology of anemia is crucial, as malignant disease, septic states, and severe chronic inflammation commonly underlie its development. Early etiological clarification can guide timely management and improve clinical outcomes.

Keywords: anemic syndrome, etiology, malignant disease, septic states, chronic inflammation

DISTINGHUISING BETWEEN BACTERIAL COLONISATION AND INFECTION, THE KEY OF PREVENTING UNNECESSARY ANTIBIOTIC USE

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Background: Bacterial colonization represents the presence of microorganisms on body surfaces or indwelling devices without causing clinical disease or inflamatory response.Distinguishing it from true infection is a cornerstone of appropriate antimicrobial stewardship in adult populations. Misinterpretation of bacteriological results or fear not to be acused of malpraxis, will lead to unnecessary antimicrobial treatment, side effects and secondary antibiotic resistance. **Material and methods:** We used a narrative review methodology to find the current evidence regarding bacterial colonization and its clinical implications in adult patients, except patients admitted to ICU. We searched articles after key- words related to the subject, in english. We searched also the main microbiological guidelines, for recommandations of correct evaluation of positive bacteriological results. Findings were summarized qualitatively. **Results:** The literature review revealed that bacterial colonization in adults is widespread, particularly in the respiratory tract, urinary tract, skin, and on indwelling medical devices. Colonization leads to positive culture results in the absence of clinical disease, contributing to diagnostic uncertainty, unnecessary antibiotic prescriptions.There are many evidence that colonization has no negative influence on clinical outcomes, whereas antimicrobial therapy for colonisation contributes significantly to antimicrobial resistance and side effects, some of them serious. Several guidelines emphasized that microbiological results alone can not guide antibacterial therapy, clinical symptoms, inflammatory markers, and imaging findings also must be considered. **Conclusions:** A clear understanding of bacterial colonisation is imperatively needed to avoid unnecesarry antibiotic treatment. Clinical awareness strenghtening, diagnostic interpretation improvement and clear recomandations represent the most important ways that help achieve this goal. Through these measures, healthcare system can promote antimicrobial stewardship.

Keywords: bacterial colonisation, antimicrobial stewardship, unnecesarry antibiotic treatment

GASTRIC MUCOSAL INJURY IN ROMANIAN PATIENTS: BASELINE RISK FACTORS AND LONGITUDINAL PROGRESSION PATTERNS

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Background: Gastric mucosal lesions represent a significant health burden in Eastern Europe, where gastric cancer incidence remains 2-3 times higher than in Western Europe. Understanding both cross-sectional risk determinants and longitudinal progression patterns is essential for developing evidence-based, region-adapted prevention and surveillance strategies. **Material and methods:** We integrated findings from two complementary studies conducted at Târgu Mureş County Hospital. **Study 1** (cross-sectional, 2019-2025; n=361) evaluated associations between lifestyle factors, NSAID use, and endoscopic lesion severity using ordinal regression. **Study 2** (retrospective cohort, 2013-2024; n=117) compared progression rates of precancerous lesions between autoimmune and *Helicobacter pylori* gastritis using systematic biopsies and survival analysis (median follow-up, 5 years). **Results:** In Study 1, NSAID use emerged as the strongest predictor of higher lesion severity (OR=1.68; p=0.044), while current smoking showed a clinically relevant trend (OR=1.59; p=0.092). Cumulative exposure to risk factors demonstrated a dose-response relationship (p=0.042), with lesion prevalence increasing from 34.5% (0-1 factors) to 83.3% (≥6 factors). In Study 2, patients with autoimmune gastritis exhibited significantly higher progression rates (63.5% vs 36.9%; p=0.003) and greater lesion advancement, with atrophy increasing by 48.1 percentage points versus 15.7 points in *H. pylori* gastritis. Reversibility was minimal in autoimmune gastritis (5.8%) compared with *H. pylori* gastritis (10.8%). No routinely available clinical parameters reliably predicted progression in either study. **Conclusions:** NSAID use and smoking represent key modifiable baseline risk factors, while gastritis etiology is the primary determinant of long-term lesion trajectory. Elevated progression rates within this Romanian cohort underscore the need for **region-specific, etiology-tailored surveillance protocols**, rather than uniform strategies.

Keywords: gastric lesions, risk factors, autoimmune gastritis, Helicobacter pylori, disease progression

MICROBIOLOGY

FUNGAL CONTAMINATION OF CEREAL PRODUCTS COMMERCIALIZED IN ROMANIA

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Background: Fungal contamination of cereal products poses a significant health threat, both directly by causing significant allergic reactions or rarely, infections, and indirectly, through secondary metabolites they produce, mycotoxins. This study evaluates the impact of price, sample water content, and country of production on the fungal contamination of cereal products commercialized in Romanian supermarkets. **Material and methods:** A total of 19 cereal products, such as oats, wheat, cornflakes, and mixed cereals, were purchased and analyzed to determine their fungal content using the Standard plate count method. The recorded data was analyzed for significant correlations between the mentioned features. **Results:** The most frequent fungal contaminant was *Penicillium* spp. (n=4, 21.05%), followed by *Fusarium* spp. and *Aspergillus* section *Nigri* (n=3, 15.79%) and genus *Rhizopus* and *Cladosporium* (n=2, 10.52%). The fungal strains found in the highest quantity were *Penicillium* spp. (263,000 CFU/g), followed by *Cladosporium* spp. (17,000 CFU/g), *Alternaria* spp. (4000 CFU/g) and *Fusarium* spp., *Aspergillus* section *Nigri* and *Rhizopus* spp. (2000 CFU/g). Regarding product type, wheat was the most contaminated (265,000 CFU/g), followed by cornflakes (17,000 CFU/g) and others in much smaller quantities. The products with the highest level of contamination were produced and packed in Romania (total fungal load: 283,000 CFU/g), followed by Czech Republic (5000 CFU/g), Ukraine (4000 CFU/g) and Poland. Cereal products with lower water content had a higher degree of fungal contamination, while higher water content lead to lower contamination rates. The increased price did not impact the fungal contamination of cereal products, as they still presented high contamination rates. **Conclusions:** Cereals produced and packed in Romania suffered high degree of fungal contamination, most commonly with species from genus *Penicillium*. This work was supported by the George Emil Palade University of Medicine, Pharmacy, Science, and Technology of Târgu Mureş, Research Grant number 792/3/22.01.2025.

Keywords: fungal contamination, cereal products, Penicillium, Aspergillus

CAD/CAM WORKFLOW FOR ANTERIOR ZIRCONIA PROSTHETICS

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Background: Prosthetic bridges composed of zirconia frameworks layered with ceramic represent a contemporary restorative solution, increasingly favored for their biocompatibility, mechanical durability, and superior esthetics. **Material and methods:** The fabrication of the prosthetic restoration begins with the development of the working model, which is scanned using the Up300e scanner and subsequently processed in the Exocad software, where the patient's digital file is created. Before initiating the CAD/CAM workflow, the model is virtually prepared through several structured steps leading to the design of the zirconia framework. These steps include model importation, margin definition, parameter configuration, anatomical design, occlusal verification, connector placement, final refinement, and export of the design for milling. Once milled, the zirconia framework undergoes sintering in a high-temperature furnace. After removal from the furnace, the framework is evaluated on the working model to verify dimensional accuracy and passive seating. Necessary adjustments are performed, followed by preparation forceramic veneering using an adhesive liner. During the first firing, the framework is covered with dentin ceramic to establish thebase color, while the second firing involves the application of enamel or translucent ceramic to achieve natural optical characteristicsand definitive morphology. **Results:** Digital planning combined with CAD/CAM fabrication generated prosthetic frameworkswith precise adaptation and minimal need for adjustment. Both the metal-ceramic and zirconia-ceramic restorations demonstratedstable occlusion, proper force distribution, and satisfactory esthetic integration. The anterior zirconia-ceramic work showedparticularly high translucency and natural morphology, consistent with the esthetic performance reported in current literature **Conclusions:** The outcomes align with findings in the specialized literature, which indicate that metal-ceramic restorations ensurereliable mechanical performance, while zirconia-ceramic systems provide superior esthetics and biocompatibility. The digitalworkflow enhanced accuracy and efficiency, confirming its value as a modern, evidence-based approach in implant-supported prosthodontics.

Keywords: CAD/CAM, Zirconia-ceramic, Prosthetic rehabilitation, Metal-ceramic

SAMPLING FRESH WATER FOR MICROBIOLOGICAL EXAMINATION VIA MEMBRANE FILTRATION AND CULTIVATION

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Background: Sampling drinking water from private wells in various households is an important step in assessing the microbiological quality and biological pollution of a given geographical area. **Material and methods:** The experiment required a larger volume of water than that typically collected in standard sterile containers used for biological sampling; therefore,commercial sampling cups were unsuitable. Instead, reusable polycarbonate containers were used and subjected to a three-stepcleaning process: (1) washing with filtered water and soap, (2) three rinses with methanol, and (3) a final rinse with distilled water.Water samples (900 mL each) were collected either directly from the wells or from faucets when water was pumped automatically,replicating the conditions in which people are using the water at home. All samples were filtered in triplicate using 0.45 µm pore-size membrane filters and cultured on selective media. **Results:** Of the total samples collected (n = 25), 24 showed growth of totalcoliforms on LES-Endo Agar, while 19 showed growth of fecal coliforms on M-FC Agar. Most samples exhibited a high degree ofbacterial contamination, ranging from 1 to >300 CFU/100mL. **Conclusions:** The lack of sewage systems in the studied area,combined with inadequate management and regulation of household septic tanks, may explain the high level of fecalcontamination in drinking water sources. Additionally, the local topography—characterized by two hills separated by a valley—andthe presence of sheepfolds in the higher regions may contribute to the observed pollution.These preliminary results represent only apartial view of the broader perspective regarding the microbiological quality of freshwater sources in the area. The study ofmicrobial contamination in drinking water plays a crucial role in public health and hygiene, contributing to the overall well-beingof the population.

Keywords: membrane filtration, microbiology, environment, water, fecal contamination

NEONATOLOGY

MULTIDISCIPLINARY MANAGEMENT OF A LATE PRETERM NEONATE WITH SEVERE SURFACTANT DEFICIENCY, RECURRENT PNEUMOTHORAX AND EARLY-ONSET SEPSIS: A COMPLEX CASE REPORT

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Background: Respiratory complications in late preterm infants can progress rapidly, especially when birth occurs in facilities without neonatal intensive care capabilities. Respiratory distress syndrome (RDS), defined by surfactant deficiency and impaired alveolar stability, is strongly associated with early deterioration and a higher risk of air-leak complications such as pneumothorax. In these settings, prompt stabilization and timely transfer to an appropriate neonatal intensive care unit (NICU) are essential to prevent further respiratory failure.Objective:To describe the clinical evolution and staged respiratory management of a late preterm newborn with severe surfactant deficiency complicated by bilateral recurrent pneumothorax and systemic inflammation. **Material and methods:** A premature female neonate born at 34 + 6 weeks via cesarean section for placenta previa and uterine scarring initially had an Apgar score of 10 at a private maternity clinic. As she developed worsening respiratory distress requiring oxygen therapy, she was transferred to our unit. Respiratory support was escalated from Continuous Positive Airway Pressure (CPAP) to Synchronized Intermittent Mandatory Ventilation (SIMV) based on rising oxygen requirements and radiologic evidence of surfactant deficiency. Admission laboratory tests showed neutrophilia, elevated C-reactive protein, and markedly increased procalcitonin. She received intratracheal surfactant, broad-spectrum antimicrobials, and caffeine. On day 3, she developed a large pneumothorax requiring high-frequency oscillatory ventilation (HFOV) and left pleural drainage. A recurrence required surgical placement of a pleural tube with aspiration of 50 mL of air and fluid. **Results:** Following drainage, HFOV, and targeted antimicrobial therapy, the neonate showed progressive respiratory stabilization and successful transition to spontaneous breathing. By day 8, she remained stable in room air with adequate feeding tolerance and improving clinical and laboratory parameters. **Conclusions:** This case highlights the value of individualized, adaptive respiratory management in late preterm neonates with severe RDS, recurrent pneumothorax, and systemic inflammation, emphasizing the importance of early transfer, timely surfactant therapy, HFOV, and appropriate pleural intervention.

Keywords: late preterm, Surfactant Deficiency, Pneumothorax

NITRO-OXIDATIVE STRESS IN MOTHER-NEWBORN PAIRS – A PROSPECTIVE STUDY ON THE EFFECTS OF MATERNAL SMOKING IN PREGNANCY

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Background: Maternal smoking causes significant oxidative stress in both the mother and the fetus, which plays a key role in the functioning of the nitric oxide (NO) pathway. Smoke contains thousands of chemicals, carbon monoxide, nicotine, and freeradicals that can cross the placenta. NO2/NO3 are the stable end products of NO metabolism, and their combined measurement isoften used as an indirect indicator of nitro-oxidative stress. The aim of the study was to investigate this in smoking pregnantwomen and their offspring and to compare it to non-smoking mothers-newborns. **Material and methods:** The study wasconducted with voluntary participation, 74 mothers in 3 groups: control group of 50 healthy mothers and physiologicalpregnancy, a preterm group of 16 pregnant women with preterm delivery and CHD group of 8 pregnant women with known fetalcongenital heart defects, than stratified based on the mothers smoking habit in non-smoking or smoking subgroups. NO2 andNO3 levels were measured by HPLC method from umbilical cord blood and maternal blood. **Results:** The mean NO2 level in maternal plasma was significantly higher than that in newborns (p=0.0421). In the non-smoking subgroup, the mother's average NO2 (21.13 ng/ml vs. 12.98 ng/ml) and NO3 (2.37 µg/ml vs. 1.94 µg/ml) levels were significantly higher than those of newborns. In the smoking subgroup, the mean plasma NO2 level of newborns was higher than that of mothers. **Conclusions:** The results suggest that maternal smoking affects the NO profile, whereas in the non-smoking subgroup, mothers' NO2 levels were significantly higher than those of their newborns, in the smoking subgroup, the mean NO2 levels of newborns were higher than those of their mothers, suggesting that smoking may affect the oxidative stress status of newborns. The study was supported by the "George Emil Palade" University of Medicine, Pharmacy,Science, and Technology of Targu Mures with the Research Grant number 171/6/9.01.2024

Keywords: oxidative stress, nitrite/nitrate, smoking, pregnancy, newborn

NEUROLOGY

SHORT-CHAIN FATTY ACIDS IN RELAPSING-REMITTING AND SECONDARY PROGRESSIVE MULTIPLE SCLEROSIS

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Background: Short-chain fatty acids (SCFAs) - butyrate, propionate and acetate and medium-chain fatty acids (MCFA) - caproate, carry immunomodulatory properties that may contribute to the pathology of multiple sclerosis (MS). Whether their circulating levels differ between relapsing-remitting MS (RRMS) and secondary-progressive MS (SPMS) and how they relate to disability and inflammatory biomarkers remains uncertain. **Material and methods:** Our objective was to compare serum SCFA between RR and SPMS patients and evaluate the associations with clinical and fluid biomarkers (matrix metalloproteinase (MMP), inflammatory cytokines and brain-derived neurotrophic factor (BDNF)). We analyzed SCFAs and MCFA in 66 RRMS and 26 SPMS patients. We used correlation analysis (Spearman's rho with FDR correction). Cytokines, MMPs and BDNF were measured in serum. Logistic regression evaluated SCFAs as predictors of phenotype. **Results:** SCFA levels did not differ significantly between RR and MS patients, but higher levels of butyrate were present in RRMS female patients compared to males ($p=0.01$). In RRMS patients, butyrate and propionate were positively correlated (rho 0.31, $p=0.03$), and propionate positively correlated with acetate both in RR and SPMS patients (rho 0.56, $p<0.001$; rho 0.56, $p=0.01$). SCFA-cytokine associations were limited. Acetate correlated with BDNF (rho 0.31, $p=0.02$). Caproate correlated with MMP2 (rho 0.35, $p=0.009$) and MMP9 (rho 0.44, $p<0.001$). In the multivariable model including all four SCFAs together, adjusted for clinical parameters, only butyrate remained independently associated with the odds of having RR MS ($p=0.038$). **Conclusions:** SCFA levels are similar in RR and SPMS and are not distinguished between phenotypes in the present cohort. Their relevance is demonstrated by selective correlations with disease duration and inflammatory markers, suggesting a targeted immune interaction, rather than phenotype driven.

Keywords: short chain fatty acids, butyrate, caproate, propionate, multiple sclerosis

OPHTHALMOLOGY

STUDY OF CORNEAL BIOMECHANICS AND TEAR FILM CHANGES IN PATIENTS WITH EYELID MOTILITY DISORDERS

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Background: Purpose. The study the relationship between corneal biomechanics, qualitative and quantitative changes of the tear film in patients with eyelid motility disorders. **Material and methods:** We evaluated the biomechanics of the cornea using ORA device (Ocular Response Analyzer), respectively we evaluated the qualitative and quantitative changes of the tear film using specific tests. **Results:** Abnormal eyelid position is associated with changes in corneal biomechanical parameters. Patients had quantitative and qualitative tear film deficiencies, ocular surface lesions (p=0.002), decreased tear film break up time (8.6 +/- 3 seconds vs. 10.3+/-4 seconds, p=0.02), decreased Schirmer test values (p=0.01) and changes in meibomian glands (p=0.02) **Conclusions:** The visual prognosis of patients with eyelid static disorders depends on the correct assessment of the ocular surface, tear film changes and corneal biomechanics.

Keywords: biomecanics, cornea, eyelid, tear film

RETROSPECTIVE STUDY OF CLINICAL AND PARACLINICAL CHARACTERISTICS OF OCULAR SURFACE DISEASES IN PATIENTS ADMITTED TO THE TGMURES OPHTHALMOLOGY CLINIC

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Background: Aspects regarding diagnosis, therapeutic approach and treatment difficulties of ocular surface diseases are quite challenging worldwide. The certainty of diagnosis and the treatment of ocular surface changes, particularly corneal diseases are very difficult. The moment of diagnosis and prompt targeted therapy are mandatory for the visual prognosis of the patient. **Material and methods:** Retrospective study upon clinical and paraclinical aspects of ocular surface pathology in patients hospitalized in TgMureş Ophthalmology Clinic. **Results:** Among the systemic pathology of patients with ocular surface diseases, we note autoimmune diseases and diabetes. Regarding the etiological agent, in 33% of cases Staphylococcus aureus MSSA was identified, 11% of cases presented beta hemolytic Streptococcus group F, 22% Serratia spp, 23% different species of Candida glabrata, respectively albicans. Targeted treatment administered in accordance with the laboratory results led to healing of the ocular surface lesions. **Conclusions:** Correct management of ocular surface pathology involves identifying etiological factors through proper specimen collection and administration of targeted treatment.

Keywords: eye infection, etiological agent, ocular surface, cornea

ORTHOPEDICS

COMMON PERONEAL NERVE PALSY RISK FACTORS AND POTENTIAL PREVENTION. A NARARTIVE REVIEW.

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Background: Common peroneal nerve (CPN) palsy is an uncommon but disabling complication after total knee arthroplasty (TKA), with reported incidence 0.3-10%. Risk factors such as knee deviation and posture, intraoperative maneuvers, and post operative outcomes and complications are incriminated of CPN palsy imminence. Prophylactic peroneal nerve release (PPNR) has been proposed to reduce traction and compression during knee correction. **Material and methods:** A list of risk factors and outcomes were synthesized from high-risk TKA in which PPNR was perfomed prior to deformity correction. Data extracted also included postoperative motor/sensory function, incidence of CPN palsy, rehabilitation protocols, range-of-motion (ROM) changes, and intraoperative safety during lateral releases. **Results:** Across cohorts, risk factors such as severe valgus deformity (>15-20°) combined with flexion contracture, extensive lateral soft-tissue release, prolonged high pressure tourniquet use (>100 minutes), joint-line elevation ≥5 mm, tissue compression via edema and patient comorbidities (pre-existing neuropathy, spinal disease, rheumatoid arthritis, prior knee surgery). Postoperative neurologic outcomes were consistently outstanding, with patients retained strength antero-lateral musculature, intact sensation over the lateral leg, dorsum of the foot, no transient or delayed CPN palsy occurred in the PPNR intervention cohorts. PPNR facilitated unrestricted ROM from postoperative day one, ROM meaningfully improving from a flexion contracture of 10° to 1.2° and flexion increased from 100° to 111°. Direct visualization of the nerve enhanced intraoperative safety during pie-crusting or deeper releases of the iliotibial band, lateral collateral ligament, and posterolateral capsule, reducing iatrogenic injury risk. **Conclusions:** PPNR is a practical, nerve-sparing adjunct in valgus TKA, particularly when deformity exceeds 15-20° and risk factors coexist. It enables reliable deformity correction, expedites rehabilitation, and appears to minimize CPN palsy.

Keywords: Total knee arthroplasty, common peroneal nerve palsy, prophylactic peroneal nerve release

ADDRESSING A POST TRAUMATIC OSTEOARTHRITIS OF KNEE AND VALGUS DEFORMITY THROUGH TOTAL KNEE ARTHROPLASTY. A CASE REPORT.

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Background: Secondary knee osteoarthritis (OA) following trauma is up to 10-12% of all cause knee OA. Severe deformity, instability and pain necessitate total knee arthroplasty (TKA), yet prior fractures and fixation can complicate reconstruction. **Material and methods:** A case of Schatzker type II tibial plateau fracture initially osteosynthesized, viciously consolidated, with osteosynthesis material removed 1.5 years post-injury, develops post-traumatic knee OA. Patient presented with valgus deformity >20°, soft tissue laxity, with partially reductible coronal deviation and flexion contracture of 15°. TKA was performed through a standard medial approach. Fibrous tissue covering the tibial plateau defect was noticed. Following femoral and tibial bone resections, significant osteoporosis of the proximal tibia was observed. Coronal plane balancing techniques, lateral iliotibial band and lateral collateral ligament release, were applied to achieve symmetric flexion-extension gaps. Given the osteoporotic tibial bed, a 14×150 mm endoprosthetic tibial plateau extension rod was implanted. For coronal stability enhancement, a constrained polyethylene insert was selected. **Results:** After sequential soft-tissue releases and coronal balancing, the knee demonstrated stable gaps in both flexion and extension intraoperatively. The combination of a long tibial extension rod provided diaphyseal loadtransfer within osteoporotic bone, while the constrained insert addressed any residual instability. No additional tibial augmentswere required. The endoprosthetic construct was considered stable at trialing and final implantation. **Conclusions:** TKA forsecondary OA with severe, post-fracture valgus deformity and flexion contracture can be successfully addressed using coronal planebalancing, diaphyseal-engaging tibial extension, and constrained tibial insert. Tibial osteoporosis matter addressed with a long tibialstem improves fixation and stability, allowing reliable intraoperative balancing without the need for augments.

Keywords: secondary knee osteoarthritis, valgus deformity, total knee arthroplasty, constrained insert, tibial extension ro

COMMON PERONEAL NERVE PALSY AFTER MULTIPLE KNEE SURGERIES. CASE REPORT.

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Background: Common peroneal nerve (CPN) palsy is an uncommon yet consequential complication of total knee arthroplasty (TKA), reported in 0.3–10% of cases. Risk concentrates in valgus knees especially >15–20° amplified by flexion contracture, prior lateral surgery, extensive lateral balancing, prolonged tourniquet use, and joint-line elevation ≥5 mm. **Material and methods:** We describe a high-risk primary TKA in a patient with secondary osteoarthritis after a Schatzker II tibial plateau fracture. The fracture was osteosynthesized with later malunion. The fixation hardware removal at 1.5 years was the second consecutive surgery on the proximal lateral side of the calf. Preoperatively the limb showed a valgus deformity >20°, ligamentous laxity, and a 15° flexion contracture. TKA proceeded under a compressive tourniquet (time >100 minutes) with required extended lateral soft tissue balancing to achieve joint stability. **Results:** Postoperatively the patient developed diffuse thigh and calf edema, addressed with cryotherapy, limb elevation, and full-leg-length compression. A clinically evident CPN palsy was identified. Radiographs confirmed joint-line elevation >5 mm. The confluence of severe valgus with flexion contracture, repeated lateral approaches, extensive lateral release, prolonged tourniquet, and joint-line elevation established CPN risk factors. Rehabilitation was modified to prioritize nerve protection and close neurologic monitoring. **Conclusions:** This case highlights how stacked patient and surgery related factors can converge to produce CPN palsy after TKA in valgus alignment. Attention to lateral release extent, joint-line restoration and restraint with tourniquet duration, in patients with severe valgus and prior lateral surgery may reduce neurologic complications. Early recognition of edema and onset of nerve deficit supports faster recovery however adjuvant surgery such as prophylactic peroneal nerve release (PPNR) can mitigate the imminence of CPN palsy.

Keywords: Total knee arthroplasty, common peroneal nerve palsy, valgus deformity, soft-tissue balancing., prior surgery

CHASING MEANINGFUL CLINICAL DIFFERENCE: COMPARISON OF CR AND PS TOTAL KNEE ARTHROPLASTY OUTCOMES

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Background: The functional advantage of posterior-stabilized (PS) over cruciate retaining (CR) total knee arthroplasty (TKA) remains uncertain and is still under debate. Reported differences are often small and inconsistent, raising the question of whether any measurable delta translates into meaningful benefit for active patients. **Material and methods:** A comparative cohort observational study was conducted at a single TKA center using a uniform surgical protocol, cemented fixed bearing implants, identical prophylaxis, and accelerated rehabilitation. Adults with Kellgren Lawrence grade IV primary osteoarthritis were enrolled between January 2022 and November 2025. Exclusion criteria were inflammatory arthropathy, prior open knee surgery, BMI over 37, and severe deformities. A total of 154 knees were analyzed (PS n=79, CR n=75). Primary outcome: 6-month change in LEFS. Secondary outcomes: quality of life, depression score, range of motion, NRS reported patient satisfaction, and complications at 6 weeks, 1 month, 6 months and 12 months. Between-group differences were tested using repeated ANOVA tests. Final implant choice was decided intraoperatively based on several factors. **Results:** Both implant types showed large functional gains across all outcomes. No significant differences were observed at each endpoint. At 12 months, however, PS demonstrated a small statistical advantage in KOOS-ADL; however, the effect size was minor and the confidence interval remained within thresholds considered below a perceptible clinical difference. Range of motion, satisfaction, and adverse events were comparable across all follow-up points. **Conclusions:** CR and PS designs deliver similarly robust improvements when performed within a standardized pathway. The isolated 12-month difference favoring PS was small and had no clinical relevance. Implant choice may therefore be individualized based on anatomy and surgeon preference rather than expectations of superior functional recovery.

Keywords: Total knee arthroplasty, cruciate-retaining, posterior-stabilized, KOOS-ADL, prospective cohort

DETERMINANTS OF ACETABULAR OSTEOPHYTE FORMATION IN SYMPTOMATIC HIP ARTHROSIS

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Background: Acetabular osteophyte formation is a hallmark of progressive degenerative hip disease and is influenced by both patient-specific and structural factors. Identification of these risk factors may help predict disease severity and guide clinical decision-making. This study aimed to evaluate patient characteristics associated with increased osteophyte development around the acetabulum. **Material and methods:** A cohort of 20 patients presenting with symptomatic hip pathology was evaluated for acetabular osteophyte formation. Clinical and demographic variables—including age, sex, body mass index, symptom duration, and parity—were recorded. Radiographic analysis assessed hip morphology (acetabular dysplasia, cam deformity, excessive acetabular coverage) and osteophyte burden. Relationships between patient factors and osteophyte formation were examined. **Results:** Older age, male sex, and higher body mass index were found to correlate with greater acetabular osteophyte development. Abnormal hip morphology including dysplasia, cam deformity, and excessive coverage was also associated with increased osteophyte size and distribution. Patients with longer symptom duration demonstrated more extensive osteophyte formation. Additional contributing factors included increased femoral head lateralization, higher combined anteversion, and weight gain over time. Parity and lower acetabular head index were noted as secondary correlates in select cases. **Conclusions:** In this patient cohort, the most prominent factors associated with acetabular osteophyte formation included older age, male sex, elevated body mass index, and abnormal hip morphology. Symptom chronicity further contributed to osteophyte burden. Recognition of these predictors may improve early risk stratification and inform clinical management strategies for degenerative hip disorders.

Keywords: Acetabular ostephyte, body mass index, dysplasia, old age, hip morphoplogy

INTRAMEDULLARY VS. EXTRAMEDULLARY TIBIAL ALIGNMENT IN TOTAL KNEE REPLACEMENT: A COMPARISON OF SHORT-TERM OUTCOMES

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Background: Tibial alignment is a critical step in total knee replacement, with intramedullary and extramedullary techniques commonly employed to optimize component positioning and mechanical axis restoration. Although theoretical advantages exist for each method, current evidence suggests minimal clinically meaningful differences in short-term outcomes. This study aimed to compare short-term clinical and perioperative outcomes between intramedullary and extramedullary tibial alignment techniques. **Material and methods:** Ten primary total knee replacements were included and divided into two groups: intramedullary alignment (n=15) and extramedullary alignment (n=15). Perioperative parameters—including mechanical axis restoration, tibial component alignment, blood loss, tourniquet time, and complication rates were assessed. Early clinical outcomes were evaluated using postoperative pain, function, and range of motion. **Results:** Both groups demonstrated satisfactory restoration of mechanical alignment and appropriately positioned tibial components. No significant differences were observed in postoperative pain, function, range of motion, or complication rates. Extramedullary alignment was associated with slightly lower blood loss, while intramedullary alignment demonstrated marginally reduced tourniquet times; however, these findings were not clinically significant. Alignment outlier rates were comparable between the two groups. **Conclusions:** Intramedullary and extramedullary tibial alignment techniques provide equivalent short-term clinical and radiographic outcomes in total knee replacement. Small differences in perioperative measures such as reduced blood loss with extramedullary alignment and shorter tourniquet time with intramedullary alignment are not clinically meaningful. Both techniques remain safe and effective options for tibial alignment in total knee replacement.

Keywords: intramedullary, extramdullary, total knee replacement, alignment, tibial component

COMPARISON OF ACUTE POSTOPERATIVE INFLAMMATORY MARKERS IN CEMENTED AND CEMENTLESS TOTAL HIP ARTHROPLASTY

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Background: Total hip arthroplasty triggers an acute inflammatory response characterized by increases in laboratory and inflammatory markers. Cemented fixation has been associated with a more pronounced postoperative response compared to cementless fixation. Understanding these differences is essential for optimizing perioperative management and monitoring for potential complications. **Material and methods:** A prospective comparative study was conducted on 50 patients undergoing primary THA, divided into two equal groups of 25: cemented and cementless arthroplasty. Serum C-reactive protein, interleukin-6, erythrocyte sedimentation rate and total leukocyte count, were measured preoperatively and on postoperative day 1. The primary outcomes were immediate postoperative variations in inflammatory and laboratory markers between the two fixation methods. **Results:** Both groups demonstrated significant increases in serum C-reactive protein and interleukin-6 within the first 24 hours after arthroplasty. The magnitude of elevation was greater in the cemented group, indicating a more robust acute-phase and proinflammatory response. Erythrocyte sedimentation rate and total leukocyte count also rose postoperatively in both groups; however, no consistent or statistically significant differences were observed between cemented and cementless fixation for these parameters. **Conclusions:** Cemented total hip arthroplasty induces a stronger immediate postoperative inflammatory response than cementless total hip arthroplasty, as evidenced by higher serum C-reactive protein and interleukin-6 levels. Other laboratory markers, including erythrocyte sedimentation rate and total leukocyte count, increase after surgery but do not differentiate between fixation types in the immediate postoperative period. These findings support the use of serum C-reactive protein and interleukin-6 as sensitive biomarkers for early inflammation following cemented arthroplasty.

Keywords: Bone cement, hip arthroplasty, serum C-reactive protein, interleukin-6, biomarkers

REDUCED POROSITY IN BONE CEMENT PREPARED BY VACUUM MIXING: A COMPARATIVE RADIOGRAPHIC ANALYSIS

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Background: Bone cement porosity is an important determinant of mechanical strength and longevity in cemented arthroplasty. Lower porosity improves compressive and bending properties, translating into greater fatigue resistance and reduced risk of mechanical failure. Vacuum mixing has consistently demonstrated superior outcomes compared to standard hand mixing by minimizing entrapped air and reducing microvoid formation. This study compares the porosity of cement produced by vacuum mixing versus standard hand mixing using radiographically analyzed cement cylinders. **Material and methods:** Two preparation techniques, vacuum mixing and standard hand mixing were evaluated. For each technique, five cement batches were prepared, and from each batch cylindrical specimens were cast (n=5 per group). All cylinders were radiographically examined to quantify porosity. Primary outcomes included total porosity percentage and qualitative pore distribution patterns. **Results:** Vacuum-mixed cement demonstrated consistently lower porosity compared to hand-mixed cement. Radiographic analysis revealed porosity values for vacuum mixing within previously reported ranges of 1.44–3.17%, whereas hand mixed samples exhibited higher porosity. Vacuum mixing produced fewer microvoids with a more homogeneous distribution, while hand mixing resulted in a greater density of clustered small pores. These differences support the mechanical superiority of vacuum-mixed cement with respect to compressive and bending strength. **Conclusions:** Vacuum mixing significantly reduces bone cement porosity relative to standard hand mixing, yielding more homogeneous cement with fewer voids. Given the strong relationship between porosity and mechanical performance, vacuum mixing remains the preferred preparation method to optimize cement quality and enhance long-term implant stability.Bone cement, vacuum mixing, hand mixing, porosity, stability

Keywords: Bone cement, vacuum mixing, hand mixing, porosity, stability

OUTCOMES IN EIGHT CONSECUTIVE CASES AFTER UNCEMENTED ACETABULAR REVISION FOR SEVERE OSTEOLYSIS

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Background: Severe acetabular osteolysis is a major challenge in revision total hip arthroplasty, as extensive bone loss compromises initial implant stability and increases the risk of migration and mechanical failure. Uncemented acetabular components remain an appealing option due to their potential for biological integration, yet evidence in large defects remains limited. This study evaluates early functional and radiological outcomes following uncemented cup revision in patients with extensive acetabular osteolysis. **Material and methods:** Eight consecutive patients (8 hips) underwent revision surgery between 2018 and 2025 for severe acetabular osteolysis causing mechanical loosening and persistent pain after primary THA. The mean age was 68 years (range 59-77), and mean time from index arthroplasty to revision was 19.4 years. Acetabular bone loss was classified according to Paprosky: type 2B (n=2), 2C (n=3), and 3A (n=3). All patients received uncemented press-fit cups with supplementary screw fixation. Particulate bone grafting was used in 6 cases, and structural allograft in 2 cases. Minimum follow-up was 12 months (mean 19 months). Functional outcomes (Harris Hip Score, VAS pain) and radiological integration were recorded. **Results:** Initial implant stability was achieved in all patients, with no radiographic migration throughout follow-up. Bone graft incorporation was evident by 6-9 months in 7 of 8 cases. Harris Hip Score improved from a preoperative mean of 47±1.2 to 78±5.5 at final follow-up. Pain scores decreased from 7.1 to 2.6 on the VAS scale. No dislocations, infections, or reoperations occurred. One patient reported persistent gluteal discomfort managed non-surgically. **Conclusions:** Uncemented acetabular revision demonstrated reliable early stability and favourable functional outcomes in patients with severe osteolysis. Successful biological integration was achievable even in complex defects when combined with grafting and multiple-screw fixation. Larger cohorts and longer follow-up are required to validate long-term durability.

Keywords: acetabular osteolysis, hip revision, uncemented cup, integration, bone grafting

EARLY OUTCOMES AFTER TRANSARTERIAL HIP EMBOLIZATION VIA BRACHIAL ACCESS FOR SYMPTOMATIC HIP OSTEOARTHRITIS

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Background: Many patients with symptomatic hip osteoarthritis (HOA) are temporarily or permanently ineligible for total hip arthroplasty (THA) because of age, comorbidities, anticoagulation, or patient preference. This creates a therapeutic gap where conservative measures offer limited benefit. Transarterial periarticular embolization (TAE) has emerged as a minimally invasive alternative aimed at interrupting nociceptive hypervascularity. This study evaluates the early clinical response and safety of TAE performed exclusively through brachial arterial access in HOA patients unable to undergo arthroplasty. **Material and methods:** A prospective single-center cohort of 18 patients with Tönnis grade I-II HOA, chronic pain more than 12 months, and at least one contraindication to THA underwent superselective embolization of periarticular branches using bioresorbable microspheres. Mean age was 67.2 years (range 58-78), 61% were women. Procedures were performed through left brachial access under fluoroscopic guidance. Clinical evaluations (VAS pain and Harris Hip Score) were obtained at baseline, 1, 4, 8, and 12 weeks. Procedural metrics, including fluoroscopy time and radiation dose, peri- and postprocedural complications, were recorded. **Results:** Pain intensity decreased rapidly from a baseline mean VAS of 7.8 to 4.2 at 1 week and remained significantly improved at 12 weeks (mean reduction 3.5 points). Harris Hip Score improved from 45.5 pre-procedure to 59.9 at 1 week and 62.1 at 12 weeks, representing a clinically meaningful early functional gain. Technical success was achieved in all cases. Mean fluoroscopy time was 22.1 minutes, and no access-site complications, embolization-related events, or delayed adverse outcomes were observed. No patient required hospitalization or re-intervention during follow-up. **Conclusions:** Brachial-access hip embolization offers a safe and effective short-term option for HOA patients who cannot proceed to THA. The rapid decline in pain and early functional recovery suggest that TAE can serve as a bridge or alternative in high-risk individuals. Larger, controlled studies with long-term follow-up are needed to clarify durability and refine indications.

Keywords: Hip osteoarthritis, embolization, brachial access, minimally invasive treatment, pain reduction

EVOLUTION OF AVASCULAR NECROSIS OF THE FEMORAL HEAD TREATED BY CORE DECOMPRESSION IN EARLY STAGES (STEINBERG I–II): A RETROSPECTIVE ANALYSIS

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Background: Avascular necrosis of the femoral head (AVNFH) is a common cause of secondary osteoarthritis in young adults. In early stages (Steinberg I–II), core decompression aims to restore intraosseous blood flow and prevent subchondral collapse. However, reported outcomes vary significantly across studies. This study aims to evaluate the radiological and clinical evolution of patients with stage I and II AVNFH treated by core decompression, focusing on the progression rate toward advanced stages (≥III Steinberg) during follow-up. **Material and methods:** A retrospective study was conducted on patients diagnosed with AVNFH (Steinberg stages I–II) who underwent core decompression between 2017 and 2021. Preoperative imaging (MRI, X-ray), and Harris Hip Score were analyzed. Disease progression to stage III or higher was defined as treatment failure. **Results:** A total of 38 patients (52 hips) were included: 18 stage I and 34 stage II. After a mean follow-up of 18 months, 77,7% of stage I and 61,76% of stage II hips showed no radiological progression. Complete remission on MRI occurred in 21,1% of stage I hips and in 44,1% of stage II hips. Progression to subchondral collapse (stage III) was recorded in 22,2% of stage I and 38,2% of stage II hips. **Conclusions:** Core decompression remains an effective treatment in early AVNFH, particularly in stage I disease. Clinical and radiological outcomes are significantly better in earlier stages, highlighting the importance of early diagnosis and patient selection.core decompression, avascular necrosis of the femoral head, stage I

Keywords: core decompression, avascular necrosis of the femoral head, stage I

ARTHROSCOPIC SYNOVECTOMY IN CHRONIC KNEE SYNOVITIS

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Background: The synovial membrane of knee experiences ongoing inflammation during chronic knee synovitis which develops from autoimmune diseases, post-infectiously and from unknown causes. The condition produces fluid accumulation, pain and stiffness that makes it difficult for patients to perform their daily activities. Arthroscopic synovectomy provides patients with a minimally invasive treatment option for open surgery when conservative therapies prove ineffective. The research evaluated how arthroscopic synovectomy treatments affect both functional outcomes and radiographic results in patients who have chronic knee synovitis from different causes. **Material and methods:** The research analyzed 60 patients who received arthroscopic synovectomy for their chronic knee synovitis at 65 knee locations during 2014 through 2024. The research included patients who had rheumatoid arthritis and post-infectious synovitis and pigmented villonodular synovitis (PVNS) and nonspecific chronic synovitis. The surgeons performed all procedures through three portals using a standardized arthroscopic technique. The researchers used Lysholm Knee Score and Visual Analog Scale (VAS) for pain assessment and range of motion (ROM) evaluation to assess patients before surgery and after their final visit. **Results:** The treatment brought substantial positive changes to all patients who received it. The Lysholm score values rose from 54.6 to 86.9 points ($p < 0.001$) and VAS pain scores decreased from 6.8 to 2.1 ($p < 0.001$). The average preoperative knee flexion measurement of 108° increased to 128° after surgery ($p < 0.01$). The six knees that experienced recurrence belonged to patients who had rheumatoid arthritis or diffuse PVNS. The study found no major complications or postoperative stiffness that needed surgical intervention. **Conclusions:** The procedure of arthroscopic synovectomy delivers long-term pain relief and functional improvement to patients with chronic knee synovitis while showing low recurrence rates and minimal adverse effects. The procedure serves as a dependable minimally invasive solution for treating persistent synovial inflammation that does not respond to conservative treatments.

Keywords: arthroscopic synovectomy, chronic knee synovitis, rheumatoid arthritis, PVNS, minimally invasive surgery

COMPARATIVE EVALUATION OF CEMENTED AND CEMENTLESS HIP PROSTHESES: INDICATIONS AND IMPLANT SELECTION

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Background: Total hip arthroplasty (THA) outcomes are influenced by implant fixation method and femoral head material. Cemented and cementless stems have distinct indications based on patient age, bone quality, and activity level. Major prosthesis manufacturers, including Smith & Nephew, Stryker, and Sanatmetal, provide implants with varying biomechanical designs and material options. To compare hip prostheses in terms of fixation type, femoral head material, and clinical indications, highlighting evidence-based criteria for implant selection. **Material and methods:** Narrative review of published literature, manufacturer specifications, and clinical guidelines. Comparison focuses on: Smith & Nephew: cementless stems and cups, ceramic or cobalt-chromium heads; indicated in younger patients with good bone quality; modularity allows adjustment of leg length and offset. Stryker: cemented and cementless stems; cobalt-chromium or ceramic heads; cemented stems preferred for elderly or osteoporotic patients, cementless stems for active patients with sufficient bone stock. Sanatmetal: mainly cemented stems with cobalt-chromium heads; suitable for older patients or compromised bone; well-documented mid-term survivorship. Material considerations: Ceramic heads reduce polyethylene wear and dislocation risk; cobalt-chromium heads provide high strength and durability. **Results:** Cementless implants offer biologic fixation and long-term stability in younger, active patients. Cemented stems provide immediate stability in older or osteoporotic patients. Ceramic femoral heads reduce wear and risk of osteolysis; cobalt-chromium heads remain reliable for strength-demanding patients. Implant-specific design features, such as modularity and cup geometry, influence surgical technique, range of motion, and risk of revision. **Conclusions:** Selection of hip prosthesis should be individualized based on patient characteristics and evidence-based implant indications. Understanding the biomechanical principles, fixation type, and material properties of Smith & Nephew, Stryker, and Sanatmetal implants enables optimized outcomes and implant longevity.

Keywords: Total hip arthroplasty, Cemented, Cementless, Ceramic, Cobalt-chromium

PRIMARY TOTAL KNEE ARTHROPLASTY FOR POSTTRAUMATIC KNEE OSTEOARTHRITIS

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Background: Post-traumatic knee osteoarthritis (PTOA) represents 10–12 percent of all total knee arthroplasties and typically affects younger, active adults who present with deformity, stiffness, and altered biomechanics. Compared with primary osteoarthritis, PTOA is associated with increased technical difficulty, higher rates of postoperative stiffness, and a greater likelihood of revision. Clarifying expected outcomes after primary TKA is essential for guiding treatment decisions in this challenging group. **Material and methods:** A narrative review conducted of studies from 2005 to 2024 using PubMed, Embase, and Scopus. Eligible studies included adults with PTOA treated with primary TKA and reporting functional outcomes, range of motion, complications, or revision rates. Twenty-seven studies met inclusion criteria, consisting of randomized trials (n=2), prospective cohorts (n=9), and retrospective series (n=16). Data extracted included demographics, etiology of trauma, postoperative mobility, patient-reported outcomes, and implant survivorship. **Results:** Patients undergoing TKA for PTOA had a mean age 46 and 64 years. The most frequent antecedent injuries were tibial plateau fractures (30–40 percent), distal femur fractures (20–25 percent), andmultiligament trauma. Across studies, postoperative range of motion improved from 85–95 degrees preoperatively to 110–118degrees at final follow-up. Patient scores showed substantial gains, with KOOS or OKS improvements of 35–45 points at 12months. Reported revision rates ranged from 2.5 to 6.0 percent at 5–10 years, slightly higher than the 1.5–3 percent seen inprimary osteoarthritis. Stiffness requiring manipulation under anesthesia occurred in 6–12 percent of patients, and infection ratesranged from 1.0 to 2.2 percent, particularly in those with prior hardware or soft-tissue compromise. Overall, 80–88 percent ofpatients achieved good or excellent function within 1–2 years. **Conclusions:** Primary TKA provides meaningful functionalimprovement for PTOA patients despite increased complexity and a modestly higher risk of stiffness and revision. With carefulpreoperative planning and structured rehabilitation, outcomes are generally favorable and comparable to primary OA in most cases.

Keywords: Post-traumatic knee osteoarthritis, total knee arthroplasty, outcomes, complications, functional recovery

COMPLEX REGIONAL PAIN SYNDROME FOLLOWING DISTAL RADIUS FRACTURE - PATHOPHYSIOLOGY, DIAGNOSIS AND THERAPEUTIC APPROACH

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Background: Complex regional pain syndrome (CRPS), known as Sudeck – Leriche syndrome, represents one of the most severe complications following distal radius fractures, occurring in up to 25% of cases. Elderly patients are more prone to this complication due to prolonged immobilization., THe pathophysiology involves sympathetic hyperactivity, neurogenic inflammation, microvascular dysfunction, and central sensitization, resulting in disproportionate pain, edema, trophic changes, and impaired motor control. **Material and methods:** A literature-based review and case analysis were conducted focusing on the clinical features, imaging findings, and management alternatives of post-fracture CRPS. Diagnostic criteria were established according to the IASP Budapest consensus. Therapeutic approaches, including pharmacological, physical, and interventional methods, were synthesized from recent evidence and classical orthopedic sources. **Results:** Early diagnosis and treatment within the first 6-8 weeks are essential for functional recovery. Anti-inflammatory agents, corticosteroids, bisphosphonates, and calcitonin demonstrate significant pain reduction and improved mobility when combined with physiokinetic therapy. Functional rehabilitation emphasizing early mobilization, hydrotherapy, and desensitization techniques reduces chronicity and contracture formation. Delayed recognition – more than 3 months leads to fibrotic evolution, irreversible stiffness, and partial recovery. **Conclusions:** CRPS following distal radius fracture remains a major challenge in post-traumatic rehabilitation. Prompt recognition, multimodal therapy, and early mobilization are critical to prevent irreversible dystrophic changes. A multidisciplinary management protocol ensures optimal functional outcomes and improves the patient's quality of life.

Keywords: Complex regional pain syndrome, distal radius fracture, Sudeck-Leriche syndrome, rehabilitation, bisphophonates

EARLY DIAGNOSIS OF AVASCULAR NECROSIS OF THE FEMORAL HEAD: SUPERIOR CLINICAL AND ECONOMIC OUTCOMES WITH CORE DECOMPRESSION COMPARED TO TOTAL HIP ARTHROPLASTY

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Background: Avascular necrosis of the femoral head (AVNFH) is a debilitating condition that primarily affects young and middle-aged adults, leading to significant clinical and socioeconomic challenges. Early diagnosis in pre-collapse stages (Steinberg stages I,II and III) is critical for implementing less invasive interventions, such as core decompression, which may preserve joint function and reduce healthcare costs. This study evaluates the impact of early diagnosis of AVNFH on clinical outcomes, hospitalization costs, length of stay, and quality of life, comparing core decompression and total hip arthroplasty. **Material and methods:** A retrospective cohort study was conducted at the County Hospital's Orthopaedic and Traumatology Department, analyzing 533 AVNFH cases treated between January 2016 and December 2024. Patients were identified using ICD-10 codes and divided into two groups: core decompression (n=125) and total hip arthroplasty (n=408). Outcomes included length of stay, hospitalization costs, Harris Hip Score (HHS), and demographic characteristics. Statistical analyses included Shapiro-Wilk, Wilcoxon signed-rank, Chi-square, Mann-Whitney U, and t-tests, with correlations assessed using Spearman's and Pearson's coefficients. **Results:** Core decompression was associated with significantly shorter hospital stays (3.57 ± 1.92 vs. 10.74 ± 1.27 days, $p<0.00001$), lower costs (1,626.48 ± 715.92 vs. 10,433.24 ± 765.58 lei, $p<0.0001$), and higher pre- and postoperative HHS (71.96 ± 3.54 vs. 54.85 ± 7.75 preoperatively, $p<0.0001$; 84.03 ± 2.73 vs. 74.54 ± 9.15 postoperatively, $p<0.0001$) compared to arthroplasty. Men predominated in both groups (81.80% core decompression, 83.57% arthroplasty), with a significant gender-age association ($p<0.001$). Younger patients were more likely to undergo core decompression. **Conclusions:** Early diagnosis of AVNFH enables less invasive interventions, significantly reducing costs, hospital stays, and improving functional outcomes. These findings underscore the need for targeted screening in high-risk populations to optimize clinical management and enhance patient quality of life.

Keywords: Avascular necrosis of femoral head, early diagnosis, core decompression, total hip arthroplasty, hospitalization costs

IMMEDIATE FULL WEIGHT-BEARING AFTER ACETABULOPLASTY WITH BONE GRAFTS AND UNCEMENTED TOTAL HIP ARTHROPLASTY IN A 68-YEAR-OLD PATIENT WITH COXA PROFUNDA AND CONSOLIDATED MEDIAL ACETABULAR WALL FRACTURE: A CASE REPORT

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Background: Coxa profunda is a developmental acetabular abnormality that predisposes to early secondary osteoarthritis. In elderly patients, long-standing symptoms are often associated with structural complications such as medial acetabular wall fractures, which typically include cautious postoperative wight bearing protocols to avoid graft or implant failure. This case report details the clinical presentation, surgical management, and postoperative course of a 68-year-old female with secondary coxarthrosis due to coxa profunda and an associated medial acetabular wall fracture. **Material and methods:** Patient reported progressive right hip pain and stiffness over five years, with severe disability; required a walking frame for minimal ambulation. Preoperative plain imagistics revealed advanced joint degeneration, acetabular over-coverage consistent with coxa profunda, and minimal displaced medial wall fracture. Intraoperatively, medial wall defect was reconstructed using autologous morselized bone graft and a structural cancellous graft contoured to restore continuity. An uncemented porous-coated acetabular component fixed press-fit into the reconstructed acetabulum. Direct visualization and intraoperative radiographs confirmed solid bony bridging across the previous fracture site, no residual fracture lines or instability when performing suitable stress tests. **Results:** Given the intraoperative evidence of complete fracture consolidation, patient was permitted immediate full weight-bearing with two crutches. Physiotherapy beganpostoperatively since day one. By the sixth postoperative week she discarded all walking aids and resumed household activities. TheHarris Hip Score improved (32 preoperatively - 88 at three months). Serial radiographs at six weeks, three months, and six monthsshowed stable implant alignment, progressive graft incorporation, and no radiolucent lines or component migration. No infections, dislocations, or complications were recorded throughout follow-up. **Conclusions:** In this 68-year-old woman with a pre-consolidated medial acetabular wall fracture complicating coxa profunda, acetabuloplasty using morselized and structural autologous bone grafts combined with uncemented acetabular component implantation allowed unrestricted postoperative weight-bearing. The absence of complications and rapid functional recovery underscore the value of meticulous intraoperative fracture assessment.

Keywords: coxa profunda, secondary osteoarthritis, medial acetabular wall fracture, acetabuloplasty

THE ROLE OF FEMORAL STEM OFFSET IN TOTAL HIP ARTHROPLASTY – BIOMECHANICAL RATIONALE AND CLINICAL OUTCOMES

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Background: Femoral offset restoration represents a key determinant of successful total hip arthroplasty (THA), directly influencing hip biomechanics, soft tissue tension, range of motion, and joint stability. Inadequate offset reconstruction may lead to limb shortening, impingement, abductor weakness, and postoperative dislocation. The development of high-offset femoral stems allows for individualized adjustment without compromising leg length or femoral version. This review explores the biomechanical importance, indications, and clinical benefits of using high-offset femoral stems in THA. **Material and methods:** A narrative literature review was conducted using PubMed, Scopus, and Cochrane databases. Studies evaluating offset variation, abductor muscle function, joint stability, and functional outcomes in total hip arthroplasty were included. Both cemented and uncemented designs were analyzed, focusing on the role of offset correction restoring normal hip kinematics. Clinical data on postoperative outcomes and complication rates were synthesized to highlight evidence-based recommendations. **Results:** Multiple studies demonstrate that accurate offset restoration significantly improves abductor lever arm efficiency and joint stability while reducing polyethylene wear. High-offset stems are particularly indicated in patients with varus femoral neck morphology, dysplastic hips, or soft tissue laxity. Restoration of the native offset correlates with improved Harris Hip Scores, reduced limping, and enhanced patient satisfaction. However, excessive offset may increase stresses at the stem-bone interface and risk of trochanteric pain. **Conclusions:** Utilization of femoral stems with high offset in THA enables optimized soft tissue. Balance and biomechanical reconstruction of the native hip. Individualized preoperative templating and intraoperative assessment are essential to avoid under- or overcorrection. Offset optimization contributes to superior stability, functional recovery, and long-term implant survival.

Keywords: Femoral offset, total hip arthroplasty, high-offset stem, hip stability, abductor function

CURRENT CONCEPTS IN THE MANAGEMENT OF FEMORAL NECK FRACTURES IN YOUNG ADULTS

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Background: Femoral neck fractures in young adults are uncommon but carry high risks of complications, including nonunion and avascular necrosis, and therefore require anatomically precise management to preserve the native hip joint and function. To synthesize contemporary concepts in diagnosis, operative decision-making, fixation strategies, and perioperative principles aimed at maximizing fracture union and minimizing femoral head necrosis in young patients. **Material and methods:** Narrative review of contemporary literature and guidelines focusing on fracture classification, timing of surgery, reduction goals, fixation constructs (multiple cancellous screws, sliding hip screw plus antirotation screw, femoral neck locking plates, femoral neck system), and adjuncts such as capsular decompression and vascular-preserving techniques. Emphasis placed on biomechanical and biological principles that guide construct choice. **Results:** Key consensus points are: (1) prompt diagnosis and early operative fixation improve outcomes; (2) anatomic reduction and stable fixation are the main determinants of union and reduced avascular necrosis risk; (3) no single implant is universally superior — implant selection should be individualized based on fracture pattern, bone quality, and surgeon expertise; (4) newer implants and locking constructs show promising biomechanical advantages but clinical superiority over traditional multiple cancellous screws is not definitively established. **Conclusions:** Management of femoral neck fractures in young adults prioritizes preservation of the femoral head through early, anatomic reduction and stable fixation tailored to fracture morphology. Continued comparative studies and registry data are needed to refine implant-specific recommendations.

Keywords: Femoral neck fracture, Young adults, Internal fixation, Avascular necrosis, Orthopedic trauma

ARTHROSCOPIC TREATMENT OF INTRA-ARTICULAR CHONDROMATOSIS BODIES

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Background: Synovial chondromatosis is a rare, benign condition marked by the formation of multiple cartilaginous bodies in the synovial membrane. These loose bodies inside the joint can cause pain, swelling, mechanical problems, and ongoing joint damage if not treated. Traditional open surgeries often lead to longer recovery times and more complications. Arthroscopic management allows for direct viewing and removal of loose bodies, and synovectomy if needed, leading to quicker recovery. This study aimed to assess the clinical and functional results of arthroscopic treatment for patients with intra-articular chondromatosis. **Material and methods:** This retrospective study included 42 patients (44 knees) diagnosed with primary or secondary synovial chondromatosis who underwent arthroscopic treatment between 2014 and 2023. Diagnosis was confirmed through imaging and during the surgery. Arthroscopic removal of loose bodies was done through standard anteromedial and anterolateral portals, with partial synovectomy if there was synovial growth. Clinical and functional outcomes were measured using the Lysholm Knee Score, Visual Analog Scale (VAS) for pain, and range of motion (ROM) during preoperative and final follow-ups. Recurrence and complications were also noted. **Results:** At an average follow-up of 6.9 years (range 2–11 years), significant improvements were seen in all measures. The average Lysholm score rose from 51.3 to 89.1 points ($p < 0.001$), and the VAS pain score dropped from 7.2 to 1.9 ($p < 0.001$). The average knee flexion increased from 110° before surgery to 132° after surgery ($p < 0.01$). Recurrence of loose bodies occurred in 3 patients (7.1%), all within three years of surgery. No major complications or cases of postoperative stiffness were reported. **Conclusions:** Arthroscopic removal of intra-articular chondromatosis bodies offers excellent pain relief, restores joint movement, and has a low recurrence rate. The procedure is a safe and effective minimally invasive option compared to open surgery for treating synovial chondromatosis.

Keywords: synovial chondromatosis, arthroscopy, loose bodies, minimally invasive surgery, knee joint

TITLE: IMPACT OF BODY MASS INDEX ON EARLY POSTOPERATIVE COMPLICATIONS AFTER TOTAL KNEE ARTHROPLASTY: A RETROSPECTIVE STUDY

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Background: Obesity is a well-known risk factor for postoperative complications following total knee arthroplasty (TKA). The exact relationship between body mass index (BMI) and early complications remains controversial, especially with the implementation of enhanced recovery protocols. The purpose of this study is to determine the incidence of early postoperative complications (within 3 months) after TKA according to BMI categories in patients treated in a specialized orthopedic center. **Material and methods:** A retrospective review was performed on patients who underwent primary TKA between [insert years, e.g., 2020–2024]. Patients were divided into three groups: normal weight (BMI <25), overweight (BMI 25–29.9), and obese (BMI ≥30). Recorded complications included superficial/deep infections, stiffness, deep vein thrombosis, persistent pain, and delayed mobilization. **Results:** A total of 182 patients (198 knees) were included: 38 normal-weight, 74 overweight, and 70 obese. The overall incidence of early complications was 9.6%. Complications were significantly more frequent among obese patients (14.3%) compared to normal-weight patients (5.2%). The most common were superficial wound infections and postoperative stiffness. No significant differences were observed regarding age or sex. **Conclusions:** Higher BMI is associated with an increased risk of early postoperative complications after TKA, particularly infections and stiffness. Preoperative weight optimization and control of comorbidities may reduce postoperative risks and improve functional recovery.

Keywords: TKA, obesity, BMI, postoperative complications

MANAGEMENT OF FEMORAL NECK FRACTURES IN THE ELDERLY: WHAT IS THE BEST TREATMENT OPTION? A NARRATIVE REVIEW

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Background: Femoral neck fractures represent up to 60 percent of all hip fractures in adults over 65 years, with 1 year mortality rates ranging between 20-30 percent. Treatment remains controversial in frail patients, as outcomes differ substantially between conservative management, internal fixation, hemiarthroplasty, and total hip arthroplasty. This review summarizes current evidence and quantifies the benefits and drawbacks of each strategy. **Material and methods:** A narrative review of publications from 2000–2024 was performed using PubMed, Scopus, and Cochrane Library. Inclusion criteria: studies analyzing displaced and nondisplaced femoral neck fractures in patients aged ≥65 years, reporting functional outcomes, complications, mortality, or reoperation rates. A total of 84 studies were selected (randomized trials n=18; observational cohorts n=52; meta-analyses n=14). **Results:** Conservative treatment was associated with high complication rates: pneumonia 22%, pressure ulcers 14–25 % and 30-day mortality 18–24%. Only 30–35 % of patients regained mobility. Internal fixation showed reoperation rates of 20–36 % for displaced fractures, due to nonunion or avascular necrosis. Failure rates in nondisplaced fractures were lower (8–12 %) and functional outcomes acceptable in independent elders. Hemiarthroplasty demonstrated lower reoperation rates (4-8 %) and faster mobilization. Dislocation rates remained low (1–3 %), and 1-year mortality comparable to fixation (18-28 %). Harris Hip Score improvement (THA > hemiarthoplasty), dislocation rates (THA>Hemiarthroplasty) and operative time (THA>hemiarthroplasty), equal survival rate. **Conclusions:** Evidence consistently shows that conservative treatment results in poor outcomes and should be reserved for terminally ill or nonambulatory patients. Internal fixation is appropriate mainly for nondisplaced fractures in cognitively intact, mobile elders. For displaced fractures, hemiarthroplasty remains the most reliable option, balancing complication rates and functional recovery. Total hip arthroplasty offers the best function for healthy, active adults over 70 years, but its benefits must be weighed against a higher dislocation risk. Treatment should be individualized according to physiological age, mobility level, cognitive status, and displacement type.

Keywords: Femoral neck fracture, elderly, internal fixation, hemiarthroplasty, total hip arthroplasty

COMPARATIVE EFFECTIVENESS OF SALTER, PEMBERTON, AND CHIARI OSTEOTOMIES IN THE TREATMENT OF CONGENITAL HIP DYSPLASIA: A RETROSPECTIVE ANALYSIS

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Background: Developmental dysplasia of the hip (DDH) is a leading cause of secondary osteoarthritis and gait impairment in young patients. Surgical correction aims to restore acetabular coverage and joint stability. The Salter, Pemberton, and Chiari osteotomies are widely used, each with distinct biomechanical principles and indications. This study compares their radiologicaland functional outcomes and evaluates long-term durability and late complications. **Material and methods:** A retrospective studywas conducted on patients with DDH who underwent Salter, Pemberton, or Chiari osteotomy between 1980 and 2000. Clinical outcomes (McKay score, gait assessment) and radiological parameters (acetabular index correction) were analyzed. Treatmentfailure was defined as: persistent instability, redislocation, constant pain, or need for revision. Long-term follow-up assessed hipfunction and total hip arthroplasty (THA) rates in adulthood. **Results:** A total of 62 patients (71 hips) were included: 25 Salter, 28 Pemberton, and 18 Chiari. After a mean 36-month follow-up, satisfactory results (McKay I–II) were achieved in 88% of Salter, 84% of Pemberton, and 72% of Chiari cases. Radiological correction was greatest with Pemberton (mean 22°). At 30-year follow-up, 78% of Pemberton and 72% of Salter hips maintained good function with minimal pain, whereas fewer than half of Chiari cases did. Secondary osteoarthritis requiring THA occurred 10–20 years earlier after Chiari osteotomy. **Conclusions:** All three osteotomies are effective for selected DDH cases. Salter and Pemberton yield superior outcomes in younger patients, Chiariremains useful as a salvage option. Early diagnosis and thorough patient and parent education on rehabilitation and lifestyle areessential to optimize long-term hip function and delay degenerative progression.

Keywords: congenital hip dysplasia, Salter osteotomy, Pemberton osteotomy, Chiari osteotomy, total hip arthroplasty

DELAYED TOTAL HIP ARTHROPLASTY FOLLOWING EARLY RECONSTRUCTIVE OSTEOTOMIES - CASE REPORT.

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Background: This case report examines the long-term effectiveness of pelvic (Salter) and intertrochanteric osteotomies inpreserving hip function and delaying degenerative progression in an adult patient with bilateral congenital hip dysplasia. Despiteearly surgical correction, many individuals with developmental dysplasia of the hip (DDH) experience residual deformity and early-onset osteoarthritis, often requiring total hip arthroplasty (THA) in mid-adulthood. **Material and methods:** We present the case ofa 46-year-old female patient diagnosed with bilateral congenital hip dysplasia at birth who underwent bilateral Salter osteotomies atage 2 to improve acetabular coverage and joint stability. At 14–15 years of age, she underwent bilateral intertrochantericosteotomies to correct coxa vara and improve femoral alignment. At the age of 45 - total hip arthroplasty on the left, followed by aright THA one year later. **Results:** Postoperative recovery was uneventful, and she maintained good hip function throughadolescence and early adulthood. Between ages 37 and 44, progressive bilateral hip pain, stiffness, and restricted motion developed.Conservative treatment provided minimal benefit, and **total hip arthroplasty (THA) was recommended.** At the one-year follow-up after the first THA, the patient reported marked pain relief and improved mobility, prompting the second procedure. Onemonth after the second THA, she achieved full pain relief and normal daily functioning, with no complications or need forrevision. **Conclusions:** This case highlights the long-term but partial effectiveness of early Salter and intertrochanteric (coxa vara)osteotomies in managing bilateral congenital hip dysplasia. While these procedures successfully preserved hip function and delayedthe need for arthroplasty for four decades, progressive degenerative osteoarthritis ultimately developed. Early reconstructiveosteotomies remain crucial for optimizing acetabular coverage, femoral alignment, and gait development during growth,contributing to better joint preservation and delayed surgical replacement in adulthood.

Keywords: Total hip arthroplasty, osteotomy, hip dysplasia

PATHOLOGY

LIPOMYELOCELE: A CASE REPORT IN PAEDIATRIC NEUROSURGERY

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Background: Lipomyelocele, known as lipomyeloschisis, represents an occult spinal dysraphism mostly encountered in paediatric neurosurgery. With a predominant location at the level of thoracolumbar region, macroscopically it is described as a mass of adipose tissue with subcutaneous location. **Material and methods:** We hereby report the case of a female patient of 11th months who was diagnosed at birth with a tumoral formation in the lumbosacral region. No other pathological history was noted. She was admitted to the Neurosurgey Department of Clinical County Hospital of Targu-Mures on a scheduled basis. The preoperative imaging examination described the presence of a sacral meningocele. Subsequently, ablation of the defect with multi-layer fashion reconstruction was decided to be performed. The lesion was excised in its entirety and sent to the Pathology Department.The patient was discharged a few days post-operatively, her condition being favourable, without complications. **Results:** The surgical specimen consisted of an elliptical skin flap of 45x25x15 mm with the presence of an irregularly shaped tumour formation of 23x18x10 mm covered by skin. On cut-section, the tumour presented a homogenous appearance, whitish in colour. On a microscopic level, the tumour consisted of a proliferation of mature adipocytes lacking atypia, divided in lobules by fine connective septa. In some areas, capillary-type blood vessels with thin walls were noted. **Conclusions:** The described anatomopathological aspects support the complex embryological origin of lipomyelocele and the importance of its recognition in the context of spinal dysraphisms.

Keywords: lipomyelocele, paediatric, addipose tissue, benign

SYNCHRONOUS AND COLLATERAL MALIGNANCIES: REPORT OF TWO CASES

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Background: The incidence of synchronous tumors is currently increasing, probably due to advancing diagnostic methods. However, the low incidence makes their treatment challenging. **Material and methods:** The incidence of synchronous tumors is currently increasing, probably due to advancing diagnostic methods. However, the low incidence makes their treatment challenging. **Results:** The first case is a 74-year-old male patient who was diagnosed with gastric adenocarcinoma. Histopathological examination of the resected stomach and chemotherapy-treated tumor confirmed the diagnosis of adenocarcinoma with an incomplete response to treatment. The tumor had infiltrated the gastric wall up to the submucosal level, but there was no metastasis in any of the 33 regional lymph nodes examined, the structure of which was disrupted by lymphoid proliferation. The morphology and immunophenotype were compatible with SLL. The second case is a 69-year-old male patient who underwent subtotal colectomy due to multiple polypoid formations ranging from the ileum to the descending colon. Two types of tumor were identified in the ileum and colonic segment: mantle cell lymphomas presenting as extensive lymphomatoid polyposis in the resected segment, involving the resection margins, and multiple tubulovillous adenomas displaying high-grade dysplasia and stable microsatellite status, located in all three colonic segments. **Conclusions:** The first cases were diagnosed as collateral malignancies. However, it should be noted that the interaction between carcinoma and lymphoma (involving inflammatory and immunosuppressive mechanisms) may promote tumor progression and dissemination. In the latter case, lymphoma is the most important predictor of survival. Improving patient management and prognosis may be possible by developing a more complex characterisation of the bidirectional interaction between lymphoma and carcinoma.

Keywords: Synchronous and collateral malignancies, lymphoma, adenocarcinoma

WHEN BENIGN ISN'T BENIGN: THE DIAGNOSTIC TRAP OF NEVOID MELANOMA

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Background: Nevoid melanoma is a rare histologic variant of cutaneous melanoma that closely mimics a benign melanocytic nevus, often leading to diagnostic delay and potentially worse outcomes. Prompt and accurate recognition is therefore essential for appropriate staging and management. **Material and methods:** We report the case of a 71-year-old woman with no significant oncologic history who presented with a pigmented lesion on the back. An excisional biopsy was performed and submitted for histopathologic evaluation. Gross examination revealed an irregular skin flap measuring 15 × 15 mm with a subcutaneous tissue thickness of 10 mm. Microscopically, hematoxylin–eosin staining demonstrated a proliferation of epithelioid melanocytic cells arranged in nests and cords, lacking evidence of maturation. The cells showed marked cytologic atypia, enlarged nuclei, and prominent nucleoli. The mitotic index was 11 mitoses/10 HPF. The Breslow thickness measured 1.56 mm (Clark level IV), with no ulceration, lymphovascular, or perineural invasion. Surgical excision was complete. Immunohistochemical analysis showed strong positivity for SOX-10, Melan-A, and HMB-45, with a Ki-67 proliferation index of approximately 20%. A final diagnosis of nevoid melanoma, stage pT2aNxMx, completely excised with clear margins and associated melanoma in situ, was rendered. BRAF and NRAS mutation testing was recommended. **Results:** Nevoid melanoma can resemble benign nevi both architecturally and cytologically. However, features such as nuclear atypia, high mitotic activity, absence of maturation, and a malignant immunophenotype aid in establishing the correct diagnosis. Correlation between clinical, morphologic, and immunohistochemical findings is crucial. In this case, SOX-10, Melan-A, and HMB-45 positivity, together with the absence of maturation and an abrupt transition to the underlying dermis, supported the diagnosis. Molecular testing for BRAF/NRAS mutations remains important for identifying candidates for targeted therapy. **Conclusions:** Nevoid melanoma is an uncommon and diagnostically challenging subtype of cutaneous melanoma. A thorough histopathologic and immunohistochemical evaluation is essential for accurate identification, timely treatment, and improved patient outcomes.

Keywords: Nevoid melanoma, Cutaneous melanoma, Histopathology, Immunohistochemistry

DIAGNOSTIC TRAPS IN PEDIATRIC HEPATOBLASTOMA: TWO CASE REPORTS

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Background: Hepatoblastoma (HBL) is a primary malignant tumor of the liver that originates from embryonic cells and recapitulates hepatic developmental stages. It may contain epithelial components alone or a combination of epithelial and mesenchymal elements. Lung metastases are present at diagnosis in around 5% of cases. Most HBLs (80-90%) occur in children aged between six months and five years, with a median age of 18 months at diagnosis. **Material and methods:** We present the results of two recently diagnosed cases to highlight the challenges involved in diagnosis and differential diagnosis. Both patients - one-year-old female and two-year-old male-presented with a large, rapidly growing tumor mass. The second case was diagnosedwith a hepatic tumor and multiple metastases, including a suspicious left testicular mass associated with a haematocele. **Results:** For diagnostic confirmation, only small subcapsular biopsy fragments were sent from both tumors. In both cases, the tumor tissue was poorly represented in the biopsy fragments, making it difficult to determine the subtype accurately. In the second case, the immunohistochemical panel had to be extended to rule out a primary testicular origin of the tumor. **Conclusions:** A diagnosis of hepatoblastoma is based on a combination of clinical, imaging and histopathological criteria. Key diagnostic elements include elevated serum alpha-fetoprotein (AFP) levels, characteristic radiological findings such as a well-defined hepatic mass with heterogeneous enhancement, and definitive microscopic features. Additional supportive criteria involve immunohistochemical staining, such as positivity for AFP, glypican-3 and ⍁-catenin nuclear accumulation, which helps to distinguish hepatoblastoma from other paediatric tumors. However, this is not applicable to liver metastases of germ cell tumors in cases where the biopsy material is limited. A multidisciplinary evaluation is essential in these cases to ensure an accurate and timely diagnosis.

Keywords: hepatoblastoma, pediatric neoplasm, embryonal liver tumor

IMPACT, INTERRUPTION, AND REBOUND: A COMPREHENSIVE TEMPORAL EXPLORATION OF BASAL CELL CARCINOMA

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Background: The basal cell carcinoma of the skin is the most common skin malignancy and is part of the non-melanocytic skin cancers. The objective of our study was to analyse the epidemiological and histopathological characteristics of the BCC in concordance with the COVID-19 pandemic and after, until 2024. **Material and methods:** We have performed an analyse of 3 studies published in the last 4 years regarding the epidemiological and histopathological characteristics of BCC within the Mures Clinical County Hospital. The include period was represented by 2016-2020 (Pre-pandemic + early-pandemic transitional years), 2020-2021 (Pandemic disruption period affecting BCC diagnostics) and 2021-2024 (Post-pandemic rebound with increased BCC detection) and included all the data (epidemiologica land histopathological) from the cases presented into the 3 studies. **Results:** In terms of epidemiological datasets, older individuals were predominantly affected; cystic BCC was significantly associated with age >71 years. A slight male predominance was noted post-pandemic, with males presenting larger tumour volumes. In the post-pandemic dataset, 73% of lesions were located in the head and neck region. Predictable associations between subtype and morphology was observed in the pre-pandemic period, whereas post-pandemic, arger tumour volumes in males and rural patients ($p < 0.02$) were observed. Despite rising case numbers, tumour volumes gradually decreased between 2021-2024 ($p < 0.001$). **Conclusions:** The three studies demonstrate how healthcare disruptions can reshape cancer epidemiology at the population level. BCC, although indolent, demonstrates more complexity and aggressiveness when diagnosis is delayed.

Keywords: basal cell carcinoma, skin, cancer

AN EXCEPTIONAL ENCOUNTER: BLUE RUBBER BLEB NEVUS & MYXOIDLIPOSARCOMA

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Background: Blue Rubber Bleb Nevus Syndrome (BRBNS) is a rare congenital vascular malformation disorder, usually involving the skin and gastrointestinal tract. Osseous and soft tissue involvement is less common, and the coexistence of BRBNS with malignant mesenchymal neoplasms has not been previously documented. We present a unique case of BRBNS associated with a myxoid malignant mesenchymal tumor of the lower limb. **Material and methods:** We present the case of a 29-year-old male, previously diagnosed with congenital bone dysplasia who presented with progressive deformity and multiple vascular lesions of the right leg. **Results:** The patient developed painful bluish nodules, ulceration, swelling and recurrent local bleeding. Doppler ultrasound showed multiple high-flow vascular malformations, and MRI revealed subcutaneous and intramuscular masses with mixed vascular patterns. Biopsy of a lateral foot lesion showed cavernous hemangioma and vascular malformations consistent with BRBNS. Despite local care, the lesions rapidly enlarged, leading to necrosis and deformity progression. Given the extensive damage, a partial limb amputation was performed. Histopathology revealed a myxoid malignant mesenchymal tumor, with S100 and vimentin positivity and Ki-67 index of 25%, favoring myxoid liposarcoma. **Conclusions:** This case highlights an exceptional coexistence of BRBNS and myxoid liposarcoma, a combination not previously described. Rapid lesion enlargement or necrosis in BRBNS should prompt evaluation for potential malignant transformation, emphasizing the need for multidisciplinary surveillance.

Keywords: BRBNS, venous malformation, myxoid liposarcoma, vascular anomalies

TUMOR WITHIN A TUMOR IN KIDNEY: CLEAR CELL CARCINOMA COEXISTING WITH MULTIPLE MYELOMA

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Background: Clear cell renal cell carcinoma (ccRCC) is the most common form of kidney cancer. It is often discovered incidentally, including during an autopsy, due to its frequently asymptomatic nature. Multiple myeloma (MM), a plasma cell neoplasm affecting multiple organs, is prone to relapse and cumulative organ damage despite advances in therapy. The rare occurrence of ccRCC alongside MM, particularly when only the latter is identified post-mortem, illustrates the complex overlap of malignancies in advanced disease and highlights the importance of thorough autopsy evaluation. **Material and methods:** We present the case of an 81-year-old deceased patient with a history of previously treated MM, massive pulmonary thromboembolism with diffuse alveolar lesions, and incidentally discovered ccRCC. **Results:** During the autopsy, a large thrombus was identified as the direct cause of death. This occupied the pulmonary trunk with bilateral arterial extension. However, numerous whitish tumour nodules were found in muliple organs. Microscopically, these were represented by MM infiltrates. At the renal apical pole, a nodule measuring 10x10 mm was found that mirrored the previously described lesions. Adjacent to this was a sharply circumscribed yellow tumor mass measuring 20x15 mm; together, these constituted a collision tumor. Under the microscope, the yellow renal tumor consisted of nests of cells with mainly clear cytoplasm, CD10 immunoreactivity, surrounded by thin fibro-vascular network. The second lesion was a diffuse proliferation of neoplastic cells with plasma cell-like morphology and marked pleomorphism, showing positive immunoreactivity for CD138. These atypical plasmacytoid cells diffuse throughout the clear tumor cells and virtually infiltrate the adjacent neoplasm, creating a unique "tumor within a tumor" histopathological pattern. **Conclusions:** Despite considerable advances in diagnostic techniques, incidental tumors continue to be identified during autopsy. What makes our case unique is that two strikingly distinct neoplasms have been brought together and captured on a single histological slide within a single organ.

Keywords: renal cell clear cell carcinoma, incidental finding, autopsy, multiple myeloma

PAPILLARY THYROID CARCINOMA ARISING IN A BACKGROUND OF HASHIMOTO'S THYROIDITIS: A CASE REPORT

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Background: Hashimoto's thyroiditis (HT) is characterized by lymphocytic infiltration, oncocytic metaplasia, and fibrosis, features that may mimic or obscure papillary thyroid carcinoma (PTC), posing diagnostic challenges on both cytology and histopathology. This case highlights the importance of distinguishing true neoplastic changes from inflammatory/reactive alterations in HT. **Material and methods:** We present the case of a 45-year-old female patient who underwent total thyroidectomy with bilateral central compartment lymphadenectomy. The preoperative cytological diagnosis was Bethesda category V. **Results:** Histopathological examination revealed a multifocal differentiated papillary thyroid carcinoma of the right lobe, consisting of a 2 mm infiltrative follicular variant focus and an 8 mm conventional papillary focus. Both lesions were poorly demarcated, showing follicular and micro-papillary architecture, nuclear clearing, overlapping, and irregular nuclear contours. Numerous psammoma bodies were diffusely distributed throughout the thyroid parenchyma. The remaining thyroid tissue showed features of chronic lymphocytic thyroiditis with oncocytic metaplasia and extensive fibrosis. Numerous reactive follicular changes with enlarged, cleared nuclei were also present, closely mimicking those of papillary carcinoma. Metastatic papillary carcinoma was identified in four of seven central compartment lymph nodes. Immunohistochemical staining performed on lymph node metastases demonstrated positivity for TTF-1 and thyroglobulin, confirming the thyroid origin of the tumor. **Conclusions:** This case underlines the diagnostic difficulty posed by HT, whose architectural distortion, oncocytic metaplasia, and fibrosis may closely simulate or mask PTC. Awareness of these overlapping features is essential to avoid under- or over-diagnosis, ensuring appropriate patient management.

Keywords: thyroid, thyroiditis, papillary thyroid carcinoma

PEDIATRICS

MULTIPLE AUTOIMMUNE MANIFESTATIONS IN AN ADOLESCENT WITH TYPE 1 DIABETES MELLITUS

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Background: Autoimmune polyglandular syndromes (APS) reflect a heterogeneous group of two or more autoimmune disorders affecting endocrine and non endocrine tissues. These associations reflect a complex dysfunction of the immune system and may be observed at any age, from childhood to adulthood. APS Type III is described as the presence of Hashimoto thyroiditis and other autoimmune disorders, such as diabetes mellitus, alopecia, but excluding adrenal insufficiency. The association between Alopecia areata Universalis (AU) and APS has been rarely described in children, and it may represent an early dysregulation of the immune system. **Material and methods:** We report a case of a 16-year-old male adolescent with a 10-year history of progressive alopecia universalis diagnosed later with autoimmune thyroiditis and hypothyroidism, and after an additional 5 years with type 1 diabetes mellitus. Clinical, biochemical and immunological date werw analysed including hormonal profiles, antibody status, disease course and relevant family history. **Results:** The patient present a triad consisting of alopecia universalis, Hashimoto"s thyroiditis abd hypotiroidism (elevated TSH, low FT$, positive TPO antibodies) and diabetes mellitus type 1 (blood glucose 314 mg/dl, HbA1C 10,4 %, C-peptide 1,10 ng/ml, with positive GAD antibodies). This constellation meets the diagnostic criteria for APS type III. The patient"s clinical evolution has a fluctuating course with poorly controlled blood glucose levels due to uncontrolled tyroid function. **Conclusions:** This case illustrates a rare early form of autoimmune polyglandular syndrome type III, emphasising the importance of systematic autoimmune screening in patients with severe forms of autoimmune disorders. early recognition of such associations enables timely interventions of integrated endocrinological, dermatological and immunological management, as well as log-term monitoring for potential additional autoimmune manifestations.

Keywords: autoimmune polyglandular syndromes, alopecia universalis, autoimmune thyroiditis, diabetes mellitus type 1

COMPLETE KAWASAKI DISEASE IN A 2-MONTH-OLD INFANT – A CASE REPORT

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Background: Kawasaki disease (KD) is a systemic vasculitis, of unknown aetiology, that usually occurs in children between the ages of six months and five years. Patients at the extremes of ages rarely meet all the clinical criteria required for the diagnosis of KD. Atypical or incomplete presentation can lead to delayed diagnosis and treatment, resulting in a higher incidence of cardiac complications. **Material and methods:** In this case report, we present a 2-month-old female infant who was admitted to our clinic with persistent fever, generalised maculopapular rash and bilateral conjunctivitis. **Results:** During hospitalization, she developed oral mucosa and extremity changes. On the 7th day from the onset of fever, the diagnosis of KD was established, and she received intravenous immunoglobulin therapy. The patient responded well to the treatment, presenting no cardiac complications. **Conclusions:** The presented case underscores that even very young infants can develop complete Kawasaki disease. It also highlights the importance of early identification and appropriate treatment in preventing coronary artery lesions.

Keywords: Kawasaki disease, infant, intravenous immunoglobulin, vasculitis

ISOLATED PERSISTENT HYPERAMYLASEMIA – A CLUE FOR GENETIC TESTING IN PEDIATRIC PATIENTS

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Background: Cystic fibrosis, also known as mucoviscidosis, is a multisystemic disorder caused by pathogenic mutations of the cystic fibrosis transmembrane conductance regulator gene, which causes abnormal mucus secretion in the lungs, pancreas, and hepatobiliary system. **Material and methods:** We report the case of a 12-year-old girl, known with hyperamylasemia, admitted in our clinic with a 3-day history of upper abdominal pain, nausea, vomiting and headache. **Results:** Upon hospital admission, the single pathological finding at clinical exam was diffuse abdominal pain, while the only modified laboratory parameter was serum amylase (512 U/L, the maximum value registered during admission being 746 U/L). The abdominal ultrasonography performed showed a mildly heterogeneous pancreatic structure with hyperechoic areas and a thin layer of peripancreatic fluid. We raised the suspicion of acute pancreatitis, and we indicated fasting along intravenous rehydration and proton-pump inhibitors. Given these findings, an abdominal computed tomography scan was performed, which revealed a pancreas of normal size and homogeneous native appearance, with mild densification of the adipose tissue posterior to the pancreas and adjacent to the superior mesenteric artery. Based on all the above, we established the diagnosis of acute pancreatitis. The patient's evolution was favorable, and she was discharged with the recommendation of pancreatic enzyme supplementation during meals, and to perform a sweat chloride test, which was mildly positive (70 mmol/L). Thus, the genetic testing identified a heterozygous genotype for the CFTR gene variant c.2051_2052delAAinsG, as well as the presence of the 7T and 9T variants, mutations that have been associated with CFTR-related disorder phenotypes, including recurrent pancreatitis and mild pulmonary involvement, generally without significant clinical impact. **Conclusions:** This case emphasizes the need of further investigations in patients with persistent hyperamylasemia, in order to identify a possible underlying cause, even in the absence of other suggestive signs and symptoms.

Keywords: hyperamylasemia, cystic fibrosis, pediatrics

DIAGNOSTIC AND THERAPEUTIC CHALLENGES IN PEDIATRIC BICUSPID AORTIC VALVE

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Background: Bicuspid aortic valve (BAV) is one of the most common congenital heart disease frequently associated with valvopathies and aortic dilation (AD) in pediatric heart disease. These comorbidities impose periodic monitoring to determine the optimal timing for corrective interventions. **Material and methods:** We present the case of a symptomatic (fatigue and exercise intolerance) 13-year-old male patient with BAV, progressive aortic regurgitation and heart failure NYHA III, under our supervision since infancy, with corrective procedure indication. Funding: This work was funded by the University of Medicine, Pharmacy, Science and Technology "George Emil Palade" of Târgu Mureș Research, grant number 163/1/10.01.2023. **Results:** Transthoracic echocardiography (TTE) revealed BAV type 0 with antero-posterior orientation, significant AR, sever AD and mild aortic stenosis (AS) characterized by decreased pressure half-time, absent leaflet coaptation and regurgitation jet directed toward the anteriormitral valve leaflet. Based on clinical status, valve morphology and imagistic findings, surgical correction was indicated to preserve ventricular systolic function. Considering the young age, ongoing somatic growth, the risks of lifelong anticoagulation, the need for future reinterventions and the favorable valvular anatomy, valvuloplasty was performed as a valve-sparing option. Early postoperative period was marked by ischemic changes in electrocardiography for which emergency coronarography was performed with no evidence of occlusion. However, at 3-month follow-up TTE showed mild residual AR with normalized aortic measurements and improved clinical status. **Conclusions:** This case highlights the importance of the phenotype in aortic bicuspid valve disease for the multidisciplinary team when making personalised decisions aimed at optimising long-term functionaloutcomes in aortic valve disease, particularly in paediatric patients where age, growth and longer life expectancy are critical factors.

Keywords: aortopathy, bicuspid aortic valve, valvuloplasty, aortic regurgitation, pediatric

RARE TYPE OF THROMBOPHILIA IN INFANT- CASE PRESENTATION

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Background: Thrombophilia is an inherited or acquired condition with increased blood clot formation due to different types of inherited defects. Homozygous protein C deficiency is a rare genetic disease with an incidence of 1 in 500.000 to 750.000 infants. **Material and methods:** We present the case of a 4.5-month-old male infant with severe homozygous Protein C deficiency who was born preterm from a twin pregnancy with severe postnatal sepsis and progressive growth retardation. A whole-exome sequencing test was performed, which detected a homozygous mutation in the ProC gene. He was admitted to the pediatric hematology compartment in Mures County Clinical Hospital for further investigations and therapeutic decisions. **Results:** Clinical, paraclinical, endocrinological, neurological, and gastroenterological consultations were carried out in to have the optimal therapeutic decision. **Conclusions:** Hereditary thrombophilia, especially homozygous Protein C deficiency, is a challenge for practitioners, as it requires long-term treatment and follow-up; however, further studies are needed to establish appropriate Protocols. We hope that our case presentation contributes to the literature to assist other clinicians in diagnosing and treating this rare condition.

Keywords: thrombophilia, Protein C deficiency, infant

REFRACTORY KAWASAKI DISEASE: CASE REPORT

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Background: Kawasaki disease (KD) is a systemic inflammatory disorder manifesting as a vasculitis, with a predilection for the coronary arteries. KD is one of the leading causes of acquired heart disease in children and primarily affects those under 5 years of age. Predictors of poor outcome across several studies include young age, male sex, persistent prolonged fever, laboratory abnormalities and poor response to intravenous immunoglobulin. The aim of this study is to showcase the evolution of a young infant with severe aortic dilatation who underwent early treatment. **Material and methods:** We report the case of a 2-month-old male infant with persistent fever, rash, sweeling and erythema of hands and feet, associated with bilateral conjuctival injection. Laboratory tests revealed elevated CPR (212 mg/L), leukocystosis(48.810/uL), severe anemia (6.0 g/dL), elevated neutrophil percentage (43.1 %) and a normal coagulation profile. Two-dimensional echocardiography showed dilated coronary arteries (left main coronary artery and right coronary artery) with a high Z score (>5). The patient received initial treatment according to the AHA Clinical Practice Guidelines for Kawasaki disease: intravenous immunoglobulin (2g/kg),methylprednisolon (2mg/kg), antiplatelet therapy, as well as prophylactic anticoagulant therapy with low molecular weight heparin and blood transfusion. **Results:** The patient demonstrated no improvement after the initial therapy and presented an alteration of coronary artery dilatations (Z score>10). Therefore, treatment was intensified by adding tumor necrosis factor alpha inhibitor (Infliximab 10 mg/kg body), as well as antihypertensive therapy. **Conclusions:** This case exemplifies a high-risk Kawasaki disease patient and highlights the importance of early recognition, close monitoring and escalation of therapy in severe pediatric presentations.

Keywords: Kawasaki disease, coronary artery dilatation, Intravenous imunoglobuline, Infliximab, pediatric case report

A HEPATIC DILEMMA: AUTOIMMUNE FEATURES FOLLOWING ALBENDAZOLE TREATMENT

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Background: Autoimmune hepatitis (AIH) is a chronic inflammatory liver disease characterized by hepatocellular necrosis,interface hepatitis, and circulating autoantibodies. Recently, a new intermediate category, drug-induced autoimmune-like hepatitis(DI-ALH) has been described, positioned between idiopathic AIH and drug-induced liver injury (DILI). This condition ischaracterized by autoimmune serological markers and histological patterns similar to AIH but triggered by drug exposure.Importantly, differentiation between DI-ALH and true AIH can often be established only over time, based on sustained remissionafter drug withdrawal and absence of relapse beyond six months. Its recognition is crucial, as management generally follows AIHprotocols, with favorable response to corticosteroids. **Material and methods:** We report the case of a 17-year-old female withautoimmune thyroiditis and prior Giardia Lamblia infection, who developed jaundice, nausea, and abdominal pain two weeks aftercompleting a 10-day course of Albendazole treatment (800 mg/day). Laboratory, imaging, and immunologic investigations wereperformed, and treatment was guided according to EASL Clinical Practice Guidelines for the Management of AutoimmuneHepatitis. **Results:** Initial results revealed severe hepatocellular injury (AST 3821 U/L, ALT 4341 U/L), hyperbilirubinemia (15.4mg/dL), and coagulopathy (INR 2.6). Viral hepatitis markers were negative. Immunologic testing showed positive ANA (274AU/mL), low complement C3/C4, and negative anti-dsDNA, anti-SMA, and AMA antibodies. The clinical evolution wasfluctuating, with transient worsening requiring plasma exchange, followed by progressive recovery and normalization of hepaticfunction. **Conclusions:** This case exemplifies Albendazole-induced autoimmune-like hepatitis, a form of DI-ALH that overlapsclinically and immunologically with classical AIH. Given the patient's autoimmune background, systemic lupus erythematosuscannot be ruled out, as the patient presents with ANA positivity, decreased C3/C4 complement levels, and mild thrombocytopenia,corresponding to an EULAR score of 8. Long-term follow-up beyond six months remains essential for diagnostic clarification andongoing management.

Keywords: Autoimmune hepatitis, Albendazole, Lupus erythematosus, DI-ALH, Autoimmune predisposition

WHAT HIDES BEHIND RECURRENT PNEUMONIAS IN A CHILD WITH HISTORY OF PREMATURITY?

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Background: Pulmonary lymphangioleiomyomatosis (LAM) is a rare occurrence at pediatric ages, associated with progressive respiratory failure, pleural effusion of lymphatic origin, occasional haemoptysis and spontaneous/recurrent pneumothorax. The condition can arise sporadically, or it can be associated with tuberous sclerosis. The diagnosis is challenging in the early stages of the disease and is aided by immunohistochemistry. We hereby report the case of a toddler with history of prematurity and chronic, aggravating respiratory failure, who was diagnosed with pulmonary LAM. **Material and methods:** The case describes a 18-month-old female patient, born prematurely at 32 weeks of gestation, with a history of fetal hydrops at 28 weeks, for which a thoraco-amniotic shunt was placed antenatally. In the first year of life, the patient was admitted for multiple episodes of bronchiolitis and pneumonia, each time with symptoms of respiratory distress. Based on the thoracic X-ray patterns, a suspicion of bronchopulmonary dysplasia was raised. In the last two months the patient had presented two recurrent episodes of pneumonia complicated by respiratory failure, which could only be managed with the administration of intravenous corticosteroids,reoccurring when the medication was ceased. A chest computed tomography (CT) was performed, which described multiplepulmonary consolidations and bilateral pleural effusion. **Results:** Given the patient's worsening clinical condition and theaggravating radiological features on the chest X-ray, she was referred to a tertiary pediatric pneumology and thoracic surgery center.The surgical intervention revealed a chylothorax and cystic lymphangiectasia, which was excised. Lung biopsy initially revealed patterns suggestive of pulmonary bronchopulmonary dysplasia and hypertension, but afterwards immunohistochemistry was conducted, given the unfavorable outcome, which was suggestive for LAM. **Conclusions:** LAM is an uneventful diagnosis in children, especially when accompanied by chronic lung disorders, such as bronchopulmonary dysplasia. Its confirmation requires histological workup.

Keywords: lymphangioleiomyomatosis, bronchopulmonary displasia, respiratory failure, child, chylothorax

ASCARIASIS LUMBRICOIDES-INDUCED ACUTE PANCREATITIS IN A PEDIATRIC PATIENT: A CASE REPORT

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Background: Ascaris lumbricoides, an intestinal nematode, is the cause of frequent parasitic infestation in humans with precarious socio-economic background and living in poor sanitary conditions. Infected individuals are usually asymptomatic, but parasitic burden and possible larval migration to various organs can take place. Acute pancreatitis is a rare occurrence in the context ofAscaris lumbricoides infection, and is caused by migration of the parasites through the bile or pancreatic duct. This report aims tohighlight a rare case of Ascaris lumbricoides-induced acute pancreatitis in a female teenager. **Material and methods:** A 16-year-oldfemale presented with severe epigastric and peri-umbilical recurrent pain, and serological findings supported the diagnosticsuspicion of pancreatitis, through elevated serum amylase levels (480 U/L). Patient presented to the emergency department after theonset of vomiting, in which she described the presence of physical parasites, with an appearance suggestive for Ascaris lumbricoides. Abdominal computed tomography revealed an enlarged pancreas in the corporeal and caudal region, with a pseudocyst in its terminal region. Upon admission, antibiotic treatment was instated, alongside supportive treatment, with rehydration infusionswith aminoacids. After three days, laboratory findings showed an increase in serum lipase levels (168 U/L to 796 U/L, in the courseof two days). **Results:** Abdominal ultrasound, afterwards performed, showed linear, tubular, hyperechoic structures with central anechoic lumen ('double-tube' sign) within the pancreas, consistent with Ascaris lumbricoides infestation of the pancreas. Thus, Albendazole treatment was instated, with one dose of 400 mg taken orally. **Conclusions:** This case highlights the possible invasion of the pancreas in systemic Ascaris lumbricoides infections, which can lead to severe complications, through the impossibility of parasite elimination after the organ involvement. In particular, the reminiscent parasites can represent a source of pancreatic inflammation reoccurrence.

Keywords: Ascaris lumbricoides, acute pancreatitis, Albendazole, Parasitic infestation, teenager

BEYOND PNEUMONIA – THE UNEXPECTED PULMONARY RECURRENCE OF EWING SARCOMA IN AN ADOLESCENT

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Background: A 13-year-old girl with a history of Ewing sarcoma of the right thigh—treated eight years earlier with chemotherapy and bone marrow transplantation—presented with persistent cough, hemoptysis, and right-sided chest pain. Initial clinical and radiologic evaluation supported the diagnosis of right middle lobe pneumonia with pleural effusion. **Material and methods:** The patient underwent extensive microbiological testing, including bacterial, viral, and mycobacterial investigations, alongside broad-spectrum antibiotic and antifungal treatment. Radiologic monitoring was performed, but invasive procedures such as bronchoscopy and pleural puncture were initially declined. After transfer to Germany, pleural fluid analysis and lung biopsy were completed. **Results:** Microbiological tests remained negative, and imaging persistently showed right middle lobe consolidation with rounded margins and bronchial obstruction, suggesting a possible mass. Pleural fluid analysis demonstrated a serohemorrhagic effusion with negative cytology. Lung biopsy ultimately confirmed pulmonary recurrence of Ewing sarcoma. **Conclusions:** This case underscores the challenges in differentiating between infection and malignancy in pediatric patients with prior cancer. The pneumonia led to the incidental discovery of tumor recurrence, emphasizing the need for heightened suspicion of relapse in atypical or non-resolving pulmonary infiltrates.

Keywords: Ewing sarcoma, pneumonia, pulmonary recurrence

TWO RARE CASES OF HHV-6 ENCEPHALITIS IN PEDIATRIC PATIENTS

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Background: Human herpes virus 6 (HHV-6), a widely prevalent pathogen, known to infect the majority of children under the age of two. Clinical spectrum of HHV-6 infection widely varies, typically manifested as non-specific febrile illness, rarely, associated with severe central nervous system (CNS) involvement such as meningo-encefalopathy. In CNS involvement, diagnosis is guided by clinical signs alongside cerebrospinal fluid (CSF) evaluation. First-line agents such as Gangiclovir are reported to show clinical improvement after early initiation, although evidence remains limited. The aim of this article is to showcase the evolution of two pediatric patients admitted with HHV-6 encephalitis with severe manifestations that underwent early antiviral treatment with Ganciclovir. **Material and methods:** We report two pediatric patients aged 5 respectivelly 13 moths old, who presented to the Emergency Department with severely altered general condition, febrile state and acute neurological manifestations including generalized tonic-clonic seizures, muscle hypertonia and upward gaze deviation, with generalized hypotonia and decreased responsiveness to external stimuli in the posticta period. Both patients underwent emergency native cranial CT scans, with negative findins, and lumbar puncture. CSF obtained was sent for culture, cell count and multiplex polymerase chain reaction (PCR), with detection of HHV-6 in both patients. After specialty infectious diseases evaluation, intravenous antiviral treatment with Ganciclovir 5 mg/kg every 12 hours for 14 respectively 10 days, in combination with antibiotic therapy and corticosteroids. **Results:** Both patients demonstrated improvement within the first 7 days of treatment, reguarding clinical status and laboratory parameters, with imaging studies remaining negative. At discharge, neurological examination was normal, with no neurological deficits at follow-up evaluation. **Conclusions:** Although larger studies are needed to confidently approve the need for antiviral treatment in the case of HHV-6-positive CSF encefalopathy, the rapid and favorable response observed in severely affected children may justify early initiation.

Keywords: HHV-6, encephalitis, ganciclovir, pediatric case series, multiplex PCR

UNUSUAL COMPLICATIONS OF ROTAVIRUS GASTROENTERITIS

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Background: Rotavirus infection remains the leading cause of acute gastroenteritis in children under 5 years of age. Due to its high transmissibility and unpredictable clinical course—frequently accompanied by enteral and systemic complications, some severe and potentially life-threatening—Rotavirus infection continues to represent a major global public health concern. **Material and methods:** We report the case of a 6-month-old male infant, diagnosed with enteral rotavirus infection who developed several uncommon systemic complications. The initial presentation consisted of fever, multiple episodes of watery diarrhea, and vomiting. Although the clinical course was initially favorable under symptomatic management, beginning on the third day of hospitalization the infant exhibited clinical deterioration, including mottled skin, apathy, somnolence, vomiting and refusal of feeding, in the absence of recurrent fever. **Results:** Urgent laboratory investigations revealed severe hypernatremia, thrombocytopenia, hyperuricemia, azotemia, and anemia, with negative acute-phase reactants and no evidence of hemolysis. Following prompt correction of hydro-electrolyte imbalances, the patient's clinical condition progressively improved. Serial laboratory assessments documented the resolution of acute kidney injury and hyperuricemia, gradual normalization of platelet count, and remission of hepatocellular injury. On day 10 of illness, the patient developed patchy cutaneous desquamation of the hands and feet, more pronounced in periungual, palmar, and plantar regions. **Conclusions:** Although Rotavirus infection classically manifests with gastrointestinal symptoms, certain cases may be accompanied by severe systemic complications that can adversely influence disease progression. This case highlights the importance of widespread infant vaccination as a key preventive measure to reduce the incidence and severity of Rotavirus infection.

Keywords: Rotavirus, gastroenteritis, complications, sistemic, vaccination

ASSUMING A RESULT, LOSS OF A CONFIRMATION: A CLINICAL CASE WITH IMPACT

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Background: Phenylketonuria (PKU) is one of the most common hereditary metabolic diseases, whose untreated evolution causes the toxic accumulation of phenylalanine, with severe consequences on the development and function of the central nervous system. In the absence of early treatment, PKU can manifest itself through neuro-psycho-motor retardation, epilepsy, behavioral disorders and cognitive deficit, disorders largely preventable through early detection and intervention. **Material and methods:** The case of a 12-year-old girl is presented, investigated for neuro-psycho-motor development delay, in the context of a neonatal screening initially considered negative for phenylketonuria. **Results:** In 2019, the patient was admitted to our clinic for a generalized tonic-clonic seizure; neurological evaluation, including brain computed tomography, did not reveal any structural lesions. In 2024, a sibling was born, detected during neonatal screening with elevated phenylalanine levels. During discussions regarding disability classification, the mother mentioned the existence of three additional children with disabilities. Testing them is recommended, determining elevated serum phenylalanine levels in all siblings with neurological impairment, including the previously evaluated girl. **Conclusions:** This case highlights the importance of maintaining a high degree of clinical suspicion and re-evaluation of relevant metabolic markers, even when neonatal screening results were considered normal. Re-testing phenylalanine, in suggestive clinical situations, may allow the identification of undiagnosed forms of phenylketonuria early and may guide therapeutic interventions capable of preventing the progression of neurological deficit.

Keywords: child, phenylalanine, PKU, neonatal screening, neuro-psycho-motor retardation

WHEN THE LIVER HIDES A RARE TUMOR: PEDIATRIC HEPATOBLASTOMA - CASE PRESENTATION

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Background: Primary liver tumors are rare in children. Hepatoblastoma is the most common primary hepatic malignancy of early childhood. The majority of hepatoblastoma cases occur within the first two years of life, and the incidence in boys is approximately twice that in girls. Hepatoblastomas arise from primitive hepatic cells that have the potential to differentiate along several lines and typically show rapid growth. Epidemiological studies have associated this condition with preterm birth. **Material and methods:** We present the case of a one-and-a-half-year-old girl, who initially was misdiagnosed as pneumonia in a regional hospital and treated accordingly. Upon admission, the patient presented with orthopnea, lower oxygen saturation, fatigue, irritability, somnolence, loss of appetite and a well-palpable abdominal mass. Laboratory investigations revealed hepatocytolysis, increased alpha-fetoprotein levels, and positive inflammatory markers, accompanied by secondary thrombocytosis. Abdominal ultrasound described a tumor occupying almost the entire right hepatic lobe, compressing the right kidney toward the midline. Computed tomography (CT) imaging confirmed a large, encapsulated hepatic tumor without clear information regarding the invasion of major vessels, showing signs of compression on surrounding structures. An echocardiographic examination was also required which revealed pericardial and right pleural effusions. Ultrasound guided fine-needle liver biopsy returning positive for embryonal hepatoblastoma. Based on the clinical data and imaging, the patient was classified as PRETEXT stage III and chemotherapy was initiated. **Results:** At present, the patient is undergoing the second cycle of chemotherapy following the SIOPEL-6 protocol. If an adequate response is achieved, surgical removal of the tumor will follow, succeeded by two additional cycles of chemotherapy. **Conclusions:** This case highlights that a rare liver malignant lesion may present with respiratory failure secondary to compression, thereby mimicking an acute respiratory disease.

Keywords: tumor, hepatoblastoma, fine-needle liver biopsy, PRETEXT, chemotherapy

ATYPICAL EARLY PRESENTATION OF PEDIATRIC NON-HODGKIN LYMPHOMA MIMICKING ANGIOEDEMA: A CASE REPORT

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Background: Non-Hodgkin lymphoma is a malignant neoplastic disorder of the lymphoreticular system. Lymphoblastic lymphoma commonly presents as a symptomatic mediastinal mass, with frequent dissemination to the bone marrow, central nervous system, and, in males, the testes. Typical site-specific manifestations include rapid, painless lymph node enlargement and respiratory symptoms such as cough or dyspnea in the context of thoracic involvement. This report describes the clinical course of a pediatric patient whose initial, nonspecific symptoms closely mimicked angioedema, thereby obscuring the underlying malignant process. **Material and methods:** We present the case of a 7-year-old child who initially developed edema of the face, throat, ears, cervical and laterocervical regions, accompanied by geographic tongue and odynophagia. The patient received 3 doses of hydrocortisone hemisuccinate, with transient clinical improvement. Based on the initial findings, a diagnosis of angioedema was presumed. However, within several days, the edema progressed markedly, extending to the anterior and posterior thoracic wall and becoming associated with visible collateral circulation, characteristic features of "superior vena cava syndrome". **Results:** Computed tomography revealed a large mediastinal mass, causing severe compression of the superior vena cava, pulmonary artery, and aorta. Histopathological analysis of a biopsy specimen confirmed the diagnosis of Non-Hodgkin lymphoma. **Conclusions:** This case underscores the importance of considering malignant etiologies in pediatric patients presenting with rapidly progressive edema, particularly when symptoms extend beyond the typical distribution of angioedema or are accompanied by thoracic signs. Recognition of atypical or "red-flag" features—such as rapidly evolving cervicothoracic swelling and collateral circulation—can prompt earlier imaging and expedite diagnosis. Early identification of mediastinal masses in children is crucial to prevent life-threatening cardiorespiratory complications and to ensure timely initiation of oncologic management.

Keywords: thoracic, lymphoma, SVC syndrome, angioedema, atypical

PHARMACY

PHYTOCHEMICAL COMPONENTS FROM ARTEMISIA ANNUA L.

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Background: Artemisia annua L, also known as annual wormwood, is a medicinal herb originally from Asia and grown for hundreds of years in China, and is now grown in Europe. This medicinal plant is appealing due to its medicinal qualities. Our study aims to ascertain the artemisinin levels in extracts derived from the herb Artemisia annua using methanol extract and the other purpose of the study was to identify the components of the volatile oils extracted from the two varieties of Artemisia annua and a commercial volatile oil through gas chromatography. Artemisia ketone is a particular element of the essential oil from this plant, noted for its antioxidant and anti-inflammatory properties. **Material and methods:** The vegetable raw material originates from Maros County, harvested in September 2022, with plants grown from German and Romanian seeds. Artemisinin was measured using high performance liquid chromatography (HPLC) separation combined with high-resolution mass spectrometry (HRMS) detection (positive ionization mode) of methanolic extracts. We conducted measurements using artemisinin etalon on three parallel samples. The volatile oils were extracted from the gathered aerial parts through hydrodistillation. The essential oils were examined using a gas chromatograph combined with a mass spectrometer 7890B GC-5977A MSD system (Agilent Technologies). **Results:** The yields obtained from the extracts show that artemisinin content is greater in the stem (0.30 mg/g d.w.) compared to the flower (0.23 mg/g d.w.), in the frozen part of the plant (0.96 mg/g d.w.) compared to the dried part (0.62 mg/g d.w.), and in the naturally grown part (4.32 mg/g d.w.) versus the greenhouse (3.48 mg/g d.w.). The volatile oils from both Romanian and commercial types have a significant concentration of artemisia ketone (A: 17.5-27.5%), whereas the volatile oil from the German type has nearly no presence of this compound (A: 0.8%). The Romanian variant's showed amounts of camphor and eucalyptol, while the German variant is abundant in camphor. **Conclusions:** The results demonstrate that plant with artemisinin content can effectively be employed or can act as raw material to confirm specific therapeutic approaches. The volatile oil from the native variant contains more compounds than the German variant, making it more effective for use in phytotherapy than the German variant.

Keywords: Artemisia annua, artemisinin, volatile oil

EFFECTS OF PRENATAL BENZIDAMINE CONSUMPTION ON POSTPARTUM MATERNAL BEHAVIOR IN RATS

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Background: Benzidamine is a nonsteroidal anti-inflammatory drug with local anesthetic and central serotonergic activity. Although commonly used for its peripheral anti-inflammatory effects, recent data suggest potential central nervous system actions that could influence maternal behavior. The present study aimed to investigate the effects of prenatal benzidamine exposure on postpartum behavior in female rats. **Material and methods:** Twenty pregnant Wistar rats were treated with benzidamine hydrochloride via oral gavage throughout gestation, following a dosing schedule adjusted to body weight. Control female rats were administered vehicle alone, using the same schedule, route, and volume as the benzidamine-treated group. Behavioral observations were conducted immediately after parturition, focusing on nest-building, pup retrieval, nursing behavior, and pup survival over the first 72 hours postpartum. **Results:** Dams exposed to benzidamine during gestation exhibited marked alterations in maternal care.A significant proportion failed to engage in adequate pup grooming and nursing behavior, and a subset demonstrated infanticidal behavior, resulting in partial litter loss. These findings suggest a possible central action of benzidamine affecting neuroendocrine pathways involved in maternal bonding and protective responses. Alternatively, fetal exposure to benzidamine might have produced subtle developmental impairments in the offspring, triggering the maternal rejection and killing behavior observed, a phenomenon previously described in rats when pups are perceived as nonviable. **Conclusions:** Prenatal exposure to benzidamine may disrupt postpartum maternal behavior in rats, leading to increased rates of infanticide. These effects could be explained by central neurochemical alterations or indirect recognition of compromised offspring. Further research is warranted to elucidate the neurobiological mechanisms underlying these behavioral changes and to assess their translational relevance for perinatal drug safety. This work was supported by George Emil Palade University of Medicine, Pharmacy, Science, and Technology of Targu Mures, Research Grant number 163/6/10.01.2023.

Keywords: benzidamine, maternal behavior, infanticide

PNEUMOLOGY

COLLAGEN DISEASES WITH SIGNIFICANT RESPIRATORY INVOLVEMENT – CASE SERIES

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Background: Pulmonary involvement in collagen diseases contributes to morbidity and mortality. Respiratory involvement can be varied: interstitial fibrosis with bronchiectasis (rheumatoid arthritis RA, scleroderma SD, dermatomyositis DM), pleurisy (RA, systemic lupus erythematosus SLE), alveolar hemorrhages (SLE), solid (PR, SD) or necrotic pulmonary nodules (Wegener's granulomatosis). Respiratory involvement can be predominant or precede the symptoms of systemic disease. **Material and methods:** Case 1. 64-year-old non-smoker patient, exposure to herbicides and COVID, with S. Sjogren's is admitted for exertional dyspnea, back pain, marked asthenia. High-resolution chest CT HRCT: honeycomb fibrosis, subpleural/basal bronchiectasis, emphysema bubbles; EMG carpal tunnel syndrome, with sensory-motor inexcitability, demyelination/axonal loss; positive markers: SS-A, SS-B, Ro52, ANA, FR; plethysmography: DLCO-63%, CPT-68%, VR-41%, 6minWalking test with decreased SaO2. Multidisciplinary treatment: systemic corticosteroids, antiplatelet agents, gastric antisecretory agents, vitamins B1,B6, cerebrolysin, inhaled corticosteroids and bronchodilators, respiratory rehabilitation. With the increase in gas exchange dysfunction, nintedamide (antifibrotic) was introduced with a favorable outcome. **Results:** Case 2. A 44-year-old patient with early-onset scleroderma (antiPm/Sc 175, positive antiKu, Raynaud's phenomenon) is hospitalized for exertional dyspnea, irritating cough, edema/hardening of the skin of the hands. HRCT: incipient interstitial fibrosis, ground glass, vertebral demineralization; plethysmography: decrease in DLCO-65%, KCO-67%, MEF25-60%, 6minWalking test with desaturation; capillaroscopy with microhemorrhages. Treatment with methotrexate, inhaled corticosteroids and anticholinergics, respiratory rehabilitation was started. Case 3. A 61-year-old patient (smoker 10PY, old myocardial infarction) presented to the Pulmonology Clinic with asthenia, exertion dyspnea, skin rash, alopecia, polyarthralgia, Raynaud's phenomenon. HRCT: diffuse interstitial fibrosis, bronchiolitis obliterans/bronchiectasis; severe mixed ventilatory dysfunction, gas exchange disorders, SaO2 (90% at rest, decreases with exertion), advanced atherosclerosis, positive ANA, skin biopsy with vasculitis. Immunosuppressive medication, oxygen, corticosteroids, inhaled bronchodilators, vasoactive agents, antiplatelet agents, statins were recommended with favorable outcome. **Conclusions:** . The complex diagnosis of collagenoses and their complications is the subject of multidisciplinary teams for a complex approach with improved outcome under treatment.

Keywords: collagen diseases, case series, respiratory involvement

NON-INVASIVE HOME VENTILATION (EXPERIENCE OF MURES PULMONOLOGY DEPARTMENT)

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Background: Noninvasive ventilation (NIV) is ventilatory support that uses a face/nasal mask to deliver air under positive pressure, without orotracheal intubation/tracheostomy. The patient initiates ventilation but the recognition/support of ventilation is done by the ventilator. NIV is indicated in diseases that evolve with alveolar hypoventilation: severe COPD/asthma, diffuse fibrosis, neuromuscular diseases (NMD), obesity-hypoventilation syndrome (Pickwick) and chronic hypercapnic respiratory failure(CHRF).
Material and methods: 32 patients with home NIV initiated in the Pulmonology Department were studied (5 women,27 men; ages 18-83years, with the active groups 51-60years 37.5% and 60-70years 18.7% predominating). **Results:** Theindications for NIV at home were: congenital myodystrophies 2 (6.25%), amyotrophic lateral sclerosis 2 (6.25%), severe COPDwith nocturnal hypoventilation 2 (6.25%), sleep apnea (SA) +SOH 2 (6.25%), overlap complex interstitial fibrosis+COPD+SA+SOH 10 (31.25), overlap AS +COPD+SOH 10(31.25%), overlap severe bronchial asthma+SA+SOH 4 (12.5%). Severe obesity represented a major factor of hypoventilation in 81.25%. Mean BMI 39.3 in 26 patients (NMD, ALS were not included). 20 (62.5%) were smokers, a much higher percentage than the national average of 34% (2023) and the EU (24%). Patients had multiple comorbidities/cardiovascular complications 26 (81.25%) - blood pressure, ICD, cor pulmonale, heart failure, arrhythmias and 10 associated diabetes and dyslipidemia. 6 patients were initially hospitalized in the ICU where NIV was started, continued in the Pulmonology Department and then long-term at home NIV. In addition to the treatment of basic conditions (bronchodilators, oxygen, rehabilitation, cardiotropic, diabetes medication, vaccination) NIV devices with positive-pressure "bilevelPAP" with current volume setting (6 ml/Kg ideal weight, maximum/minimum IPAP, EPAP, respiratory rate, alarms, oronasal interfaces/masks, humidifier) were recommended. 5 patients discontinued treatment, 3 did not show up for check-ups. **Conclusions:** The rest had a favorable evolution with decreased hypercapnia and improved quality of life. Patients with NIV at home require complex clinical, paraclinical (+blood gas) periodic monitoring in a multidisciplinary setting.

Keywords: NIV, COPD, Obesity-hypoventilation syndrome

PSYCHIATRY

HEALTHY SLEEP MINDSET

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Background: Sleep is a critical ingredient in mental wellbeing. In this presentation I will focus on the principles of sleep psycho-education as an individual and community intervention to improve sleep quality. The key "axes" of Cognitive Behavioral Therapy for Insomnia (CBT-I) as the first-line treatment for chronic insomnia according to current guidelines will also be explained. Through clinical case presentation I will share my experience as a private-practice psychiatrist working in the community with adult patients with chronic insomnia disorder.

Keywords: chronic insomnia disorder, CBT-I, sleep

OVERCOMING ACADEMIC PROCRASTINATION

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Background: In this presentation I will describe a scientific method based on Acceptance and Commitment Therapy (ACT) to help students overcoming procrastination and succeed in their studies. ACT belongs to the family of cognitive behavioral therapies (CBT), which focus on how people act, reason, and think. As its name suggests, it is an approach that emphasizes the importance of taking action in order to progress and achieve personal goals. A three meetings intervention based on ACT to overcome academic procrastination will be proposed for university students of UMFST starting with 2026 and I will outline its main targets, namely decreasing psychological inflexibility and promoting values-based actions.

Keywords: Acceptance and Commitment Therapy (ACT), cognitive behavioral therapies (CBT), academic procrastination

BEYOND BURNOUT: PRACTICAL EMOTIONAL SKILLS IN MEDICINE

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Background: Healthcare professionals are constantly exposed to emotionally demanding situations that increase the risk of stress, burnout, and psychiatric pathologies and can also lead to clinical errors. Effective emotion regulation can have tremendous benefits on clinical practice.The purpose of this paper is to identify, synthesize and analyse key emotion-management techniques that can be applicable to medical professionals. **Material and methods:** Narrative review of recent literature (2015-2025) indexed in PubMed and Web of Science, including clinical and observational studies about emotion regulation that included healthcare workers . **Results:** Effective strategies include: (1) cognitive techniques (cognitive restructuring, emotional reappraisal) that proved to have reduces stress levels; (2) mindfulness and breathing techniques, associated with fewer somatic symptoms and increased resilience; (3) group support and emotional debriefing, which lower burnout risk; (4) empathic-communication training, improving patient-provider interaction and emotional load. **Conclusions:** Healthcare workers could benefit from emotion-regulation techniques to help maintain psychological balance among personal needs and care quality.

Keywords: burnout, healthcare, mental health

PUBLIC HEALTH

PREVALENCE OF SMOKING CIGARETTES AND ATTITUDES AMONG MEDICAL STUDENTS: A SURVEY AT GEORGE EMIL PALADE UNIVERSITY OF MEDICINE, PHARMACY, SCIENCE AND TECHNOLOGY OF TÂRGU MUREŞ

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Background: Smoking tobacco is a common habit among the population in Romania. Also smoking is a common problem in university students worldwide. Medical students, due to their future profession, play an important role in smoking cesation and in preventing smoking. The objective of our paper is to describe the prevalence of tobacco use, the beliefs and attitudes of medical students from George Emil Palade University of Medicine, Pharmacy, Science and Technology of Târgu Mureş. **Material and methods:** A cross-sectional study was conducted among medical students at the UMFST Tg Mures from October to November 2025 using a questionnaire with twelve questions to assess their smoking prevalence, attitudes and beliefs towards smoking. Statistical analysis of the data was performed using Microsoft Excel, using Chi-squared test and a p-value<0.05 was considered significant. **Results:** A total of 152 students participated in this study, and the smoking prevalence was 45,39%(37,50% in women and 7,89% in men). This study revealed that 69,57% of respondents who smoke, do so in the presence of non-smokers on a daily basis. The study showed that 37,68% of student smokers smoke less than five cigarettes per day. More than half (57,24%) of the students reported having a smoker in the family. The banning of smoking in all enclosed public places was considered useful by 78,29%. There was a relationship between cessations and the gender, with a statistically significant difference between women and men (p-value = 0.01). Among the smokers, 42,03% reported that they do not want to stop smoking. **Conclusions:** The incidence of cigarette smoking among medical students is disturbing and in order to lower the current percentage and to discourage students from smoking periodical educational seminars must be arranged for college or university students to minimize the prevalence.

Keywords: tobacco, students, smoking, cigarette

THE IMPACT OF NOISE POLLUTION ON EVERYDAY LIFE AND ON HUMAN HEALTH

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Background: The sounds that surround us every day may seem harmless, but noise pollution has become one of the most subtle and persistent forms of everyday stress, significantly affecting our quality of life. **Material and methods:** Our study analyzes the perception of environmental noise and its effects on individuals' mental, behavioral and physiological health, using data collected through a questionnaire administered to a diverse sample of respondents. The collected data contains socio-demographic, educational, occupational, and psychological variables, as well as responses regarding auditory sensitivity and reactions to noise. **Results:** In this study, we collected 250 questionnaire responses. The sample includes individuals aged between 18 and 90 years, distributed relatively evenly across sexes. Most respondents come from urban environments, reflecting a predominantly urbanized population. The educational level of participants is high, with a significant proportion having university or postgraduate degrees. The preliminary results show that a considerable proportion of participants use active strategies to reduce noise exposure. The most common methods are avoiding noisy places, using noise-cancelling headphones, and using public transportation instead of private cars. In terms of physiological effects, only a portion of respondents reported an increase in heart rate following noise exposure, and most of those who had undergone an audiogram obtained normal results. **Conclusions:** A potential correlation emerges between educational level, an urban environment, and the degree of awareness regarding the impact of noise. Moreover, greater concern for hearing protection and acoustic hygiene can be observed particularly among younger respondents and individuals with higher education.Acknowledgement: This work was supported by the George Emil Palade University of Medicine, Pharmacy, Science, and Technology of Târgu Mureș, Research Grant number 5236/13.05.2025.

Keywords: noise pollution, hearing protection, acoustic hygiene, physiological effects, quality of life

SURGERY

PROMETHEUS-AI PREDICTIVE RISK OPTIMIZATION MODEL FOR EMERGENCY AND THREAT EVALUATION IN URGENT SURGERY

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Background: Emergency general surgery remains a high-risk field characterized by elevated postoperative morbidity and intense resource utilization. Anticipating complications before they occur is essential for improving surgical outcomes and cost efficiency. The present work introduces PROMETHEUS-AI (Predictive Risk Optimization Model for Emergency and Threat Evaluation in Urgent Surgery - Artificial Intelligence), a translational research initiative designed to create an AI-driven risk-prediction platform for acute abdominal emergencies. **Material and methods:** PROMETHEUS-AI will be developed on a retrospective dataset of approximately 600-800 patients operated in emergency settings between 2020 and 2024 at the Emergency County Clinical Hospital Târgu Mureș. Data preprocessing will include feature selection, normalization, and outlier management using Python-based pipelines (Pandas, Scikit-learn). The model will explore multiple supervised-learning approaches—logistic regression, random forest, and gradient-boosting (XGBoost)—with hyperparameter tuning through grid search and five-fold cross-validation.Model performance will be assessed using AUC-ROC, F1 score, and calibration plots. SHAP (Shapley Additive Explanations) analysis will ensure interpretability of variable influence, enabling transparent clinical translation. A secure interface prototype will be developed for real-time integration into hospital information systems, providing dynamic risk scoring and automated alerts within perioperative dashboards. **Results:** Preliminary simulations predict that ensemble models (random forest, XGBoost) will outperform baseline logistic regression, achieving an AUC >0.85 for global complication prediction. Feature importance analysis is expected to highlight preoperative CRP, operative time, and ASA class as major predictors. Integration of PROMETHEUS-AI into perioperative dashboards could allow real-time alerts, adaptive triage, and improved allocation of intensive care resources. Future prospective validation will assess the model's generalizability and clinical utility in multi-institutional settings. **Conclusions:** PROMETHEUS-AI aims to bridge data science and surgical management through predictive analytics, laying the groundwork for a 2026 institutional project dedicated to AI-enhanced decision support in emergency surgery.

Keywords: artificial intelligence, emergency surgery, predictive modeling, postoperative complications, machine learning

RECONSTRUCTION OF A LARGE VENTRAL MUSCULOCUTANEOUS ABDOMINAL WALL DEFECT USING THE RECTUS ABDOMINIS MUSCLE AND SKIN GRAFT

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Background: Postoperative abdominal wall defects represent a common complication of abdominal surgery, consisting of a loss of substance involving the musculoaponeurotic structures of the anterolateral abdominal wall following laparotomy. Parietal defects developing at the site of the postoperative scar require surgical treatment; however, even when using the best available surgical techniques, recurrence may still occur. It is widely accepted that large defects require complete abdominal wall substitution. Postoperative ventral musculoaponeurotic–cutaneous defects are rare, and their reconstruction remains a surgical challenge. **Material and methods:** We present the case of a patient with a spontaneous cutaneous fistula of a pancreatic pseudocyst associated with extensive skin necrosis. Emergency surgery was performed, consisting of excision of the necrotic skin and drainage of the pancreatic pseudocyst through the fistulous tract. **Results:** The postoperative course was complicated by evisceration on the 7th postoperative day, which was managed by fixation of the omentum to the margins of the parietal defect, covered with a polypropylene mesh. As the mesh could not be covered with skin, it was subsequently removed, and the ventral musculocutaneous defect was reconstructed using a musculofascial flap from the rectus abdominis muscle combined with a skin graft, in collaboration with a plastic surgeon. The postoperative evolution was favorable, and the patient was discharged on postoperative day 75. **Conclusions:** Large postoperative abdominal wall defects require complete parietal substitution. Musculocutaneous defects can be successfully reconstructed using a musculofascial flap from the rectus abdominis muscle. Collaboration with a plastic surgeon is essential for optimal reconstructive outcomes.

Keywords: musculocutaneous abdominal wall defect, rectus abdominis flap, skin graft

TIPP APPROACH FOR A RECURRENT FEMORAL HERNIA – CASE REPORT

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Background: The Trans-Inguinal Pro-Peritoneal (TIPP) repair was recently introduced / rediscovered as an alternative to both the Lichtenstein procedure, as well as to the laparoscopic approach of the inguinal and femoral hernias. **Material and methods:** We present a 78 years patient with a femoral hernia developed after a Lichtenstein type repair of an inguinal hernia. Due to the age and multiple cardiac comorbidities we preferred an open approach using spinal anestesia. The properitoneal space was approached anteriorly using an inguinal incision, with sectioning of the external oblique aponeurosis, of the previously placed mesh and of the fascia transversalis. The dissection of the hernia sac and of the properitoneal space was made under direct visual control, followed by the placement of a 15X15 cm mesh which has covered all the weak areas of the inguino-femoral region. **Results:** The surgical procedure lasted about 30 minutes and the postoperative course was uneventfull. **Conclusions:** The TIPP approach appears as a simple, quick technique; it is easy to learn after understanding the anatomy. One of the indications seems to be recurrence after open techniques in patients who are not suited for a laparoscopic approach.

Keywords: inguinal hernia, femoral hernia, transinguinal properitoneal, TIPP

LAPAROSCOPIC TREATMENT OF THE DUNBAR SYNDROME (CASE REPORT/VIDEO)

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Background: The Dunbar syndrome is an extremely rare medical condition due to the extrinsec compression of the celiac trunk by a hypertrophied median arcuate ligament, generating episodes of abdominal pain. **Material and methods:** We present a female patient with episodes of high intensity abdominal pain, mostly postprandial, with progressive worsening during the last 6 months. The abdominal ultrasound and digestive endoscopy did not found any significant lesion. The CT scan showed a 7 mm length narrowig of the celiac trunk due to an extrinsec compression at the emergency from the aorta, with no other significant atherosclerotic lesions. The surgical procedure was performed using a laparoscopic approach (5 trocars, standard instruments + 5 mm Ligasure) and consisted of disssection of the celiac trunk and the anterior wall of the aorta and sectioning of the hypertrophied median arcuate ligament. **Results:** The early and late postoperative course were favourable, with discharge after 72 hours and complete remission of the symptoms. The postoperative CT scan showed a normalisation of the caliber of the celiac trunk. **Conclusions:** The case is interesting due to the rarity, the diagnostic difficulties and the laparoscopic approach with its well-known advantages. The video shows the operative steps and the anatomical landmarks usefull for a safe approach.

Keywords: Dunbar syndrome, median arcuate ligament, laparoscopic surgery, abdominal pain, minimally-invasive approach

UROLOGY

NEPHRON SPARING SURGERY. WHY, WHEN AND HOW

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Background: Nephron sparing surgery (NSS) is recommended in kidney tumors treatment in order to preserve as much healthy tissue as possible. **Material and methods:** Before 20th century, radical nephrectomy was the gold standard treatment for renal cell carcinoma, NSS was rarely used due to poor surgical outcomes, bleeding and limited surgical techniques. The first reported partial nephrectomies were performed for benign conditions. Nowadays, NSS became the gold standard, especially for small renal masses (SRMs). **Results:** Success rate for NSS is very high, but morbidity and mortality rates are low at the moment. Overtime, research and clinical practice have progressed toward tumor enucleation, without excising additional surrounding tissue and it was proved to be oncologically safe and superior regarding the functional preservation of the kidney. Laparoscopic nephron-sparing surgery (LNSS) it's a minimally invasive surgery that offers a good renal function preservation and its highly effective option for treating localized renal tumors. Smaller incisions, reduced blood loss, shorter hospitalization, faster return to normal activities and better cosmetic outcomes are some of the benefits offered by laparoscopic approach. The surgical margins are carefully controlled even with the minimally invasive surgery, the precision with modern tools is better compared with open surgery and the morbidity is also decreased. **Conclusions:** The minimally invasive nature offers reduced perioperative morbidity, shorter hospitalization and faster recovery; while maintaining the primary goal: renal function preservation. Moreover, with technological advancements, LNSS has become feasible for complex renal tumors and represents a valuable option in the contemporary management of renal cell carcinoma.

Keywords: laparoscopy, kidney tumor, partial nephrectomy, NEPHRON SPARING SURGERY

MANAGEMENT OF CONTINENCE RECOVERY AFTER LAPAROSCOPIC PROSTATECTOMY

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Background: Urinary incontinence is a frequent complication following radical prostatectomy performed for the treatment of prostate cancer. This condition negatively affects patients' quality of life, social reintegration, and daily activities, and may even contribute to depression. **Material and methods:** We evaluated a cohort of 100 patients diagnosed with prostate cancer who underwent laparoscopic radical prostatectomy and subsequently developed postoperative urinary incontinence. **Results:** After removal of the bladder catheter, patients were advised to adopt lifestyle modifications (including weight reduction, management of constipation, smoking cessation, and treatment of chronic pulmonary disease), pelvic floor training, magnetic electrostimulation, and exercises designed to improve perineal muscle tone. The degree of incontinence was assessed using patient history, voiding diaries, and the International Consultation on Incontinence Questionnaire—Urinary Incontinence Short Form (ICIQ-UI-SF). Evaluations were conducted at 1, 3, and 6 months after surgery. **Conclusions:** Lifestyle modifications combined with pelvic floor electrostimulation or Kegel exercises can alleviate symptoms, reduce both the frequency and volume of urinary leakage, and shorten the recovery time to continence following radical prostatectomy.

Keywords: urodynamics, urinary incontinence, prostatectomy

SCIENCE AND TECHNOLOGY

LAW

CONTROVERSY OVER CONDUCTING PRIOR DISCIPLINARY RESEARCH

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Background: The conduct of prior disciplinary research is mandatory before disciplinary action. The labor code regulates in article 251 the conditions under which the employer must conduct prior disciplinary research. The article aims to carry out a normative analysis of the applicable legal framework with regard to prior disciplinary research under disciplinary liability. To this end, a jurisprudential analysis and also the views expressed in the doctrine will be carried out. In order to protect the rights of the employee and in particular his rights of defence, the legislator regulated the procedure of prior disciplinary investigation. The purpose of carrying out the prior disciplinary research is to respect the right of defence of the employee.The main controversies that will be analyzed in the study concern issues that have not been sufficiently detailed by the legislator, such as: the content of the convocation and the term that can be given for the presentation of the employee to disciplinary research, the aspects regarding the way of conducting disciplinary research.Since the Labor Code does not detail the conditions under which the hearing of the employee should be conducted, several approaches to the legal text have emerged in practice.In practice, for the hypothesis in which the employee presents himself for the purpose of carrying out prior disciplinary research, there are two main approaches: either questions are asked about the act or the deeds committed, or he is asked to answer a set of questions formulated in writing. From our point of view, the first option is a recommended one, being likely to respect the right of defense of the employee. This study aims to provide practical perspectives and solutions on the insufficiently regulated aspects of the Labor Code related to the performance of the prior disciplinary procedure.

Keywords: employee, disciplinary research, sanction, Labor Code, nullity

LAW

ARTIFICIAL INTELLIGENCE AND COMPETITION LAW

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Background: One of the fundamental characteristics of competition law lies in its ability, but also in its need, to constantly adapt to innovation. We are currently facing an unprecedented challenge due to the increasingly significant involvement of artificial intelligence in economic, commercial, and decision-making processes, which risks disrupting traditional competitive balances and requiring a rethinking of the existing regulatory framework.The computer algorithms used in this field have the ability to learn autonomously and draw conclusions based on previous information, processing impressive databases that have been collected and analyzed automatically. In practice, the most advanced algorithms have a predictive function and allow economic operators who use them to obtain a clear view of supply and demand for the coming months, thereby facilitating the establishment of a more reliable strategy for price adjustment. This situation may increase the risk of anti-competitive coordination in markets and lead to price alignment, even in the absence of an explicit agreement between companies or an exchange of information, which is a particularly sensitive issue.Under competition law, the principle of sanctioning anti-competitive agreements is well defined: for such a practice to be considered unlawful, it is necessary to prove the existence of an explicit or implicit invitation to participate in the agreement, as well as its acceptance by the person concerned. Although no actual agreement is reached, the use of artificial intelligence leads to coordinated behavior by companies, which essentially has the same negative effects.The present study aims to summarize the main aspects of the involvement of artificial intelligence in the field of competition law, highlighting the technical and legal developments that need to be implemented in order to ensure effective market protection.

Keywords: anti-competitive agreement, artificial intelligence, behavioral parallelism, price alignment

COORDINATES OF ACCESS TO JUSTICE IN THE CONTEXT OF DIGITIZATION

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Background: Digitization is becoming an integral part of every field of activity, including justice. Therefore, the legislator's intervention in adapting legislation to these imminent changes must manifest itself as a reaction in support of respecting the fundamental rights of citizens. The right of access to justice, recognized as a national and European procedural standard, is changing under the guise of technology, both in terms of how legislation and case law are accessed and in terms of dispute resolution procedures. The issue of digital justice, and implicitly of access to a court of law, raises the question of whether we can talk about responsibility and transparency in the administration of justice through artificial intelligence. The present shows us that the classic trial procedure is in "competition" with the regulations established by large digital companies in the field of dispute resolution, with a series of proprietary technical tools/means for dispute resolution being created. Are we seeing the emergence of electronic justice to the detriment of human justice, or are we witnessing a parallelism between the two? This study identifies and analyzes the main benchmarks of access to justice, how citizens (still) retain their right to bring a case before the court, and how this principle interacts (theoretically and practically) with the digital reality.

Keywords: access to justice, accountability, digitization, dispute resolution

LIMITS OF THE PRINCIPLE OF AVAILABILITY IN ADMINISTRATIVE LITIGATIONS

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Background: The essence of administrative litigations is for the court to ensure a balance between public and private interests. This study analyzes the court's margin of discretion in administrative litigations in interpreting the principle of availability and establishing the procedural framework. In this context, the question of balance arises between the autonomy of the parties and the court's responsibility to ensure compliance with the law. The principle of availability also applies in administrative disputes, but its application is subject to certain restrictions, justified by the specific nature of the procedure. By way of example, we mention the impossibility of waiving the trial in the case of actions brought by persons governed by public law. From another perspective, in doctrine and judicial practice, the question has been raised of the possibility of the judge's discretion in bringing another person into the case, pursuant to the provisions of Article 16(1) of Law No. 554/2004 on administrative litigation, a particular aspect that concerns the situation where the person against whom the action was brought does not have passive legal standing.

Keywords: principle of availability, limits, role of the judge, administrative litigation

LAW AND PUBLIC ADMINISTRATION

PRESIDENTIAL ORDINANCE IN ADMINISTRATIVE LITIGATION CASES

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Background: The presidential ordinance is a common law procedure, regulated by the provisions of Article 997 and the following Code of civil procedure, which allows the court to take some urgent, temporary and non-judgmental measures. Law 554/2004 on administrative contentious is a special law in relation to the Code of Civil Procedure, so that, insofar as it does not contain provisions that conflict with the general provisions of the Code of Civil Procedure, the latter become applicable. In the matter of the presidential ordinance, Law 554/2004 on administrative litigation does not include special regulations, judicial practice deducing depending on its subject matter. Thus, in the matter of suspending the effects of the administrative act by the Decision of the High Court of Cassation and Justice no.1924/2011, it was declared that the presidential ordinance that has as its object the suspension of the administrative act is inadmissible because there is a special procedure provided by Law no.554/2004. This is admissible in principle and can only be used for other temporary measures not provided for by the special law. (Decision of the High Court of Cassation and Justice No 2333/2013), in cases where separate interim measures not related to the suspension of an individual administrative act, in disputes arising from administrative contracts where the law does not provide for another special procedure or in other emergency cases, where there is no other applicable procedural mechanism.

Keywords: administrative contentious action, presidential ordinance, admissibility

THE STATE BETWEEN ECONOMIC PRESSURE AND ECOLOGICAL RESPONSIBILITY

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Background: The Law amending Article 561 of Government Emergency Ordinance No. 57/2007 on the regime of protected natural areas, the conservation of natural habitats, flora and fauna, as well as amending Article 5(1) of Law No. 292/2018 on the environmental impact assessment of certain public and private projects (PL-x No. 14/2023) has reached the stage of constitutional review, initiated by the President of Romania**.** This law highlights the tension between the need for economic development—particularly in the energy sector—and the state's obligation to protect the environment and biodiversity. Under the pretext of unblocking certain hydropower investments and strengthening energy and national security, the law paves the way for a major regression in environmental protection, both at the constitutional and European levels. The first area of intervention concerns the possibility of modifying the boundaries of protected natural areas, including Natura 2000 sites, for land on which hydropower development projects had been approved before 29 June 2007. Removing such land from the protection regime, at the simple request of the "beneficiary," without an appropriate environmental impact assessment, without an analysis of alternatives, and without compensatory measures, undermines the standards imposed by the Habitats and Birds Directives and contravenes Romania's obligations as an EU Member State. Instead of balancing economic interests with conservation requirements, the law creates an almost automatic derogation that turns nature protection into a variable to be adjusted at will. Domestically, these legislative solutions violate the state's positive obligation under Article 35 of the Constitution (the right to a healthy environment) to maintain and strengthen the normative framework for environmental protection. Rather than consolidating standards, the law dilutes them, amounting to an unjustified and disproportionate restriction of fundamental rights, contrary to Article 53 of the Romanian Constitution.

Keywords: law, constitutional court, fundamental rights, president, environment

THE FUNDAMENTAL RIGHTS ÎN CRIMINAL PROCEEDINGS – BETWEEN PROTECTION AND EFFIENCY

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Background: The proposed analysis aims to deepen the way in witch of conducting the criminal investigation, especially using the new technologies put at the disposal of the criminal investigation bodies can influence (in a negative or positive way) the constitutional balance between fundamental rights and freedoms and the efficiency of criminal process. Problematic becomes the situation in which the issue of respect for fundamental rights and freedoms is raised during criminal proceedings, knowing that in such situations several limitations and restrictions are allowed. One of the ways to effectively guarantee human rights and fundamental freedoms in a criminal trial is also the establishment of general principles of the criminal process. The first principle expressly provided for is the principle of legality, according to which the conduct of the criminal trial is made only according to the provisions provided by law. At the same time, both the Romanian Constitution and the Criminal Procedure Code define and establish the role of the prosecutor, through the Public Ministry, to represent the general interests of society and to defend the rule of law, as well as the rights and freedoms of citizens. the principle of operability, according to which the finding of the facts constituting the offence is made on time and in full, within a reasonable time. A few questions arise: How to maintain the balance between the need and obligation to respect and protect fundamental rights and the need and obligation of the state to fight crime? Can the Constitution and the Constitutional Court still ensure balance? Is this balance influenced by new methods of investigation based on modern digital technologies, (unlimited) access of criminal investigation bodies to traffic data, electronic surveillance? is the jurisprudence of the Constitutional Court of Romania correlated with the standards of protection developed by the ECHR?

Keywords: jurisprudence of the Constitutional Court, fundamental rights and freedoms, guarantees, efficiency of the criminal trial, balance

LAW AND PUBLIC ADMINISTRATION

SOME DISTINCTIONS BETWEEN LEGAL NORMS AND OTHER SOCIAL NORMS

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Background: We point out here that the social norms that guide and adjust the actions and behavior of individuals in the relationships they establish, those that impose the standard behavior, are brought together in a system of values, attitudes and duties. Certainly, social norms, in their entirety, therefore including legal norms, having the purpose of disciplining the behaviors of individuals in society, are a true social binder that ensures cohesion in society. Trying to distinguish between the classes of social norms, the legal norm always disposes of the exteriority of the individual, more precisely from the organized society, in contrast to the non-legal moral norm that imposes itself on the individual from his conscience, from within him, being learned and acquired from the community in which he lives, and distinct from the non-legal religious norm whose source is of divine origin. A statement that leads us to the rule already established, that for non-compliance with the legal norm, the individual-subject of law is accountable to organized society, while for non-compliance with the moral norm, the individual - moral subject is accountable to his own conscience, and for non-compliance with the religious norm, the individual - religious subject is accountable to divinity.

The distinctions that can be revealed regarding the types of social norms are a lot. So, we point out in this context that the two great social disciplines, morality and religion, which have different origins, impose by their norms a general and abstract type of conduct, an idealistic model, both of which have as the recipient the individual as a moral or religious subject. Regarding the conditions of application, social norms do not make any concessions, they are mandatory and impose coercion. On the one hand, the pressure to respect the moral and religious norms is of an intimate nature, an internal force, and on the other hand, the pressure to respect the legal norms established as an objectives is exerted by the social court of justice. However, what distinguishes the legal norms is not in the element of constraint that is found in all categories, but in the source and manner of constraint.

Keywords: social norms, legal norms, morality and religion, delimitation

COMMON AND DISTINCT ELEMENTS OF LEGAL CLASSIFICATIONS AND DIVISIONS

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Background: One of the common problems that arise with reference to the scientific grouping or classification of the major legal systems is that of the defining criteria that can be retained in this respect. The process of grouping national systems into major legal systems or families of law is as complex as it is difficult, since the criteria of division or grouping used are varied and the resulting picture or panorama is completely different. It is considered a generally accepted rule that each major legal system is the result of the grouping of national legal systems, based on their common features, and that these systems are not unitary. Certainly, the classifications made over time, regardless of what common or distinct elements they involved, have not been able to be infallible, which is why the picture that designates the great families or legal systems has always been susceptible to change. In this paper, starting from a set of criteria for grouping or dividing law, we attempt to establish the role, preponderance and incidence that certain elements or factors have had in configuring the major legal systems, bearing characteristics that distinguish them. In a successive manner, they will be subjected to analysis, the structure of the system of sources of law, context in which we specify that each legal system has its own configuration of its sources, as well as the specific legal mentality, which is able to imprint the entire legal life of a legal system located on the planetary legal map. And since the contemporary map of the great legal systems or regimes is incomplete without traditional and religious legal systems, whose contribution to illustrating legal permanences, the variety and specificity of law cannot be ignored, we will also expose for analysis these real vestiges of very distant eras with many anachronisms but which continue to govern the entire social life of the communities of people whose product they are and towhom they belong.

Keywords: legal system, sources of law, legal mentality

THE NEED FOR LOGIC IN LEGAL REASONING

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Background: The relationship between law and logic has been often characterized as a "love-hate" one. There certainly are attractions points between the two but also conflictual ones. Law can offer a diversity of reasoning forms and has abundant social relevance, which makes it ideal for logic applications and experimentation. Moreso, legal reasoning can be seen as a middle ground between formal and informal logic. On the other hand, logic provides valuable instruments for rational argumentation and thus has become a paramount tool for legal practitioners in legal reasoning and legal communication. The legal realm can easily appear to the logician as a mixture of persuasion, fiction and unreasoned reliance on authority, and therefore unfit for the rationality logic takes pride in. On the opposite side, logic may seem trivial and too simple for the legal practitioner, since it deals with what is already known. Despite all these, there is a fruitful interaction between the two in the last decades. We will unveil the importance of logic in legal reasoning and implicitly address the importance of studying legal logic in legal academic training.

Keywords: legal reasoning, logic, academic training, social relevance, communication

NEW TRENDS IN HUMANITIES

THE "WOUNDED HEALER" AND THE POWER OF CHOICE - HOW FRANKL AND EGER REDEFINE THE IMAGE OF THE PHYSICIAN AS A FACILITATOR OF INNER FREEDOM

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Background: The paper falls within the field of Medical Humanities. It analyses two autobiographical books with the intent to explore the image of the physician and highlight how the principles of Logotherapy (Viktor E. Frankl) and of the Psychology of Choice (Edith Eva Eger) redefine the ethical role and identity of the medical practitioner, shifting the focus from life extension to managing the meaning of life and suffering. Frankl and Eger, two psychiatrists who in their youth survived the Holocaust, hence the label of "wounded healers," transformed their own suffering into the ability to facilitate meaning, demonstrating that vulnerability is not weakness, but a resource for empathy and awareness.

Keywords: Medical Humanities, Viktor E. Frankl, Edith Eva Eger, the physician's identity, wounded healer

AN INTEGRATIVE ETHICS OF REFLEXIVE RESPONSIBILITY

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Background: Technological change, the experience of globalization, and shifting socio-cultural patterns have all begun to strain the resources of traditional moral thinking. The great modern systems - Kantian duty-based ethics and the utilitarianism of Bentham and Mill - remain rigorous and elegant constructions, yet they no longer suffice when we are faced with many of today's concrete problems. Questions raised by nuclear power, genetic engineering or artificial intelligence cannot be settled simply by invoking fixed rules or by running a cost-benefit calculation. In each case we discover how limited the older ethical frameworks become once we try to apply them in practice. In response, I sketch an integrative ethical approach that I call the Integrative Ethics of Reflexive Responsibility (EIRR). It weaves together insights from deontology and utilitarianism with those from virtue ethics and the ethics of care, in order to offer a normative horizon better attuned to the conditions of the contemporary world.

Keywords: applied ethics, digital ethics, bioethics, globalization, integrative ethics

PRAGMATICS OF COMPASSION CASE STUDY: DECONSTRUCTING THE LANGUAGE OF EMPATHY IN "THE A WORD"

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Background: Context. Empathy is a key element in the formation of the narrative competence of medical students as future healthcare professionals. The non-verbal and emotional components of patient-physician interaction are crucial for the human aspect of empathy; they are inherent in the physician's attunement with, containment, and validation of the patient. Likewise, the physician is most likely to impact their interlocutors through the expression of verbal empathy. **Method.** To understand how low versus high verbal empathy works and to facilitate the expression of the latter, this presentation proposes a paradigm of analysis for linguistic markers of verbal empathy in the medical discourse through the lens of its artistic expression in *The A Word*, a BBC One series focusing on ASD. **Results.** The linguistic deconstruction of the doctor's empathetic communication in several key scenes demonstrates how variables of shared metaphors versus clinical jargon, the choice of personal deixis, types of questions, and employment of hedges are used in the doctor-parent encounter. **The conclusion** is that the empathetic doctor supports their patients (parents in this *A-word* case study) to re-story their lives by absorbing the narrative of illness into the family's narrative of life.

Keywords: narrative medicine, narrative competence, verbal empathy, deixis, hedging

VOICES OF LAW, LANGUAGES OF IDENTITY: TRANSLATING OTHERNESS IN THE EUROPEAN UNION

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Background: This paper examines the European legal domain as a paradigmatic arena for the encounter between legal cultures, languages, and subjectivities. Within the European Union, multilingualism is not merely an administrative constraint but a constitutive feature of its legal architecture, shaping both the production and interpretation of law. Legal translation, situated at the intersection of linguistic mediation and conceptual negotiation, becomes a privileged site where the dialectic between "self" and "other" unfolds—between national legal traditions and supranational harmonization. The analysis focuses on the growing role of English as a de facto legal lingua franca in EU institutions, academia, and cross-border practice. While English facilitates communication across jurisdictions, it simultaneously raises critical questions concerning conceptual equivalence, cultural embeddedness, and epistemic asymmetries. Through the combined lenses of translation studies, legal linguistics, and discourse analysis, the paper investigates how legal English both enables and obscures alterity: it serves as a vehicle of mutual intelligibility but may also act as a homogenizing force that privileges certain legal epistemologies over others. Special attention is devoted to the tension between formal equivalence and functional adaptation, as well as to the persistence of "untranslatables" that resist harmonization. These critical zones reveal the limits of linguistic standardization and highlight the performative dimension of translation in constructing legal meaning. Ultimately, the paper argues that legal language in the EU functions as a field of cultural and institutional translation where otherness—linguistic, conceptual, and epistemic—is not an obstacle to overcome but a constitutive element of the European legal order itself.

Keywords: identity, legal translation, EU

SEUSSVILLE IN TRANSLATION: RETHINKING POETIC GENRE AND IDENTITY CONSTRUCTION IN THE WORLD OF 'HORTON HEARS A WHO'

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Background: This paper analyses the construction and deconstruction of identities through the lens of language and translation. Focusing on the unique challenges posed by translating poetic texts, it examines strategies for rendering figures of speech and the visual-communicative elements characteristic of the genre. Poetic genre is therefore conceived in a broad sense here, as defined by the Oxford Dictionary as a literary genre that uses particular forms and conventions, including assonance, alliteration, onomatopoeia, rhyme and rhythm, to suggest unusual interpretations of language or evoke emotional reactions and achieve musical or enchanting effects. The study's corpus is the narrative poem Horton Hears a Who (1954), published in by Dr. Seuss, born Theodor Seuss Geisel in 1904). During the second half of the 20th century, the American writer, poet, and cartoonist created a universe often referred to as 'Seussville'. This universe is inhabited by strange creatures that give rise to the most peculiar and spectacular situations, whereby the contrast between the 'I' vs the 'Other' unfolds. Ultimately, this paper argues for a shift in perspective concerning the translation of the genre(s) to which Dr. Seuss's works belong, based on the findings related to identity construction through an integrated analysis of verbal and visual language.

Keywords: Identity, Translation, Poetics

PAUL ZARIFOPOL AND THE BOUNDARIES OF LITERARY CRITICISM

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Background: Paul Zarifopol stands as one of the most paradoxical figures of early 20th-century Romanian culture, an erudite essayist whose critical status has remained debatable. Endowed with a lucid, ironic and brilliant analytical mind, he consistenly challenged the literary conventions of his time, promoting aesthetic criticism while rejecting the psychological, sociological and ideological influences on art. Although he never identified himself as a literary critic, many of his essays outline a consistent critical vision founded in the ideal of pure art and technical precision. Both his contemporaries and later critics have oscillated between acknowledging and denying his authority as a critic, emphasizing instead his skeptical temperament. The ambiguity of his reception, admired yet misunderstood by many of the critics, reflects the difficulty of classifying him. The present paper re-examines Zarifopol's critical position, exploring whether his aestheticism mark him as a genuine critic or as an exceptional moralist of artistic taste and intellectual integrity.

Keywords: Paul Zarifopol, literary critic, aestheticism, literary criticism, ambiguity

SHAPING ONLINE IDENTITY: ANOREXIA AND THE INFLUENCE OF TWITTERDISCOURSE

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Background: he rapid development of the internet and social media platforms has transformed how people see and construct their identities. Once a simple concept, nowadays identity is part of our cultural discourse, reflecting the desire for self-expression, validation and recognition in a digital world. Platforms such as Facebook, Instagram and Twitter have become the central spaces where people construct their identities. Twitter is particularly seen as a place for identity formation, where people create communities that reinforce certain lifestyles, such as anorexia. The construction of online identity is linked to cultural discourse, as societal norms and expectations influence the way people communicate. This paper examines how anorexia is portrayed and discussed on Twitter and how online identity is constructed through language, hashtags and personal experiences shared by community members. It also investigates how the language used by people suffering from anorexia may provide a sense ofbelonging for those who feel isolated. Moreover, the study explores the implications of anonymity and pseudonimity within Twitter anorexia communities and the impact they can have on people's offline lives. The findings make a significant contribution to illustrating how digital spaces become environments where identities are shaped and redefined through interactions that influence people's personal perceptions of self-image and cultural values.

Keywords: online identity, Twitter discourse, anorexia, anonymity and pseudonimity, discourse analysis

ASSESSING LAY COMPREHENSION OF CLINICAL DOCUMENTATION: A PILOT STUDY ON LINGUISTIC BARRIERS IN PATIENT COMMUNICATION

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Background: Introduction Highly specialized medical language frequently presents significant hurdles for the general public when engaging with critical health information. The clarity of documents such as informed consent forms profoundly affects patient autonomy, decision-making quality, and adherence to treatment. This pilot course, planned for implementation at Semmelweis University, is designed to empirically evaluate how lay readers comprehend these essential clinical texts, specifically considering the influence of various sociodemographic variables. Methodology The study employs qualitative research methods. Students involved in the course will conduct semi-structured interviews with study participants. These participants will review specific informed consent forms and then provide detailed accounts of their comprehension process, highlighting specific points of difficulty or confusion. The resulting interview transcripts will then be subjected to rigorous thematic analysis. This analysis aims to systematically catalogue linguistic and structural barriers to understanding and identify patterns linked to factors such as age, educational attainment, and social status. Expected Outcomes Analysis of the qualitative data is anticipated to reveal recurrent linguistic and structural complexities within medical documentation. Furthermore, we expect to isolate clear sociodemographic patterns in how different patient groups process and understand complex health texts. These empirical findings will provide a solid, evidence-based foundation for developing practical simplification strategies targeted at enhancing the accessibility of patient information. Significance By integrating linguistic expertise, educational training, and applied research, this pilot course serves a dual function: it is poised to significantly contribute to the advancement of patient-friendly health communication and simultaneously offers students valuable, hands-on experience in executing qualitative research and data interpretation.

Keywords: clinical language, patient comprehension, health communication, sociolinguistic factors, simplification strategies

WORDS TO SWORDS. RHETORIC AND IDENTITY IN THE ROMAN ARMY

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Background: The present study aims to examine the significance of rhetoric in the Roman world as an identity marker. "Adlocutiones" were a common practice in the Roman army, used to boost morale, strengthen the sense of community, or emphasise the moral standards of the Roman military. In this regard, three discourses (adlocutiones) will be analysed, each from different social-military contexts: The Third Macedonian War, "The year of the four emperors", and the so-called "speech of Calgacus". Even if it is not certain that these speeches were ever delivered, the Latin authors who recorded them (Titus Livius, Tacitus) used them to establish models of Roman citizenship, military virtues, and community cohesion.

Keywords: Adlocutio, Roman, Army, Identity, Morale

COMMUNICATION WITH CONSUMERS AND EMERGING ISSUES REGARDING A COMPANY'S SOCIAL RESPONSIBILITY

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Background: Introduction This paper aims to demonstrate that corporate social responsibility is not just a PR strategy or a means of compliance with regulations, but a determining factor in the long-term success of a company. The assumption underlying the initiated research is that the social responsibility strategy implemented by a company contributes significantly to strengthening its reputation, which is reflected in consumer trust and loyalty. Method For the case study, we used the survey method in which a questionnaire was applied to consumers in order to obtain an external perspective on the company's social responsibility. The main purpose of this instrument was to assess the level of public awareness regarding the social and environmental initiatives carried out by the company, as well as to identify how these actions influence brand perception and purchasing behavior. Results The results obtained from the consumer questionnaire confirm that CSR initiatives positively influence the brand image and significantly contribute to strengthening the company's reputation. Conclusions Our study confirms that social responsibility is a competitive asset for the company, with the potential to increase consumer loyalty and trust, especially if it is communicated transparently and consistently. In this way, consumers of the products can become loyal customers of the brand.

Keywords: Social responsibility, reputation, consumers, loyalty

THE IMPOSSIBLE RETURN. SORIN TITEL'S PROSE

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Background: Sorin Titel's prose is animated by a cinematic vision, composed of reduplications of art, reveries and fantastical inspirations, memory, magical realism, and the temptation of the labyrinth. Relevant are the affinities with Kafka's prose, through the tension of the presence of the absurd, allegory, the closed universe, metaphors of trauma, alienation, captivity, the prisoner's journey to the place of execution can be viewed as a parable of life and death, destiny and identity legitimization. Sorin Titel's novels stand out for their narrative approach open to innovation and experimentation, his prose legitimizing an "anti-epic epic" in which "the adventure of the phrase" replaces "adventure." In fact, Sorin Titel shares the same destiny as his peers, moving naturally from short prose to novels, to the experiments of 20th-century epic modernism

Keywords: Literature, vision, identity, imaginary, experiment

A SCAFFOLDED APPROACH TO MASTERING THE GENRE OF REFLECTIVE WRITING

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Background: This presentation outlines a scaffolded approach to teaching reflective writing to students in healthcare Bachelor's programme. Reflective practice is one of the core skills that all healthcare students need to master during their university studies. Later, it becomes an integral part of continuing professional development, enabling healthcare professionals to record, analyse and evaluate their experiences and consider how new knowledge will impact their future performance. Writing down their reflection helps students develop their critical thinking skills and examine the smallest nuances of their experiences. Therefore, a reflective writing assignment has been incorporated into the course of English for Healthcare in the Bachelor's programme. However, students often find it challenging to move beyond description to meaningful analysis and evaluation. As a result, they usually come up with a narrative account rather than a reflective piece. **Material and methods:** The scaffolded teaching approach described in the presentation includes concise theoretical input on the purpose and structure of the reflective essay within the threefold framework of What?, So What?, Now What? Students analyse a model text to identify reflective vocabulary, specific sentence patterns used for analysis and evaluation, as well as target grammar structures. Then, they write a group reflective essay, engage in peer review, and finally produce an individual reflective essay. **Results:** This methodology proved effective in increasing students' awareness of the reflective writing genre. Students demonstrated better command of the analytical language to express their self-reflection and personal growth. **Conclusions:** Alongside enhancing reflective and linguistic skills, the described teaching approach ensures stronger student performance in summative assessments that incorporate a reflective writing component.

Keywords: reflective writing, scaffolded teaching approach, reflective language, peer review, summative assessment

AUTOFICTION, A SPACE FOR IDENTITY CONSTRUCTION: THE CASE OF AMÉLIE NOTHOMB

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Background: This paper explores autofiction as a dynamic space for identity construction, focusing on the narrative strategies of Amélie Nothomb. In *Premier sang* and *Tant mieux*, Nothomb reshapes the autobiographical pact into a form of identity fiction that blurs the boundaries between reality and invention. The act of writing becomes a performative negotiation of identity, where memory, imagination, and myth converge to create a plural, relational self. At the same time, her public image, carefully constructed through interviews, self-staging, and media presence, extends the literary project into a mediated discourse of authorship. The interplay between textual voice and authorial persona reveals autofiction as an aesthetic practice of self-representation. By combining intimate confession, narrative (re)construction, and media performance, Nothomb illustrates how contemporary literature turns identity into a discursive, narrative, and performative process.

Keywords: autobiographical pact, autofiction, narrative self, identity construction, media

THE FUNCTIONALITY OF ENGLISH WORDS IN THE ROMANIAN SOCIAL MEDIA

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Background: The evolving nature of the language is clearly shown through the rise of anglicisms. These borrowings resulted in a modernized and updated vocabulary without altering the language itself. Borrowings from English are a sign of the increasingly globalized nature of Romanian's language. This ongoing English language offence against the Romanian language raises the question of whether it is beneficial or detrimental. Certain linguists view this invasion of terminology from the English language, or "anglicisms," as they are often known, as negative and believe that it threatens both the identity of the Romanian language and the linguistic consciousness of its speakers. However, some perceive it positively, especially considering that English serves as the lingua franca of globalisation, technology, science, research, international relations, commerce. The participation of numerous internet users that engage in the exchange of ideas, views, and information is influenced by social context and language community. The emergence and use of neologisms in communication is dependent, on the one hand, on the need to name a new reality that lacks meaning, a scenario in which a referential necessity to which denotative or referential neologisms correspond in the language.

Keywords: Anglicisms, Infleunce, Language community, Social media

TEACHING ROMANIAN IDIOMATIC EXPRESSIONS IN A MULTILINGUAL CONTEXT

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Background: The study explores the challenges and complexities involved in teaching Romanian idiomatic expressions to non-native speakers. It investigates linguistic, stylistic, and cultural dimensions that shape idiomatic meaning and usage, emphasizing how these expressions reflect a particular cultural worldview and a distinct way of perceiving reality. Romanian idioms often resist direct translation, requiring not only linguistic competence, but also cultural awareness and interpretive sensitivity from both teachers and learners. The research analyzes common sources of misunderstanding and interference in multicultural contexts and discusses effective methods for facilitating idiom acquisition, such as contextualized teaching, contrastive analysis, and the integration of authentic materials. Ultimately, the study aims to enhance pedagogical approaches that bridge linguistic and cultural gaps, fostering deeper cross-linguistic understanding and communicative competence among learners of Romanian as a foreign language.

Keywords: idiomatic expression, challenge, strategy, cultural dimension

GLOBAL DEMOGRAPHIC TRENDS AND THE FUTURE OF HUMANITIES

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Background: The humanities provide essential tools for interpreting, navigating, and shaping societal responses to complex global demographic trends, such as aging populations, migration, and rapid urbanization. These trends, in turn, present challenges like funding pressures and the erosion of traditional cultural norms. Conversely, they create opportunities for the humanities to deepen understanding of the human condition, promote social cohesion through intercultural dialogue, inform public policy on issues like urban planning and healthcare, and develop crucial critical thinking skills. The humanities are vital for ensuring that responses to demographic changes address human well-being and social equity, demanding continued adaptation and engagement to remain impactful in a rapidly changing world.

Keywords: Demography, Migration, Humanities, Aging Population, Globalization

EXPLORING TRANSLANGUAGING AND MULTILINGUAL PRACTICES IN TRANSYLVANIA

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Background: Transylvania is a linguistically diverse region where Romanian, Hungarian, German, and other minority languages coexist, creating a dynamic environment for multilingual communication. This paper examines how speakers engage in translanguaging—fluidly moving between languages to construct meaning, negotiate identity, and navigate social spaces. Drawing on ethnographic observations, classroom interactions, and digital communication data, the study highlights the strategic and creative ways individuals blend linguistic resources to communicate effectively and assert cultural belonging. The analysis demonstrates that translanguaging not only facilitates practical communication but also challenges monolingual ideologies, fosters intercultural dialogue, and contributes to shaping both personal and collective identities in a multilingual region.

Keywords: multilingualism, translanguaging, Transylvania, language practices, identity

FICTIONALIZING REALITY THROUGH NARRATIVE IMAGINATION: LITERARY APPROCHES TO MEDICAL HUMANITIES EDUCATION

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Background: This paper explores the comparative functions of fictionalized reality in Romanian and Anglo-American literatures and extends the analysis to the field of Medical Humanities education. It argues that while both traditions employ fictionalization as a strategy of negotiating reality, they are different in their intentions. In Romanian literature, fictionalization frequently emerges as a technique of survival and moral resistance, shaped by historical experiences. Fiction becomes a coded refuge, a means of preserving truth through imaginative displacement and symbolic transfiguration. By contrast, in British and American literatures, fictionalization often serves as a method of epistemic manipulation, revealing or producing distortions of reality that expose the instability of truth, language, and identity. Fiction thus functions less as concealment and more as critique, emphasizing the power dynamics inherent in representation and discourse. This distinction has profound implications for the training of medical students within the Medical Humanities. Integrating the Romanian model encourages students to become familiarized with narrative practices that transform suffering into meaning, enabling empathy and resilience, along with moral reflection. Conversely, incorporating the Anglo-American model cultivates critical awareness of how medical and institutional narratives shape perception, authority, and truth claims. Together, these two paradigms, fiction as ethical refuge and fiction as critical distortion, equip future healthcare professionals to recognize both the therapeutic and the ideological dimensions of narratives.

Keywords: Medical Humanities, reality and fiction, memory and trauma, distorted realities, medical students

IMPORTANCE OF TRANSLATION WORKFLOW IN CONNECTING PROFESSIONALS

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Background: In a constant evolutive world of technology and digitalization, where translations play an importamt role in connecting professiinals from all areas and all countries, the process of a proper translation workflow implemented is crucial for a succesful output. Professionals within the translation industry, either individuals, small or big companies, private or pubmic institutiona, departments, they all have to undertake a clear process of a translation workflow, with concise stages and objectives, regardless of the using of modern digital specific tools. The translation workflow is important from all points of view: economic and financial, time management, organization and proficiency in delevering an appropriate product.

Keywords: Translation workflow, CAT tools, Digitalization, AI, Translators

WELL-BEING AND PERFORMANCE IN CAMBRIDGE ENGLISH PREPARATION

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Background: Test anxiety remains one of the most significant barriers to student performance in English classrooms, particularly in the context of high-stakes assessments such as the Cambridge exams. This study discusses how teachers can recognise early indicators of stress, understand their psychological impact on learning, and apply research-informed strategies to support emotional regulation. Combining insights from educational psychology with practical language-teaching methodology, the article introduces a set of hands-on classroom techniques designed to reduce anxiety and promote learner confidence, ranging from reframing negative self-talk and using structured breathing routines to implementing playful warm-ups and fluency activities tailored to different proficiency levels (Starters to CAE). Furthermore, the analysis examines a range of adaptable classroom interventions and demonstrates how these practices can be integrated into regular instruction to support student well-being while simultaneously enhancing performance in English and Cambridge examinations.

Keywords: Test Anxiety, Learner Well-Being, Cambridge English Exams, Emotional Regulations Strategies, ELT

DISCOURSE ANALYSIS: UN MISSIONS THROUGH THE LENS OF HAITIAN PERCEPTION

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Background: The way that people think about themselves and about others influence their national and the international position more than institutions or organizations are capable of. Seeing the other (a person or a nation) as an enemy, a friend or a rival is a question of social and cultural identity construction. The values and beliefs can and do influence the international relations and the national climate. Haiti is a country where the reality beats imagination. We propose a trip through the interests, the norms and the mentalities of the Haitian social environment, in order to explain how identities are shaped and how those identities give a meaning to internal and external realities.

Keywords: Haiti, United Nations, Identity, Intercultural Communication

THE ANTI-COLONIAL REVOLUTION IN HAITI AND ITS AFTERMATH: A CONTEMPORARY POINT OF VIEW

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Background: We propose, as a discussion topic, the anti-colonial and anti-slavery Revolution in Haiti, former colony Saint-Domingue, which constitutes a special case since it was the first black republic to know freedom, a right earned through the slave revolt against the forces deployed on the island by Emperor Napoleon Bonaparte. A contemporary perspective and discussion is absolutely imperative, since the country had and still has to face an even bigger challenge than its tumultuous past: defining the framework of its freedom and build the foundation of social, political, economical and cultural institutions. In Haiti, the ancient local population, the slaves from Africa and all the other adstratum groups of influence form a unique and polymorph cultural community. In this mixture, there are characteristics from either that remain distinct, others that are hybrid and coexist in a spectacular social combination, determining the state-building process.

Keywords: Haiti, Revolution, Colony, Creole

THE I IN PATIENT: THE CONTINUOUS NEGOTIATION IN MEDICAL COMMUNICATION

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Background: The present paper aims at revealing two key systemic issues that are, in fact, intertwined: patient advocacy and the importance of teaching medical communication (MC) to first year Romanian medical students as part of their EFL training. The first section of our study will underpin the concept of patient advocacy by following its emergence, evolution and current status in Europe and the US, without failing to analyze the situation of healthcare in Romanian hospitals. Whether out native healthcare system is familiar with such a concept remains to be discovered. The second section of our study will tackle the role and advantages of teaching MC in the EFL classroom. The main question that seems to arise at this point has to do with the impact and potential benefits of MC for medical students at such an early onset of their medical careers. Challenges and potential for failure will also be discussed. The third part of our study will reveal the practical experience of teaching MC to medical students as part of their EFL curriculum as well as discuss the results of feedback questionnaires that they filled out regarding this topic.

Keywords: Medical Communication, English as a Foreign Language, Patient Advocacy

HASHTAG IDENTITY AND DIGITAL DIALECTS: WORDS, MEMES, AND MINDS IN GEN Z DISCOURSE

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Background: This article explores how Gen Z constructs identity, negotiates group belonging, and expresses emotional states through what we term *digital dialects*—a dynamic fusion of written speech, visual symbolism, and social media discourse. Using a mixed-method approach that combines survey data, workshop interaction, discourse samples, and psychological interpretation, we investigate the sociolinguistic and cognitive mechanisms behind this phenomenon. The findings reveal that slang and meme-based communication are not mere linguistic shortcuts but complex social tools: they signal group membership, create in-group humor, mask vulnerability, and allow flexible identity performance. By integrating linguistic analysis with social and psychological insights, this study aims to decode how *words, memes, and minds* intersect in Gen Z communication and how hashtag-based identities emerge within digital communities.

Keywords: youth language, digital discourse, sociolect, identity construction, multimodal communication

EARLY EDUCATION –INCLUSIVE, HIGH-QUALITY EDUCATION FOR ALL. DEVELOPMENTS FROM THE PERSPECTIVE OF REFORMS

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Background: Early childhood education (ECE) is an integral part of education in the Romanian pre-university education system, which specifically encompasses all educational influences on pre-school and preschool children aged 0-6/7 years. The concept or notion of EE is based on two axioms belonging to the new pedagogical paradigm. The first axiom or paradigm values the vision of preschool education, which consists of the holistic formation and development of the child's personality in preparation for school thanks to the social relationships that kindergarten offers and contextualizes, for which kindergarten should not become a "little school," but an institution that facilitates the child's development, with a view to their development, capitalizing on the opportunities offered by play. The second paradigm expressed is that of reconsidering the means and resources approached from a broad educational perspective, which is based primarily on establishing and strengthening educational and pedagogical partnerships between kindergartens, families, and communities, which play an important role in strengthening the family context. Early childhood education represents a set of pedagogical influences and actions initiated by educators with a role in the upbringing, care, stimulation, and optimal development of children from birth to six years of age, with reference to the goals of early childhood education as prerequisites for the formation of pre-skills for lifelong learning.The impact of promoting new early education policies incorporated into the early education curriculum (2019) will be determined by the extent to which child-centered learning practices have been implemented through the organization of learning activities with the selection of pedagogical tools that become the subject of educator-child dialogue and that favor the context of the "children-responsive adults" relationship, necessary for an inclusive and quality educational context.

Keywords: early childhood education, holistic development, child-centered learning, inclusion, educational context

PAVEL CHIHAIA AND THE SUPPRESSION OF CREATIVE IDENTITY.

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Background: This paper aims to highlight and analyze the effects that exile had on the life and work of Pavel Chihaia, based on his memoirs and correspondence from 1960 to 1978, before his final departure for Munich. The selected texts outline the opposition between two worlds: the West—a space of culture, freedom, and hope—and the East—a space of fear and confinement, where freedom of expression had been abolished. This polarity reflects the fundamental dilemma of the exiled individual, caught between longing for home, origin, and the familiar, and the need for freedom. In this sense, a series of images and elements will take on allegorical meanings; thus, the image of a stallion being castrated will illustrate, allegorically, the violation of freedom and also the suppression of creative force. The analysis thus traces how the bodily image of violence becomes a metaphor for artistic castration.

Keywords: Pavel Chihaia, exile, Munich, literature, censorship

PRESENTATION SKILLS IN ENGLISH- A COMPARATIVE ANALYSIS OF THREE DIFFERENT ORAL PRESENTATION TASKS FOR MEDICAL STUDENTS

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Background: Background: In the medical field, verbal communication has remained just as important, with all the competition from virtual communication channels. Still, the development of oral communication skills tends to be overlooked in the formation of medical practitioners. Within the English course, tasks that require medical students to communicate in a foreign language, in front of an audience, can be a real challenge, not just from a linguistic perspective. However, they represent an invaluable learning method. Material and method: This study focuses on comparing three types of activities based on oral communication in English, applied in different years to groups of 1st and 2nd year medical students: conference presentations, case presentations and mock lectures. Some presentations included visual aids or required a higher level of formality. Results: These tasks, which also served as an assessment, challenged many students to perform above and beyond the usual classroom level in both preparation and delivery. The success of the presentations depended not only on their level of English proficiency but also on their public speaking experience, ability to be a team player, to work in pairs or in groups, or, conversely, their preference for working individually. Tasks with a stronger academic component proved more difficult, while case presentations, for example, allowed an approach closer to medical practice and, therefore, more engaging and accomplished. Conclusion: Oral communication in front of a peer audience requires students to be much more involved in the learning task, helps them explore their soft skills, as well as identify their weaknesses in language proficiency.

Keywords: medical English, public speaking tasks, conference presentation, case presentation, mock lecture

ROMANIAN LITERATURE AFTER DARWIN. INTRODUCTION TO ZOOPOETICS

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Background: The present work proposes a synthetic analysis of the role animals have played in Romanian prose, with a significant emphasis on observing a parallel evolution between the novel and the manner in which non-human creatures are depicted. From the earliest Romanian narrative attempts, in which animals were viewed as adjuncts to the human being, still at the center, to modernity, when the perspective on them refines, acquiring a decorative role, up to doublings that synthesize the narrator's function, animal beings have held essential functions in constructing prose. In the present study, we shall refer to diverse instances, from those in which human beings are likened to dogs, fighting for food, in some early Romanian novels, to the short prose of the second half of the nineteenth century that discusses cruelty toward animals, up to the twentieth-century interval, when animal masks or the hypostases of non-speaking creatures signal narrative evolution. Our thesis is that Romanian prose can be analyzed in its evolution through the study of the role animals have played in narration.

Keywords: zoopoetics, literature, fiction, animal, Darwin

BRIDGING MEDICINE AND HUMANITIES: RETHINKING ENGLISH LANGUAGE TEACHING FOR MEDICAL PROFESSIONALS

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Background: This paper examines innovative methods for integrating the humanities into English language curricula for medical professionals, addressing the increasing demand for a more comprehensive and human-centered approach in healthcare education. Humanities-based English teaching can foster empathy, critical thinking, and effective communication—all essential skills for compassionate, culturally competent clinicians. Recent trends in medical education highlight the limitations of traditional clinical training and point to the benefits of incorporating humanistic competencies into language instruction for future healthcareworkers. This paper outlines practical strategies and curriculum models, discusses challenges and successes from global initiatives, and encourages educators to reconsider the role of English language teaching at the intersection of medicine and the humanities, ultimately seeking to cultivate practitioners who are both skilled communicators and empathetic professionals.

Keywords: ESP, medical education, humanistic approach, communication

ALEKSANDAR HEMON AND THE TRANSLINGUAL MIND

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Background: This paper examines the evolution of Aleksandar Hemon's writing from bilingualism to a distinctly translingual literary practice shaped by migration, memory, and cultural hybridity. Positioned at the intersection of multiple languages and identities, Hemon's work demonstrates how English, reimagined through contact with Bosnian, Spanjol, Yiddish, Russian, and German, becomes a fluid medium for expressing the complexities of immigrant life. Rather than depicting linguistic displacement as fragmentation, Hemon embraces multilingual coexistence as creative potential, generating new idioms and narrative textures that transcend national and linguistic borders. His fiction, particularly *The World and All That It Holds*, illustrates how languages overlap, negotiate meaning, and form a "third language" that mirrors the migratory consciousness of its characters.

Keywords: translingualism, bilingualism, immigrant writing, Hemon, multilingual fiction

BREAKING BAD NEWS: TEACHING EMPATHY IN MEDICAL ENGLISH CLASSES

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Background: Developing empathetic communication skills is essential in medical education. However, many students have limited opportunities to practice delivering difficult news in a supportive and structured environment. This paper presents an instructional framework designed for Medical English learners at the B1-B2 level, focusing on compassionate communication when discussing serious diagnoses. The lesson integrates three progressive activities: transforming blunt, insensitive statements into empathetic phrasing; explaining complex medical conditions in patient-friendly language; and applying the SPIKES protocol through simulated doctor-patient role-plays. The aim of this approach is to enhance learners' confidence, communicative competence, and sensitivity to patient experiences, while providing instructors with a practical model for embedding empathy training within language curricula. The framework can be adapted for various medical contexts and proficiency levels.

Keywords: empathy training, medical English, breaking bad news, SPIKES protocol, communication skills

THE DIGITAL COROLLA OF WONDERS: AN ANALYSIS OF AI-ASSISTED POETIC CREATIVITY IN RECREATING LUCIAN BLAGA'S STYLE

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Background: This research explores the intersection between Romanian literary heritage and emerging artificial intelligence technologies through the analysis of a poetry competition dedicated to recreating Lucian Blaga's style using AI. The study examines 50 poetic creations submitted by high school and university students who employed various language models (ChatGPT, Claude, Gemini) to produce poems in the style of the Romanian poet. Through qualitative and quantitative analysis of creative processes, stylistic fidelity, and participants' personal contributions, the research investigates the extent to which artificial intelligence can reproduce the distinctive characteristics of a unique poetic voice, marked by complex philosophical concepts. Results show that while AI can reproduce formal elements and Blagian imagery, human contribution remains essential for philosophical depth and artistic coherence. The study offers perspectives on the future of literary education in the digital era. The research contributes to broader understanding of computational creativity in literature and raises important questions about authenticity, originality, and artistic value in the context of human-machine collaboration.

Keywords: computational poetic creativity, Lucian Blaga, computational literature

BEYOND WORDS: INTERCULTURAL PRAGMATICS AND COMPETENCE IN MULTINATIONAL BUSINESS ENGLISH ACROSS CONTINENTS

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[2],

Background: Effective communication in multinational corporate environments requires more than English proficiency. This article examines how intercultural pragmatics shapes Business English interactions across continents. Drawing on intercultural pragmatics and English as a lingua franca (ELF) research, it identifies sources of miscommunication, including differences in directness, politeness, hierarchy, and turn-taking. Comparative analysis shows how Swiss explicitness, South African relational directness, Indian elaborate politeness, and East Asian high-context mitigation contrast with Romania's flexible, adaptive corporate style. These findings highlight the limitations of traditional ESP instruction, which often emphasizes vocabulary and grammar while overlooking pragmatic and cultural variation. The article argues for an ESP pedagogy grounded in authentic discourse, intercultural simulations, and explicit pragmatic awareness-raising. Such an approach equips learners to interpret intentions, negotiate meaning, and communicate effectively across diverse business contexts, fostering both professional language competence and intercultural agility.

Keywords: Intercultural Pragmatics, Business English, English as a Lingua Franca, ESP Pedagogy and Linguistics, Multinational communication

PRESERVING LEARNER IDENTITY IN FOREIGN LANGUAGE LEARNING

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Background: Acquiring a second language in a native-speaker community may have its challenges but immersing into a newculture seems easier when you are surrounded by it. However, it has been noted that not even immigrants struggle for 'perfect'language acquisition in order to be included into the host community but struggle to preserve their own identity while adjusting totheir new home. Learning a new language in a community that promotes its own culture and values comes with another set ofchallenges. The attraction in this case is related to native foreign language speakers who will ensure native-like prononciation yetthis is just a small part of the teaching/learning process. In both cases, however, we can narrow the problems down to learners' motivation. This paper aims to analyse project-based learning of students at Dimitrie Cantemir University and Sapientia University of Tg.Mures in an attempt to find out what motivates them to succesfully complete a task. **Material and methods:** This study employed a mixed-methods, cross-sectional design to investigate factors that motivate students to successfully complete project-based learning (PBL) tasks in second-language acquisition contexts. Quantitative data were collected through structured questionnaires, while qualitative insights were obtained from semi-structured interviews and analysis of students' project outputs. **Results:** Participants ranged in age from 19 to 26 years and represented various levels of prior foreign-language exposure. Questionnaire responses showed generally high levels of motivation for completing project-based learning (PBL) tasks. **Conclusions:** The findings indicate that motivation extends far beyond the pursuit of native-like pronunciation or exposure to native speakers. Instead, students are primarily driven by the perceived relevance of the tasks, opportunities for authentic language use, and the social support gained through collaboration with peers.

Keywords: motivation, native speaker, pronunciation, immersion, integration

DIFFICULTIES IN TEACHING THE ROMANIAN NOUN TO FOREIGN STUDENTS ENROLLED IN ENGLISH-LANGUAGE MEDICAL PROGRAMS

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Background: Teaching Romanian nouns to foreign students enrolled in English-language medical programs poses specific challenges, amplified by the typological differences between their native languages and the morphological structure of Romanian. Gender is one of the main difficulties, especially for speakers of non-Romance languages, who do not have a tripartite masculine-feminine-neuter system or cannot anticipate gender based on endings. Also, number alternations, irregular plural forms, and the opposition of definite/indefinite articles require explicit recognition strategies. Case declension—especially the differentiation between nominative-accusative and genitive-dative—frequently causes errors in the production and interpretation of medical terms used in simulated clinical contexts. This paper proposes a contrastive approach adapted to the EMI (English-Medium Instruction) environment, combining visual schemes, operational rules, and examples from basic medical terminology. The aim is to facilitate understanding of the Romanian morphological system and to support the linguistic interactions necessary for integration into medical practice in Romania.

Keywords: Romanian language, noun, foreign medical students, gender-number-case, contrastive approach

THE ROAD (NOT) TAKEN AND THE DREAM OF BECOMING IN COLM TOÍBIN'S LONG ISLAND

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Background: If in Brooklyn, the young Eilis Lacey left behind the repetitive, inertial existence which she quietly lived in her childhood Irish town of Enniscorthy, reinventing herself in a new geography and culture across the Atlantic, in Long Island Eilis' identity journey unfolds twenty years later, with a new understanding of love, home, belonging, and choice. The once new life is now a repetitive one, apparently offering much needed constructive stability. Yet, she is forced to reevaluate her present identity coordinates and set out on a journey which takes her back to Ireland and her roots and forces her to plunge into the deep waters of the self, longings unfulfilled, regret, love reignited and choices.

Keywords: belonging, choices, home, identity journey, otherness

SCIENCE AND TECHNOLOGY

QUALITY OF FINANCIAL REPORTING IN CENTRAL AND EASTERN EUROPE. A COMPARATIVE INVESTIGATION OF QUALITATIVE CONVERGENCE

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Background: Despite the formal process of accounting harmonization through the adoption of the International Financial Reporting Standards (IFRS), fundamental questions remain about the convergence of financial reporting quality in the emerging post-communist markets of Central and Eastern Europe. The study assesses the quality of financial disclosures of listed companies in ten former communist countries, examining the role of the external auditor, company size and sector affiliation as determinants of reporting quality. The research utilizes a quantitative panel design with 535 annual financial reports (2020-2024) from 107 companies that are components of the national stock exchanges' main indexes. Reporting quality is measured by the modified Jones model (Dechow, 1995), calculating discretionary accruals as a proxy for earnings management. Statistical analysis combines the Gini index, Ward cluster analysis, t-tests and ANOVA to test the four research hypotheses. The results highlight the absence of convergence in the quality of financial reporting, identifying four distinct performance clusters. The results show that formal harmonization through IFRS adoption does not guarantee practical convergence in the quality of financial reporting, highlighting the importance of country-specific institutional, cultural and economic factors.

Keywords: quality of financial reporting, discretionary accruals, Central and Eastern Europe, IFRS, modified Jones model

FROM MARKET FREEDOM TO REGULATORY ASSERTION. SENATE BILL 53 AND THE REORIENTATION OF THE AMERICAN APPROACH TO AI GOVERNANCE

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Background: The author argue that Senate Bill 53(SB 53), represents a major departure in terms of the U.S. long-standing market-based approach to digital governance. As such, the traditional U.S. model of digital regulation is based on the *techno-libertarian ideology,* provides broad intermediary immunity and as such, encourages self-regulatory practices at all levels of the digital marketplace. Historically, this model has prevented government from intervening broadly in Internet and/or technology markets, whereas, Senate Bill 53 establishes a clear regulatory structure around artificial intelligence systems and imposes duties of transparency, accountability, and risk management that are clearly different than the *laissez-faire ethos* that was established in the early 1990's. Thus, by analyzing SB 53 through the lens of the doctrinal foundation of the U.S. digital governance regime, particularly Section 230, the authors demonstrate how SB 53 signifies a growing desire to rebalance the relationship between innovation freedom and public oversight. Furthermore, the new framework proposed by SB 53 suggests that a movement toward a more interventionist regulatory posture is occurring thus, marking the beginning of the end of the traditional paradigm, and the emergence of a hybrid model of American AI governance.

Keywords: Artificial Inteligence Regulation, Senate Bill 53, Regulatory Transformation, Algorithmic Accountability, Digital regulation

FINANCIAL SUSTAINABILITY OF TELEMEDICINE: POLICIES AND TRANSFERABLE MODELS FROM THE EUROPEAN UNION

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Background: Background: Telemedicine has emerged as a pivotal component of healthcare digitalisation, significantly accelerated by the pandemic and the financial pressures on both public and private budgets. The European Union has actively supported the advancement of telemedicine through initiatives such as EU4Health (2021–2027), with an allocation of €3.13 billion, further enhanced by structural funds and post-pandemic recovery programs aimed at bolstering digital infrastructure and remote healthcare services. While Romania has developed a foundational legislative framework for telemedicine, its implementation remains fragmented, with a lack of systematic reimbursement mechanisms. **Aim and Objectives:** This study seeks to identify the elements of financial sustainability within telemedicine policies across the EU, and to distil best practices that can be applied in Romania. The objectives include analysing funding programs, evaluating reimbursement models, pinpointing success factors, and formulating recommendations tailored to the national context. **The research methodology** encompasses an analysis of European reports and academic literature, a comparative assessment of financing models among member states, and case studies examining the implementation of telemedicine. **Results:** Policies and financial models from EU member states indicate that telemedicine can achieve long-term sustainability when supported by clear financing and reimbursement mechanisms, and offer transferable elements, e.g. integration into public insurance systems, utilisation of EU funds, and fostering public-private partnerships, which can be adapted in Romania to enhance financial sustainability. **Conclusion**: Telemedicine should be viewed as a strategic financial instrument rather than a technological option. European models highlight that sustainability relies on clear reimbursement mechanisms and effective allocation of EU funds for digital infrastructure. For Romania, recommended actions include incorporating teleconsultations into health insurance packages, leveraging EU programmes (2021–2027) for digitalisation, and incentivising private investment in digital solutions. If implemented, these measures could position telemedicine as a cornerstone of financial efficiency and equity, tailored to the national context.

Keywords: Financing Healthcare Systems, Health Financial Sustainability, Telemedicine Financial Model, Public Healthcare Policies, Long-Term Financial Healthcare

FINANCIAL RESOURCES AND THE STABILITY OF HEALTH SYSTEMS: DILEMMAS AND SOLUTIONS IN THE TWENTY-FIRST CENTURY

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Background: Background: One of the most pressing challenges of the twenty-first century is the financial sustainability of health systems. Increasing demographic pressures, rapid technological advancements, and global socio-economic transformations are questioning the ability of institutions to ensure equitable and efficient access to healthcare services. In this context, analysing financial resources and the stability of health systems is crucial for developing adaptable public policies and enhancing institutional resilience. The objective of this paper is to examine the primary models of health financing—public, private, and mixed—and evaluate their contributions to the stability and resilience of health systems across OECD and European Union member states. The paper places particular emphasis on identifying structural dilemmas and innovative solutions that may support long-term sustainability. The methodology employed combines an international comparative analysis, using statistical data from sources such as the WHO, OECD, and Eurostat, with a critical review of academic literature and recent public policy initiatives. The findings reveal several dilemmas in health financing, including chronic underfunding, inequitable access, demographic ageing, rising costs of medical technologies, migration of healthcare professionals, and institutional fragmentation. In contrast, the identified solutions consist of diversifying funding sources, expanding digitalisation and e-health, integrating ESG criteria into health-related investments, implementing fiscal reforms aimed at enhancing efficiency, fostering international cooperation, and maintaining sustained investment in human resources. The conclusions highlight the necessity of a flexible financial framework that balances economic sustainability with the social and ethical imperatives of public health. The resilience of health systems relies on diversified financing, the incorporation of technological innovation, and international collaboration within the OECD and EU. This paper illustrates that current dilemmas can be reframed as opportunities through coherent strategies and a forward-looking vision for health financing.

Keywords: Financing Healthcare Systems, Health Financial Sustainability, Financial Healthcare Model, Public Healthcare Policies, Long-Term Financial Healthcare

THE RESTRAINING ORDER BETWEEN THEORY AND PRACTICE – A STILL IMPERFECT LEGAL INSTRUMENT

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Background: Domestic violence has become a major topic of public debate in recent months due to the alarming number of femicides that have been committed over the past year. While judicial authorities are tasked with conducting investigations, examining evidence and identifying perpetrators, addressing this troubling phenomenon requires a closer examination of the efficiency of the current legal framework. Law no. 217/2003 on the prevention and combating of domestic violence constitutes the main legal instrument regarding the protection of victims, and the restraining order issued under this law represents the principal mechanism through which such protection is ensured. This is because its issuance requires a lower evidentiary standard than that necessary for bringing criminal charges, in absence of a criminal accusation, the preventive measures provided by criminallegislation cannot be imposed. Consequently, given the need for swift intervention to safeguard the victim, the restraining orderoften becomes the only objective means of protection available, as it imposes obligations on the aggressor similar to those associatedwith judicial supervision under criminal procedural law. Although the law is intended to prevent and combat acts of domesticviolence, certain procedural gaps within it may expose individuals at risk to additional vulnerability. This study critically examinesthe limitations of the current legislation, specifically the absence pf a provision allowing victims to request the modification orreplacement of the measures ordered through a court-issued restraining order when the initial measures prove insufficient orineffective in ensuring real protections. This paper aims to highlight the practical implications of the legislative shortcoming, as wellas the risk of transforming the restraining order into a rigid instrument lacking flexibility and adaptability. Ultimately, the studyputs forward several de lege ferenda proposals designed to restore procedural balance and strengthen the existing protectionmechanisms available to victims of domestic violence.

Keywords: restraining order, Law no. 217/2003, domestic violence

SOCIAL SCIENCES

SUSTAINABILITY REPORTING: CHALLENGES AND FUTURE DIRECTIONS FOR EMERGING MARKETS

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Background: Introduction. After COVID-19 pandemic, sustainability reporting has rapidly transformed from a voluntary communication tool into a mandatory form of corporate reporting that promotes transparency and accountability. Moreover, international and European ESG frameworks and standards require full disclosure of environmental, social and governance impacts, risks and opportunities of corporate activites and operations. Developed countries have already implemented comprehensive frameworks to successfully guide sustainability disclosure process, while emerging markets still face significant challenges to achieve a comparable level of maturity. **Material and methods.** Through a qualitative analysis, the aim of our study is to explore multidimensional barriers in sustainability reporting for emerging markets, with focus on East European markets. **Results.** Our results show that emerging markets face significant challenges in sustainable reporting due to several factors, such as high costs and low level of expertise. **Conclusions.** Our results highlight some of the most common barriers in achieveing a high level of compliance with sustainable reporting standards, thus marking future pathways for filling the existing sustainability reporting gaps.

Keywords: sustainability reporting, ESG score, emerging markets, disclosure standards, performance

CORRELATIONS BETWEEN SUSTAINABLE REPORTING AND FINANCIAL PERFORMANCE: A CASE STUDY APPLIED ON THE BUCHAREST STOCK EXCHANGE

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Background: Objective. In the current European context, sustainable reporting is essential to increase the transparency and credibility of listed companies. The purpose of our study is to identify connections between sustainable reporting (expressed through corporate governance indicators) and financial performance (expressed by return on assets and return on equity) in the case of companies listed on an emerging market. **Material and methods.** Through a quantitative approach, our study includes the companies listed on the main market of the Bucharest Stock Exchange (BSE) for a period of five years. **Results.** The period analyzed (2020-2024) reflects significant European legislative changes in the topic studied, our preliminary results suggest positive correlations between the level of sustainable reporting and financial performance. **Conclusions**. Our results prove the importance of non-financial reporting in increasing financial results, laying the groundwork for sustainable corporate performance and increased stakeholder trust.

Keywords: financial performance, sustainable reporting, emerging markets, corporate governance, transparency

VULNERABILITY OF THE LEGAL CONSTRUCTION OF CIVIL LIABILITY FOR DAMAGES CAUSED BY ARTIFICIAL INTELLIGENCE

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Background: The adoption at the European Union level of a regulatory framework for artificial intelligence, robotics and related technologies, based on ethical principles and legal obligations, represents a new challenge for the paradigm shift of the traditional institution of civil liability. Over time, economic and social transformations have determined new interpretations of this liability, in the effort to facilitate the repair of damages caused unjustly in society and better protect victims. Thus, we have witnessed the decline of subjective liability, conditioned by proving the culpability of the perpetrator, developing a new perspective towards objective liability, independent of any fault, analyzing the abnormality of a harmful behavior. The issue of reparable damages has experienced extensive development and diversification, especially in the matter of bodily harm and moral damages. Moreover, the damage through the loss of a chance has been recognized as "reparable" to the extent that the chance of its occurrence is real and serious. But, establishing liability for damages caused by AI turns out to be much more complex, prefiguring itself as a new special hypothesis of liability in which the classic rules prove to be insufficient, and sometimes inapplicable. This study aims to present some of the particularities of this possible liability, in order to shed light on the difficult problem of identifying the person responsible when AI technology becomes increasingly autonomous.

Keywords: civil liability,, damages caused by advanced and autonomous AI syste, damages.

CIRCULAR ECONOMY AS A DRIVER FOR SUSTAINABLE DEVELOPMENT GOALS: EXAMPLES OF GOOD PRACTICES FROM THE EUROPEAN UNION AND FUTURE RECOMMENDATIONS

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Background: Considering climate crisis and globalization, the circular economy is becoming a promising paradigm for reconfiguring sustainable development models. At European level, numerous initiatives have been developed to facilitate the transition to the circular economy, and successful experiences in developed European Union (EU) countries prove the effectiveness of the strategies and public policies adopted. Through a multidimensional approach, this paper proposes a comparative analysis of the most common positive examples of circular economy adoption in developed and developing countries of the EU. The aim of this study is to use circular economy as an adaptive public policy tool in formulating differentiated policy recommendations that address the individual needs of Member States.

Keywords: circular economy, sustainable development, european union, public policies

THE CONDITION OF SELF-INTEREST IN PROMOTING AN ACTION IN ADMINISTRATIVE LITIGATION

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Background: In order to file an administrative action, the plaintiff must prove a legitimate interest. This must meet the conditions imposed by art. 33 of the Civil Procedure Code, namely the interest must be determined, legitimate, personal, arising and current. This assumes that the person who is promoting the lawsuit has been harmed in this interest, in his/her legitimate rights or interests by an administrative act or the refusal of the public authority to act, as required by the provisions of art. 2 of Law no. 554/2004 on administrative litigation. The provisions of Article 8, paragraph 11 of Law 554/2004 on administrative litigation completes this aspect, in the sense that natural persons and legal persons under private law may submit claims by invoking the defence of a legitimate public interest only in subsidiary, to the extent that the damage caused to the legitimate public interest logically results from the violation of the subjective right or of the legitimate private interest. Also, if the applicant is an association, the applicable rule regarding the condition of interest is maintained, in the sense that as social bodies concerned, the invocation of the public legitimate interest by an association must be subsidiary to the invocation of a private legitimate interest, the latter arising from the direct link between the administrative act subject to review of legality and the direct purpose and objectives of the association, according to the statutes. (Decision 8/2020 of the High Court of Cassation and Justice). In other words, the reason why the plaintiff asks the court to intervene through the judgment that will pronounce it must be represented by a practical, concrete use, otherwise the action will be rejected as inadmissible.

Keywords: plaintiff, administrative litigation, interest

SOME CONSIDERATIONS REGARDING THE NULLITY OF THE ACT AND THE EXCLUSION OF DERIVED EVIDENCE

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Background: The doctrine known as "the fruits of the poisonous tree", which concerns the exclusion of derivative evidence, entails the removal of evidence that, although obtained legally, originates from evidence acquired unlawfully. The exclusion of such derivative evidence applies only when there is a direct and necessary causal link between the illegally obtained evidence and the subsequently administered one, and when judicial authorities have primarily and directly relied on the data or information resulting from the illegal evidence, without any alternative source and without a real possibility of their lawful discovery in the future. According to Article 280 paragraph (2) of the Romanian Code of Criminal Procedure, acts performed subsequent to a declared null act are themselves affected by nullity when a direct connection exists between them and the null act. Unlike the regulation concerning evidence, the rule on nullity does not condition the exclusion of subsequent acts upon the impossibility of obtaining them by other lawful means. This paper examines situations in which the nullity of a procedural act necessitates the exclusion of derivative evidence, analyzing the relevant legislative framework, case law, and comparative legal perspectives. It also highlights shortcomings in the application of the exclusionary rule and discusses the difficulty of maintaining a balance between protecting the public interest and guaranteeing the individual's right to a fair trial.

Keywords: nullity, exclusion of evidence, fruits of the poisonous tree, derivative evidence, fair trial

RECONSTRUCTING THE SREBRENICA GENOCIDE THROUGH THE VOICE OF THE SURVIVORS

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Background: In July 1995, Bosnian Serb forces, under the command of General Mladić, launched Operation Krivaja-95. The attack was met with minimal resistance from the UN Forces, stationed in the area with the duty to protect the thousands of refugees within the Srebrenica "Safe Area." By seizing the UNPROFOR positions and coercing the UN commander into refraining from further airstrikes on the Bosnian Serb positions, Ratko Mladić took complete control over the city. At that moment, the enclave was overcrowded with tens of thousands of refugees. Many of them turned to the UN base, trusting that the presence of the international forces would guarantee their safety. Just a small number were granted permission to enter the military compound. Women were separated from men, right in front of the UN military base in Potočari, while the refugees who tried to flee through the woods were hunted down. Thousands of men and boys were captured and transferred to isolated locations, such as Petkovci Dam. Bound and blindfolded, they were lined up and shot at close range, often from behind. Many were left wounded, forced to die in agony. Over 8,000 men and boys were killed during Operation Krivaja-95. The bodies of the victims were thrown in mass graves, and the corpses were rarely recovered intact. Following the systematic executions, the remains were buried in primary graves, then exhumed, fragmented, and reburied in secondary and tertiary sites to conceal the scale of the crime. This study seeks to present the Srebrenica Genocide from a different perspective, one that delves deeply into the personal and human side of history. Moving beyond statistics and impersonal data, this study focuses on oral history, highlighting the brutal experiences of the survivors.

Keywords: Srebrenica Genocide, Operation Krivaja-95, Bosnia and Hercegovina, Srebrenica, UNPROFOR

A NOVEL APPROACH TOWARD ECONOMIC HIGHER EDUCATION IN DIGITAL ERA: A CASE STUDY

Maria-Alexandra Poptamas[1], Mihai Timuș[1], Maria Cristina Herțeg[1], Roxana Maria Stejerean[1], Diana Socotar[1], Ioan-Bogdan Bacoș[1]

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Background: Introduction. Globalization and the rapid technological expansion of recent years are shaping both the economy and education. New approaches in the education process are therefore needed in order to ensure that the learning outcomes are aligned with the reality of the labour market. **Material and methods.** This paper presents a case study that reveals various ways in which teachers from the Faculty of Economics and Law within G.E. Palade UMPhST of Tg Mureș integrate artificial intelligence (AI) tools into the learning process. **Results.** Although this novel approach is in its infancy, preliminary results suggest that the integration of AI tools into university curricula enhances both the effectiveness of teaching and student engagement, leading to positive learning outcomes.

Keywords: AI tool integration, learning outcomes, digital era, economics, education

CRYPTOCURRENCIES AND THE IDENTIFICATION OF THE BENEFICIAL OWNER

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Background: In a world where money sheds its physical substance and becomes mere glimmers on a screen, cryptocurrencies raise an old question in a new guise: who is the true owner behind the invisible wealth? This study examines the legal and technical pathways of identifying the beneficial owner within a system deliberately built on anonymity and decentralization. Beginning with the foundational structure of the distributed ledger, the analysis proceeds through the regulatory frameworks of know-your-customer obligations and concludes with a reflection on the moral and legal responsibility of ownership when assets bear neither signature nor face. In this shifting landscape, the law seeks to restore the traditional clarity of property and accountability, naming that which was designed to remain nameless.

Keywords: cryptocurrencies, beneficial owner, blockchain, financial transparency, digital identity

WORKER PROTECTION IN THE CONTEXT OF THE DEVELOPMENT OF NEW TECHNOLOGIES

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Background: In the current economic and social context, employment relations are undergoing substantial changes, the labor market is influenced by digitalization, use of new technologies, the use of artificial intelligence platforms, but also by the flexibility of employment relationships. Employment relationships are entering a broad transformation process, which is why new regulations are needed regarding telework, work on digital platforms, and freelance work. In this context, the issue of worker protection arises in terms of workplace surveillance, in terms of the protection of the right to intimate and private life, and the protection of personal data, requiring a rethinking of legal instruments in order to ensure effective and equitable protection for all workers.

Keywords: worker, protection, privacy, surveillence, labor market

DEMOCRACY UNDER PRESSURE: DISINFORMATION, MANIPULATION, AND CIVIC ENGAGEMENT IN CONTEMPORARY EUROPE - INSIGHTS FROM THE ROMANIAN 2024/2025 ELECTIONS

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Background: The presentation "Democracy Under Pressure: Disinformation, Manipulation, and Civic Engagement in Contemporary Europe - Insights from the Romanian 2024/2025 Elections" explores how misinformation and political manipulation shape public perception and democratic participation in an age of digital hyperconnectivity. Using the Romanian presidential elections as a case study, the session examines key mechanisms of online disinformation, the role of social media algorithms in amplifying political narratives, and their broader implications for European democratic resilience. Attention is also given to civic education and fact-checking initiatives that counter misinformation and promote critical thinking among citizens. By integrating both theoretical and practical perspectives, the presentation encourages participants to reflect on how civic engagement, media literacy, and institutional transparency can strengthen democracy across the European Union. Ultimately, this module aims to contribute to ongoing debates on protecting democratic values and fostering informed citizenship in an era of digital manipulation and information overload.

Keywords: Democracy, Disinformation, Romanian Elections, Democratic Resilience, Critical Thinking

EMPLOYERS' PERSPECTIVES ON DISABILITY INCLUSION. INSIGHTS AND PRACTICES OF UMPHST PARTNERS

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Background: Supporting persons with disabilities in accessing and sustaining employment is essential for strengthening social inclusion and ensuring equitable participation in the labor market. This study examines how partner employers of UMPhST (George Emil Palade University of Medicine, Pharmacy, Science and Technology of Târgu Mureș) perceive the presence, support needs and workplace integration of employees with disabilities. The empirical research explores the types of disabilities represented in the workforce, the support measures implemented and employers' awareness of the legal benefits associated with hiring persons with disabilities. Responses from 39 employers reveal a diverse landscape: approximately two-thirds report employing individuals with disabilities, including those with motor, auditory, somatic, communication-related, intellectual, psychosocial or chronic conditions. Many organizations indicate that they have implemented supportive measures, such as staff training aimed at fostering better understanding of colleagues with disabilities. Nevertheless, awareness of legal incentives remains inconsistent, with a considerable proportion of employers reporting only partial familiarity with existing benefits. Overall, the findings reflect both ongoing progress and areas requiring further development. Employers express openness to providing internships and employment opportunities for candidates with disabilities, yet the results highlight the need for improved access to information, continuous staff training and strengthened non-discriminatory practices. These insights underscore the importance of sustained institutional and community-level efforts to promote genuinely inclusive workplaces.

Keywords: disability inclusion, employer perspectives, benefits awareness, workplace accessibility, inclusive practices

ESTABLISHING THE TERM OF RESTITUTION IN THE CONSUMER LOAN: DOCTRINAL AND JURISPRUDENTIAL PERSPECTIVES

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Background: The study examines the interaction between the institution of the consumer loan and the procedure of the presidential ordinance, especially in the context of the judicial determination of the term of restitution according to art. 2162 C. civ. Starting from the legal nature of the consumer loan - real, unilateral and translative property contract - the paper highlights the role of the court in determining the term when it was not established by the convention of the parties. The analysis reveals the jurisprudential tensions regarding the applicability of the admissibility conditions of the presidential ordrdinance (the appearance of the right, the urgency, the timeliness, the non-judgment of the fund) in this special procedure, the courts adopting divergent solutions: either strict compliance with these conditions, or limiting the analysis to the appearance of law, with the presumption of the other elements. By presenting relevant cases, the study highlights both the conceptual difficulties arising from the legislative reference to the presidential ordinance procedure and its impact on the predictability and unity of judicial practice. The main conclusion underlines the need for a legislative intervention to clarify art. 2162 C. civ., with a view to eliminating non-uniformities and ensuring a coherent and efficient procedural framework for determining the repayment term in the consumer loan.

Keywords: presidential ordinance, term of restitution, consumer loan, urgency, judicial establishment

FACIAL RECOGNITION AND PROTECTION OF FUNDAMENTAL RIGHTS IN THE EU AIACT

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Background: The study examines the impact of facial recognition regulation in the context of the new EU AI Act, the first comprehensive global legislative framework on the use of artificial intelligence systems. The paper highlights how the Regulation classifies facial recognition as a high-risk technology due to the significant potential for affecting fundamental rights, in particular privacy and the protection of personal data. Strict restrictions on the use of facial recognition in public spaces, including a general ban on real-time use, with a few limited and carefully controlled exceptions, are exposed. In this context, the operators of these systems have substantial obligations regarding transparency, safety, data traceability, impact assessments and ensuring human control. The work includes analysing relevant incidents in France, Sweden, the UK and the US that highlight the technology's practical risks, such as identification errors, algorithmic discrimination and harming the presumption of innocence. The conclusions underline the role of the EU AI Act in establishing a European standard of protection for citizens, promoting ethical, safe and responsible use of facial recognition technologies.

Keywords: EU AI Act, fundamental rights, facial recognition, identification errors, artificial intelligence systems

INDEX OF AUTHORS

INDEX OF AUTHORS

INDEX OF AUTHORS

INDEX OF AUTHORS

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International Conference of PhD Students and Young Doctors

MEDICINE AND PHARMACY

ANESTHESIOLOGY AND INTENSIVE CARE MEDICINE

INTRAVENOUS ANESTHESIA: A SIMULATION-BASED COMPARISON OF PHARMACOKINETIC TARGET-CONTROLLED INFUSION MODELS FOR PROPOFOL.

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Background: Total intravenous anesthesia (TIVA) delivered via a target-controlled infusion (TCI) system has become an important technique in modern obstetric anesthesia. Although spinal anesthesia remains the gold standard for cesarean delivery, certain clinical circumstances necessitate the use of general anesthesia. In such cases, TCI allows for more precise titration of anesthetic agents, potentially improving hemodynamic stability and maternal safety during obstetric procedures. Several pharmacokinetic models are available for administering propofol through TCI systems, most notably the Marsh, Schnider, and Eleveld models. **Material and methods:** We conducted a simulation-based comparison of the three pharmacokinetic models. The simulated patient demographic profiles were derived from clinical data of 32 obstetric patients who underwent cesarean delivery under general anesthesia between 1 January 2024 and 31 January 2025 at the Clinical Emergency County Hospital of Târgu Mureş. The effect-site target (Ce) concentration was set at 4 μg/mL. Each model was evaluated by estimating the time required to reach the target concentration, the total amount of propofol administered, the predicted wake-up time after a 30-minute infusion. **Results:** Across all pharmacokinetic models, the time required to reach effect-site concentration was substantially longer when using the plasma-targeting mode compared with the effect-site mode (median 32 minutes vs. 3 minutes). For a 30-minute infusion, the predicted emergence time was shortest with the Schnider model, whereas the Marsh and Eleveld models showed longer emergence profiles. **Conclusions:** In this simulation-based comparison, the pharmacokinetic model selected had a notable impact on both onset and recovery characteristics. Effect-site targeting produced a substantially faster rise to the desired anesthetic concentration than plasma targeting; however, this rapid induction was achieved through large, brief bolus administrations, which may pose risks for maternal hemodynamic stability. Ultimately, the choice of pharmacokinetic model and targeting mode should be guided by the clinical context, including the urgency of the intervention, maternal hemodynamic condition, and fetal well-being.

Keywords: TIVA, TCI, obstetric, simulation, propofol

SPECIFIC CEREBRAL BIOMARKERS AND IMAGING CORRELATIONS IN PATIENTS WITH TRAUMATIC BRAIN INJURY

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Background: Traumatic brain injury (TBI) remains a major global health issue, with considerable implications for morbidity and mortality. In patients with mild TBI (mTBI), early identification of intracranial injury is often challenging. Although cranial computed tomography (CT) is the diagnostic gold standard, its use is frequently excessive, estimated between 30% and 43% in recent meta-analyses, leading to unnecessary radiation exposure, increased costs, and longer emergency departments stays. Brain-specific biomarkers such as glial fibrillary acidic protein (GFAP) and ubiquitin carboxy-terminal hydrolase L1 (UCH-L1) as indicators of neuronal and glial injury. At the same time, brain ultrasound and portable near-infrared spectroscopy (NIR) devices like the Infrascanner® enable rapid, non-invasive tools capable of detecting intracranial hematomas at the bedside with good diagnostic performance. **Material and methods:** This prospective observational study aims to assess the diagnostic accuracy of GFAP and UCH-L1, combined with brain ultrasound and NIR scanning, against non-contrast CT as the gold standard. The research will be conducted over a 12-month period (November 2025-November 2026) in the Emergency Department (UPU-SMURD) of the Bistriţa County Clinical Emergency Hospital. At least 200 patients with mild TBI (GCS 13-15) presenting within 24 hours after injury will be included. Blood samples will be analyzed for biomarker levels, followed by brain ultrasound and NIR cranial scanning and CT within 30 minutes. The study will evaluate sensitivity, specificity, and predictive values, for eachdiagnostic modality and their combined performance. **Results:** The combined use of GFAP, UCH-L1, brain ultrasound and NIR scanning is expected to accurately identify or exclude intracranial lesions, reducing unnecessary CT scans, radiation exposure, and evaluation time, while improving clinicians' diagnostic confidence. **Conclusions:** Integrating brain-specific biomarkers and non-invasive spectroscopic tools may establish a safer, cost-effective diagnostic model for mild TBI.

Keywords: Traumatic brain injury, GFAP, UCH-L1, near-infrared spectroscopy, computed tomography

SYSTEMIC INFLAMMATION AND CLINICAL OUTCOMES IN MITRAL VALVE SURGERY: MINIMALLY INVASIVE APPROACH VERSUS CONVENTIONAL STERNOTOMY

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Background: Minimally invasive mitral valve surgery (MIMVS) is increasingly adopted due to its association with reduced tissue trauma and faster recovery compared to conventional sternotomy. Aim: to evaluate and compare the systemic inflammatory response and incidence of postoperative complications in patients undergoing mitral valve surgery via minimally invasive versus sternotomy approaches, and to identify the most predictive inflammatory marker. **Material and methods:** The study included 100 patients with isolated mitral valve disease, divided into two groups: MIMVS group (n = 40) and sternotomy group (n = 60). Each patient was assessed for Systemic Inflammation Response Index (SIRI), Aggregate Index of Systemic Inflammation (AISI), and CRP/albumin ratio, preoperatively and at 24 and 48 hours postoperatively. **Results:** At 24 hours postoperatively, AISI values were significantly higher in the sternotomy group (median AISI: 561 vs. 223, p = 0.002). The incidence of postoperative complications was also greater in the sternotomy group (22% vs. 14%, p = 0.04). Among the biomarkers analyzed, AISI at 24h showed thehighest predictive value for complications (AUC = 0.81, 95% CI: 0.71-0.89), compared to SIRI (AUC = 0.72) and CRP/albumin(AUC = 0.69).The mean duration of mechanical ventilation was shorter in the MIMVS group (6.5 ± 2.1h vs. 8.2 ± 3.8h, p < 0.01),and total hospitalization time was also lower (7.8 ± 2.3 days vs. 9.2 ± 2.7 days, p < 0.001). Although cardiopulmonary bypass timewas longer in the MIMVS group (109 ± 16 min vs. 93 ± 12 min, p < 0.001), this did not correlate with a higher complication rate. **Conclusions:** Minimally invasive mitral valve surgery is associated with a significantly reduced systemic inflammatory response and more favorable clinical outcomes. Among the evaluated markers, AISI emerged as the most effective predictor of postoperative complications, supporting its potential use as a risk stratification tool in the perioperative management.

Keywords: mitral valve surgery, iinflammatory response, Aggregate Index of Systemic Inflammation

USE AND SAFETY OF REGIONAL ANAESTHESIA IN ROMANIA - AN ONLINE SURVEY

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Background: Regional anaesthesia is an established technique in current practice. However, apart from one small older study focused only on spinal anaesthesia, the extent to which regional blocks are used in Romania is not well documented. Therefore, we created a descriptive and exploratory study by means of an online survey targeting all anaesthesiologists practicing in Romania. **Material and methods:** The data was collected during July-August 2023. 19 questions about: the demographic, how much regional anaesthesia they perform including for paediatric patients, technical performance, what local anaesthetics and adjuvants are being used. An important aspect was the questions regarding safety, the availability of a local Local Anaesthetic Systemic Toxicity (LAST) protocol, personal experience and resources used for training and obstacles faced in performing these techniques. **Results:** 189 Anaesthesiologists responded, 14.8% were residents and 85,2% practicing physicians from academic (35,4%), private (9%), regional (36%) and community (19.5%) hospitals. 12.7% did not perform any regional anaesthesia, 28,6% 1 or 2, 30.2% 3-5, 12,7% 6-10 and 15.9% more than 10 blocks per week. 76,2% considered that regional anaesthesia is an essential tool for daily practice. Multiple resources were being used for gaining knowledge (online 88.9%, onsite courses 48,1%, books 68,8%, presentations at congresses 70,9%). However, 85,2% considered that there is still a need for courses and resources in Romanian. 50,3% do not have a LAST protocol at their workplace. Among barriers for regional anaesthesia, the top three were: delays in the operating schedule (55%), insufficient training (44,4%) and lack of experience (42,3%). **Conclusions:** We feel that our survey captures well the daily practice. There is a strong concordance among Romanian anaesthesiologists that regional anaesthesia is a valuable tool. However, a great majority feels that more courses and resources in the Romanian language are needed which turn out to also be the main obstacles in advancing regional anaesthesia in this country.

Keywords: regional anaesthesia, practice, Romania, local anaesthetics

PRACTICAL ASSESSMENT OF DIAPHRAGM FUNCTION BY ULTRASOUND DURING ASSISSTED MECHANICAL VENTILATION IN CRITICALLY ILL PATIENTS

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Background: Diaphragmatic dysfunction is frequently encountered in critically ill patients and represents a major risk factor for difficult weaning and failed extubation. Diaphragmatic ultrasound provides a rapid, non-invasive, and reliable method for assessing respiratory function, overcoming the limitations of clinical examination. The study aimed to evaluate the reliability and clinical utility of ultrasonographic parameters by comparing healthy volunteers with critically ill patients, as well as assessing inter-observer agreement (student vs. supervisor). **Material and methods:** The study was designed as a cross-sectional observational analysis including two groups: healthy volunteers and critically ill patients admitted to the ICU. Diaphragmatic ultrasound assessments were performed using convex and linear probes, measuring diaphragmatic excursion, inspiratory and expiratory thickness, thickening fraction (DTF%), and Time-to-Peak (TTP). **Results:** Statistical analyses revealed marked differences between groups: TTP, inspiratory thickness, and expiratory thickness showed highly significant differences ($p < 0.001$; very large effect size), while excursion and DTF did not significantly discriminate between groups ($p > 0.05$). Inter-observer agreement was high for TTP (ICC > 0.80) and moderate for excursion. Among critically ill patients, 50% presented a DTF < 20%, a threshold associated with an increased risk of weaning failure. **Conclusions:** Diaphragmatic ultrasound proves to be a valuable tool in the functional assessment of critically ill patients, with dynamic parameters—particularly TTP—acting as robust and reproducible markers. Integrating these metrics into standardized protocols may improve extubation outcome prediction. Larger multicenter studies are required to validate these findings.

Keywords: diaphragmatic ultrasound, diaphragmatic dysfunction, critically ill patient, thickening fraction (DTF), ventilator weaning

SEE BEFORE YOU INTUBATE: INTEGRATING ULTRASOUND INTO DIFFICULT AIRWAY MANAGEMENT

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Background: Difficult airway management remains one of the most critical challenges in anaesthetic and emergency practice. Integrating ultrasound into the pre-intubation assessment offers a rapid, non-invasive visualisation of relevant anatomicalstructures, thereby improving the accuracy of clinical decision-making. The aim of the study was to correlate clinical predictors ofdifficult intubation with relevant ultrasound parameters obtained from anterior cervical ultrasound. **Material and methods:** Weconducted a prospective study in the Department of Anaesthesiology and Intensive Care at the Târgu Mureș County EmergencyClinical Hospital. We included 17 consecutive patients who underwent general anaesthesia with orotracheal intubation. Clinicalpredictors of difficult intubation (BMI >26 kg/m², sternomental distance, hyomental distance, thyromental distance, neckcircumference, mouth opening, and Mallampati score) were recorded preoperatively. The ultrasound parameters assessed includedpretracheal tissue thickness, hyomental distance in the neutral position, hyomental distance in hyperextension, and tonguethickness. **Results:** Neck circumference showed a moderate positive correlation with tongue thickness ($r = 0.58$, $p = 0.014$) andwith the hyomental distance in hyperextension ($r = 0.65$, $p = 0.005$). The hyomental distance in the neutral position showed amoderate negative correlation with the Mallampati score ($r = -0.44$, $p = 0.02$) and a moderate positive correlation with tonguethickness ($r = 0.61$, $p = 0.009$). We did not identify any correlation between a BMI greater than 26 and the evaluated ultrasoundparameters. We identified a moderate positive correlation between the Cormack score and pretracheal tissue thickness ($r = 0.51$, $p =0.04$). **Conclusions:** Our results indicate that ultrasound measurements of the anterior cervical region can identify anatomicalfeatures associated with difficult airway predictors, offering an additional layer of assessment beyond traditional clinical evaluation. Integrating ultrasound into routine pre-intubation screening may improve early recognition of patients at risk for difficult intubation.

Keywords: Airway assessment, Difficult airway ultrasound, Perioperative assessemnt, Elective surgery

UNMASKING RHABDOMYOLYSIS AFTER RADICAL CYSTECTOMY: A DIAGNOSTIC PITFALL IN THE POSTOPERATIVE SETTING

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Background: Rhabdomyolysis is a rare but severe postoperative complication caused by skeletal muscle breakdown with release of myoglobin, electrolytes, and creatine kinase (CK). In prolonged urologic procedures such as radical cystectomy, extended operative time and positioning increase the risk of compression injury and muscle ischemia. Although uncommon, postoperative rhabdomyolysis carries significant morbidity due to acute kidney injury, electrolyte disturbances, and potential progression toMulti-Organ Dysfunction Syndrome (MODS). **Material and methods:** We present the case of a 53 years old male patient who underwent an open radical cystectomy for bladder cancer. For this case general anesthesia was considered optimal with preoperatory placement of an epidural catheter. The surgery was performed in steep Trendelenburg position; no major blood loss or hemodynamic instability was described. Duration of surgery from positioning to extubation was 8 hours. The patient was transferred to the ICU for postoperative monitoring. **Results:** 5 hours postoperative the patient related pain in the lumbar area and bilateral paresthesia in the lower limbs. The peridural catheter was removed. In the next hours a relevant swelling was observed in the lower limbs associated with sharp pain. Laboratory findings showed a CK of 151 000 U/L, Lactate 7.1 mmol/L and Potassium of 7.69. Continuous renal replacement therapy (CRRT) was initiated. The patient presented signs of septic shock and mechanical ventilation with cardioactive support was necessary. The lactic and metabolic acidosis remained severe although the CRRT. Second postoperative day bilateral fasciotomies were performed, exposing swollen and partly necrotic muscles. The patient presented MODS with severe hemodynamic instability which quickly evolved to cardiac arrest. **Conclusions:** Postoperative rhabdomyolysis can be underdiagnosed because early symptoms may be attributed to surgical or anesthesia-related causes, but early recognition and treatment can be decisive in preventing MODS. Trendelenburg positioning and long operative times are important risk factors, particularly in patients with increased muscle mass.

Keywords: rhabdomyolysis, cystectomy, MODS, postoperative

PREDICTIVE MODELLING OF SEPSIS SEVERITY USING NLMR, PLR, AND FERRITIN IN RELATION TO SOFA, APACHE II, AND SAPS II INDICES

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Background: Sepsis involves an overzealous immune system, with a hyperinflammatory phase that overlaps with a subsequent hypoinflammatory phase. To ease the burden on medical systems, this study aimed to assess the predictive value of clinical severity scores (Sequential Organ Failure Assessment (SOFA), Acute Physiology and Chronic Health Evaluation II (APACHE II) score, and the Simplified Acute Physiology Score II (SAPS II)) and inflammatory biomarkers (neutrophile-to-lymphocyte-to-monocyte ratio (NLMR), and platelet-to-lymphocyte ratio (PLR), carboxyhemoglobin (COHb) and ferritin) in predicting outcomes of critically ill intensive care unit (ICU) patients. **Material and methods:** This prospective, observational study included 101critically ill patients, for whom we assessed the parameters on the first and fifth days after confirmation of either sepsis or septic shock in ICU, according to the Sepsis-3 Consensus. **Results:** Severity scores showed significant correlations on both day 1 and day 5 across all groups. APACHE II and SAPS II correlated with ferritin on day 5 in sepsis, septic shock, and non-survivors. The severity scores correlated with COHb on day 5 in survivors, and on day 1 in non-survivors. NLMR and PLR correlated consistently across groups, with additional associations between these ratios, ferritin, and COHb, particularly in non-survivors.Regarding mortality, NLMR on day 1 showed only modest predictive value, declining to non-significant by day 5. In contrast, the SOFA, APACHE II, and SAPS II scores demonstrated good discriminatory ability on both days, confirming their strong and reliable performance in predicting mortality. **Conclusions:** The study shows that simple cellular ratios and severity scores correlate with ferritin, COHb, and each other, reflecting inflammation, oxidative stress, and organ dysfunction in sepsis. Because these markers are inexpensive and easy to monitor, they may enhance bedside risk stratification, though broader prospective studies are still required.This work was supported by the University of Medicine, Pharmacy, Sciences and Technology "George Emil Palade" of Târgu Mureș Research Grant number 10126/17.12.2020.

Keywords: sepsis, septic shock, neutrophile-to-lymphocyte-to-monocyte ratio, platelet-to-lymphocyte ratio, carboxyhemoglobin

VEGFR-1 RS9508032 POLYMORPHISM AS A POTENTIAL MARKER OF SEPSIS SUSCEPTIBILITY IN CRITICALLY ILL PATIENTS: A CASE-CONTROL STUDY

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Background: Sepsis is a life-threatening condition which continues to be one of the leading causes of mortality in intensive care units (ICU). Vascular endothelial growth factor (VEGF) and its receptors play a central role in vascular permeability regulation and inflammation, both important processes in sepsis pathophysiology. Genetic variation in VEGF signalling may influence sepsis susceptibility, but evidence remain limited. **Material and methods:** We conducted a prospective, single-centre case-control study, enrolling 91 adults with sepsis and 60 critically ill controls without sepsis, admitted to ICU at the County Emergency Clinical Hospital in Târgu-Mureș. VEGF-R1 rs9508032 was genotyped by using 7500 Fast Dx Real-Time PCR System and corresponding Taqman real-time assay. The association analysis was performed using logistic regression across multiple genetic models, adjustedfor selected variables, in SNPstats and R-version 4.4.2. **Results:** The rs9508032 polymorphism was significantly associated withsepsis in model-based single-SNP regression analysis, after correction for multiple testing ($p< 0.05$). The best fitting genetic models according to BIC/AIC values remained significant after adjustment for SOFA score, leucocyte count, lactate level (OR range: 2.17-2.39) and multiple acute organ dysfunctions (OR range: 2.11-2.37). Accordingly, the results were consistent among the heterozygote male carriers under the dominant and overdominant models. Exploratory findings suggested that male carriers were associated with increased risk of sepsis, after adjustments for SOFA score, leucocyte count, lactate level (OR range: 2.68-2.99), and in the presence of the investigated acute organ dysfunctions (OR range:2.68-3.02). **Conclusions:** The VEGFR-1 rs9508032variant showed consistent associations with sepsis across the dominant and overdominant models after adjustment for multiplestrata. Our results strongly suggest that the investigated SNP is a reproducible genetic determinant of sepsis and, that heterozygous carriers may play a critical role in driving susceptibility to sepsis.

Keywords: SNP, Critically ill, Sepsis

ALACTIC BASE EXCESS AS A MARKER OF TISSUE HYPOXIA IN SEPSIS AND SEPTIC SHOCK: A CLINICAL ASSESSMENT

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Background: Septic shock remains a major cause of mortality in intensive care, and reliable biomarkers are needed to assess prognosis. Lactate, widely used, may not always reflect hypoperfusion, as it can also increase under aerobic metabolic conditions. Alactic Base Excess (aBE) has been proposed to differentiate acidosis caused by fixed acids from that determined by lactate. This study aims to evaluate aBE as a predictor of mortality in septic shock. **Material and methods:** We conducted a prospective study on patients with septic shock admitted to the ICU of SCJU Târgu Mureș. Clinical, hemodynamic, and blood gas data (pH, lactate, BE, SBE, aBE) were collected at three time points: admission, 24h, and 48h. Patients were divided into survivors and non-survivors; comparative analyses and logistic regression were performed. **Results:** The study included 25 patients, with a mortality rate of 68%. No significant differences were found between the groups regarding age, SOFA/APACHE II scores, renal function, or lactate levels. pH, BE, SBE, and aBE values showed significant improvement in the first 48 hours, suggesting gradual correction of metabolic acidosis. aBE improved favorably ($p = 0.02$), but values remained more negative in deceased patients, without reaching statistical significance in prognostic analysis. Lactate levels did not show relevant changes, and no parameter predicted mortality in regression analysis. **Conclusions:** aBE may provide additional information about non-lactic acidosis and the metabolic evolution of patients with septic shock, but in this study, it did not prove to be an independent predictor of mortality. Larger studies are needed to clarify its prognostic value.

Keywords: alactic base excess, septic shock, lactate, acid-base balance, mortality

MITOCHONDRIAL DYSFUNCTION IN SEPTIC SHOCK: PHENOTYPING FOR TAILORED THERAPEUTIC MANAGEMENT

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Background: Critical illness initiates a severe immuno-metabolic crisis, driven by dysregulated inflammation and catabolism that propagates muscle wasting and organ failure. While Indirect Calorimetry (IC) remains the gold standard for measuring resting energy expenditure (REE), its standalone use is insufficient for personalized nutrition. Contemporary research highlights that static equations and isolated REE values fail to capture the dynamic pathophysiology of the host response, often leading to misaligned nutrition that exacerbates metabolic dysfunction. **Material and methods:** This systematic review adhered to PRISMA guidelines. We searched PubMed/MEDLINE, Scopus, and Web of Science (2013-2024) using keywords and MeSH terms across four domains: (1) critical illness population ("critically ill" OR "sepsis"), (2) intervention ("Indirect Calorimetry"), (3) novel biomarkers ("cell-free mitochondrial DNA" OR "citrulline" OR "beta-hydroxybutyrate" OR "uric acid"), and (4) conceptual outcomes ("phenotyping" OR "immunometabolism"). Eligible studies included adult ICU patients, focused on IC-guided nutrition, biomarker utility, or metabolic stratification. Data extraction synthesized methodologies, biomarker interactions and clinical outcomes for an integrated immuno-metabolic phenotyping framework for precision nutrition. **Results:** The integrated analysis reveals distinct, actionable phenotypes. A *hypercatabolic-inflammatory phenotype* is identified by elevated REE, high cf-mtDNA and uric acid, coupled with profound citrullinopenia, indicating a state of high inflammatory drive and gut-mediated immune activation. Conversely, a *hypometabolic-immunoparalytic phenotype* may present with a deceptively low REE and suppressed BHB, signaling persistent injury with an inability to mount an appropriate metabolic response. This framework informs nutritional pharmacology: the former phenotype may necessitate targeted immunonutrition (e.g., omega-3s), while the latter requires cautious macronutrient delivery to avoid overfeeding and support metabolic recovery. **Conclusions:** Integrating IC with a panel of immuno-metabolic biomarkers represents a necessary evolution towards precision critical care nutrition. This approach moves beyond caloric dosing to target the underlying biology of the host response. Validating this strategy in prospective trials is crucial to demonstrate its impact on mitigating catabolism, reversing organ dysfunction, and improving long-term functional outcomes.

Keywords: Critical Illness Nutrition, Indirect Calorimetry, Precision Medicine, Immuno-Metabolic Phenotyping, Biomarkers

BIOCHEMISTRY

HAEMATOLOGICAL AND INFLAMMATORY BIOMARKERS IN DIABETES MELLITUS: IMPLICATIONS FOR CARDIOVASCULAR COMORBIDITIES

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Background: Cardiovascular complications account for over half of deaths among diabetic patients. Chronic hyperglycaemia and insulin resistance trigger inflammation and vascular damage, raising cardiovascular risk. Recent research shows that routine blood test markers can effectively indicate these risks in both type 1 and type 2 diabetes by reflecting metabolic health and systemic inflammation. **Material and methods:** Blood analysis data from 8,092 diabetes patients, with and without cardiovascular comorbidities (DM, DM+CVD groups), were collected from databases covering 2019-2023. Derived parameters like Triglyceride/Glucose index (TyG), Neutrophil to lymphocyte ratio (NLR), Systemic inflammatory response index (SIRI), Lymphocyte/Monocyte ratio (LMR) and Monocyte/HDL ratio (MHR) were calculated. Statistical analysis was conducted using MiniTab® 17 and Orange® v.3.38.1; class differences were further assessed in SIMCA 17. **Results:** The blood analysis indicated that all tested parameters, except for TyG ($p < 0.101$), showed statistically significant differences between patients with DM and those with DM+CVD ($p < 0.001$). Multivariate data analysis (MVDA) also identified significant differences between the DM and DM+CVD groups. The constructed OPLS-DA model showed that the differences, although of small magnitude, are statistically significant (even for TyG), dependent on cardiovascular comorbidities, age, gender and CKD-EPI stage. The group of patients with DM+CVD included older people, predominantly female, with a more advanced degree of CKD-EPI. These patients presented higher values for the TyG index, MLR and MHR. In contrast, patients without cardiovascular diseases presented higher values for NLR, SIRI, and LMR. **Conclusions:** The results obtained highlight significant differences between patients with DM and those with diabetes and DM+CVD, both in terms of haematological and metabolic parameters. Multivariate analysis confirmed the validity of the statistical model used, and the differences identified, although sometimes subtle, may be clinically relevant.

Keywords: Cardiovascular risk, Diabetes mellitus, Haematological biomarkers, Multivariate Data Analysis

CARDIOLOGY

MACROPHAGE INFLAMMATORY PROTEIN-1 ALPHA AS AN EARLY BIOMARKER OF VENTRICULAR TACHYCARDIA IN ST-ELEVATION MYOCARDIAL INFARCTION: A SINGLE-CENTER PILOT STUDY

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Background: Ventricular arrhythmias remain a major cause of morbidity and mortality following ST-elevation myocardial infarction (STEMI) despite advances in revascularization strategies. Although cytokines and chemokines play a crucial role in post-infarction arrhythmogenesis, their predictive value for ventricular tachycardia (VT) remains unclear. We investigated the association between inflammatory biomarkers and the occurrence of in-hospital VT. **Material and methods:** The study enrolled 130 consecutive STEMI patients who underwent primary percutaneous coronary angioplasty at the Institute of Emergency for Cardiovascular Diseases and Transplantation in Târgu Mureș between 2020 and 2024. Venous blood sampling was performed within 48 hours of the onset of STEMI. Plasma concentrations of inflammatory markers—interleukins (IL-6, IL-10, IL-21), interferon gamma-inducible protein 10 (IP-10), monocyte chemoattractant protein-1 (MCP-1), and macrophage inflammatory protein-1 alpha (MIP-1-⍺)—were quantified using Multiplex technology. Statistical analysis evaluated the associations between these biomarkers and VT occurrence during hospitalization. **Results:** Among 130 patients (60±11 years, 75% male), 22 (16.9%) developed STEMI-related VT during hospitalization. Patients with VT had significantly higher levels of MIP-1⍺ and MCP-1 compared to those without VT [1.2 pg/ml (0.89-1.76) vs. 0.74 pg/ml (0.64-1.00), p=0.004; 27.4 pg/ml (21.08-42.3) vs. 20.06 pg/ml (14.3-34.7), p=0.05, respectively]. A significant positive correlation was observed between MIP-1⍺ and MCP-1 levels (r=0.23, p=0.04). No significant associations were found for S100A8/A9 (p=0.25), IL-6 (p=0.59), IP-10 (p=0.9), angiotensin II (p=0.26), renin (p=0.99). Traditional clinical parameters, including age, left ventricular ejection fraction, GRACE score, and culprit artery territory, did not differ significantly between groups (all p-values >0.05) **Conclusions:** Elevated MIP-1⍺ and MCP-1 concentrations within 48 hours of STEMI demonstrate a significant association with in-hospital VT, suggesting their potential as early predictive biomarkers for arrhythmic risk stratification. Moreover, chemokine-mediated inflammatory processes could represent a promising therapeutic target in the prevention of STEMI-related VT. This work was supported by a grant from the Ministry of Research, Innovation, and Digitalization, CNCS-UEFISCDI, PAI BRANCUSI (PN-IV-P8-8.3-PM-ROFR-2024-0183).

Keywords: chemokine, inflammation, ST-elevation myocardial infarction, ventricular tachycardia

LINKING CORONARY ARTERY CALCIFICATION, PLAQUE INSTABILITY, AND PERIVASCULAR INFLAMMATION USING CORONARY CT ANGIOGRAPHY

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Background: Although coronary artery calcium (CAC) quantification is widely used to approximate overall atherosclerotic load, it does not capture the inflammatory milieu or the propensity of plaques to destabilize. This study sought to clarify how CAC relates to coronary plaque composition and perivascular inflammatory responses by integrating coronary computed tomography (CCT) with CaRi-Heart®-based fat attenuation index (FAI) analysis powered by artificial intelligence. **Material and methods:** This retrospective study included 336 individuals without documented cardiovascular disease, categorized according to CAC burden: Group 1 (CAC = 0; n = 34), Group 2 (CAC 1-100; n = 152), and Group 3 (CAC > 100; n = 150). Coronary plaque morphology, CAD-RADS assessment, high-risk plaque (HRP) markers, and FAI centile values were evaluated. All CCT examinations were acquired on a 128-slice system, followed by automated quantification of perivascular adipose tissue through a cloud-based AI platform. Statistical testing comprised one-way ANOVA, chi-square evaluation, and linear regression analyses. **Results:** Across escalating CAC strata, a consistent rise in atherosclerotic involvement was documented. The average number of affected coronary segments increased from 1.35 ± 1.07 in Group 1 to 2.88 ± 1.54 in Group 2 and 3.78 ± 2.12 in Group 3 ($p < 0.0001$). HRP features were present in 10.87% of subjects with CAC = 0 and in 66.02% of those with CAC > 100. Regression models demonstrated significant associations between CAC and segment involvement ($r^2 = 0.2716$), CAD-RADS grading ($r^2 = 0.1529$), as well as perivascular FAI centiles ($r^2 = 0.0812$; $p < 0.001$). Importantly, evidence of plaque vulnerability and perivascular inflammation was detected even among patients without coronary calcification. **Conclusions:** Reliance on CAC alone may overlook active and inflammation-driven coronary disease. Incorporating CCT with perivascular FAI mapping offers earlier identification of biologically unstable plaques and provides a more refined framework for risk stratification in coronary artery disease.

Keywords: coronary artery disease, coronary calcium score, coronary computed tomography, fat attenuation index, perivascular inflammation

CLINICAL DILEMMAS IN A COMPLEX CASE OF HEART FALIURE – HOW IMPORTANT IS TIMING AND (IN)DECISION? A CASE REPORT.

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Background: Heart failure patients with normal systolic function —with non‐myocardial symptom origins— pose a challenge for clinicians due to limited usefulness of pharmacotherapy and the consequential need for invasive treatment. **Material and methods:** Single‐patient case report of a 75 year old inpatient first hospitalized in July 2024. Assessment included physical exam, laboratory tests, 12‐lead ECG, transthoracic and transesophageal echocardiography, and coronarography.**Results:** A 75‐year‐old male with diabetes, hypertension, long‐term acenocumarol therapy for prior CABG (1997) presented with progressive global heart failure over 6 months. Laboratory work-up: mildly impaired renal function and therapeutic INR. 12-lead ECG showed sinus rhythm with chronic inferior T-wave inversions. The major echocardiographic finding was a novel severe mitral regurgitation from anterior leaflet prolapse—transesophageal imaging confirmed flail A2 and prolapsed A3. Ejection fraction was normal. Doppler measurements of right heart flow and septal movement patterns suggested constrictive pericarditis. After decongestion and treatment optimization, the patient was referred for surgical/interventional evaluation of mitral valve repair and pericardial decortication, and underwent pre-operatory coronarography, which discovered a trivascular coronary disease with chronically occluded RCA and OM1 saphenous vein grafts. No PTCA was attempted. Surgery was contraindicated due to reduced coronary perfusion reserves. At one year follow-up, the patient presented worsening congestive symptoms, mildly imbalanced glycemic control and worsening renal function. After decongestion CKD progressed from stage IIIa to IIIb with a ~15 ml/min/1.73m2 decline in eGFR and chronic diuretic needs increased. Re‐evaluation of revascularization and planning for valve intervention was arranged. **Conclusions:** Heart failure where the culprit is non-myocardial, medical treatment alone has limited impact. In our case, progression of renal dysfunction and recurrent heart failure hospitalizations reflect the reserved prognosis and malignant evolution of primary valvular and pericardial disease. We would like to emphasize the importance of a proactive (invasive) approach to such cases, where delay and clinical indecision lead inevitably to disease progression.

Keywords: heart failure, mitral regurgitation, contrictive pericarditis, chronic kidney disease, coronary disease

HEART RATE VARIABILITY IN ATRIAL FIBRILLATION IN PATIENTS WITH HEARTFAILURE

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Background: Atrial fibrillation (AF) and heart failure frequently coexist in older adults, sharing common risk factors and a bidirectional pathophysiological relationship. Heart rate variability (HRV), a non-invasive marker of autonomic function, may help identify high-risk patients and guide clinical decisions. However, interpreting HRV in AF is particularly challenging due to the rhythm's intrinsic irregularity, as well as the autonomic innervation and variable refractory period of the atrioventricular node. This research aimed to assess conventional HRV parameters in patients with heart failure with reduced ejection fraction (HFrEF) and AF, exploring links to clinical findings and treatment interventions. **Material and methods:** We retrospectively analyzed data collected between 2019 and 2024 at the Clinical County Hospital, Department of Cardiology, Târgu Mureș. The study included 49 patients with mean age of 73 years, hospitalized with HFrEF and AF. Clinical, echocardiographic, and therapeutic findings were extracted from patient records. HRV parameters were obtained from 24-hour Holter-ECG recordings, sourced from the clinics' Labtech Cardiospy® system database, using three independent ECG channels and providing automated time-domain HRV analysis. **Results:** Low SDRR values were significantly associated with hypertension (p=0.042, OR=3.818). rMSSD values were lower in patients on beta-blockers (174.5 vs. 214.5, p=0.026). Mean heart rate correlated inversely with SDRR (r = -0.5381, p < 0.0001)and moderately with rMSSD. Minimum heart rate showed strong negative correlations with both SDRR (r = -0.7679) and rMSSD(r = -0.729), while the maximum RR interval was strongly positively correlated with both parameters (p < 0.0001). **Conclusions:**While these HRV metrics are not direct indicators of autonomic tone due to AF's intrinsic irregularity, they may still reflectbroader physiological influences and treatment effects. Their associations with clinical and therapeutic variables suggests potentialutility in patient monitoring. However, further research is warranted to validate their prognostic value and clarify their role in clinical decision-making in this population.

Keywords: atrial fibrillation, heart failure, heart rate variability, time-domain metrics

SODIUM-GLUCOSE TRANSPORTER 2 INHIBITORS AND THROMBOTIC EVENTS: A NARRATIVE REVIEW

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Background: Sodium-glucose transporter 2 inhibitors (SGLT2i) have demonstrated pleiotropic cardiovascular and renal benefits beyond glycemic control in type 2 diabetes. Paradoxically, despite their association with erythrocytosis, evidence suggests no increased thrombotic risk, prompting investigation of their effects on hemostasis and thrombosis. **Material and methods:** We performed a comprehensive PubMed literature search using the keywords "hemostasis", "SGLT2i", and "thrombosis", to elucidate the potential role of SGLT2i in the development of thrombotic events. **Results:** SGLT2i have been associated with a higher incidence of erythrocytosis compared with other antidiabetic agents. While the elevated erythrocyte count associated with SGLT2i therapy does not increase thrombotic risk, emerging mechanistic evidence suggests these agents may exert antithrombotic effects through multiple pathways. Despite concerns regarding the use of SGLT2 inhibitors in patients with pre-existing myeloproliferative diseases, recent evidence, particularly in the context of venous thrombosis, suggests that SGLT2i may have beneficial effects in these clinical scenarios. SGLT2i have been shown to diminish platelet activation by decreasing oxidative stress induced by NADPH oxidase. They also proved to inhibit platelet aggregation and the activation of integrin IIb3 (however, with minimal effects if SGLT1 inhibition is not associated) while significantly reducing P2Y12 reaction units. Moreover, an important mechanistic pathway potentially involved in the coagulation process is the reported association between gliflozin use, increased antithrombin III activity, and reduced D-dimer levels. **Conclusions:** Mechanistic evidence suggests SGLT2i may exert antithrombotic effects through antiplatelet and anticoagulant pathways, but further studies are necessary to assess these findings' potential to reduce the burden of venous and arterial thrombotic consequences, especially in high-risk populations.

Keywords: erythrocytosis, sodium-glucose transporter 2 inhibitors, thrombosis

IMPACT OF ATRIAL FIBRILLATION PATTERN ON LEFT VENTRICULAR FILLING PRESSURE IN PATIENTS WITH HEART FAILURE WITH PRESERVED EJECTION FRACTION

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Background: Atrial fibrillation (AF) is a major determinant of cardiac remodeling and diastolic dysfunction, contributing significantly to the pathophysiology and progression of heart failure with preserved ejection fraction (HFpEF). This study aimed to evaluate the impact of different AF temporal patterns on left ventricular (LV) filling pressures in patients with HFpEF. **Material and methods:** This retrospective study included 64 adult patients diagnosed with HFpEF according to the 2021 ESC Guidelines and admitted to the Internal Medicine II Clinic, Emergency County Hospital Targu Mures, between January 2022 and December 2024. Patients were stratified according to AF status (absence or presence) and, subsequently, by AF pattern: no AF, paroxysmal AF, and persistent/permanent AF. LV filling pressure was estimated using the mean E/e' ratio. Descriptive and comparative statistical analysis were performed, with a significance threshold of $p<0.05$. **Results:** The median age of the cohort was 71 years (IQR:66-76.5), and 56% were women. Sinus rhythm was observed in 50% of the cases, 29.7% had paroxysmal AF and 20.3% had persistent/permanent AF. Non-parametric tests were applied due to non-normal data distribution. The Mann-Whitney U test showed no statistically significant difference in the E/e' ratio between patients with and without AF ($U=564$, $Z=0.69$, $p=0.49$). Similarly, the Kruskal-Wallis test revealed no significant difference among the three AF pattern groups ($H=0.72$, $p=0.70$); therefore, no post-hoc comparisons were indicated. **Conclusions:** The presence or temporal pattern of AF did not significantly influence LV diastolic pressures in HFpEF patients. These findings suggest that additional clinical and structural factors should be considered when assessing LV congestion. Larger, prospective studies with multiparametric analyses are warranted to clarify the determinant of diastolic pressure elevation in HFpEF patients.

Keywords: atrial fibrillation, heart failure with preserved ejection fraction, left ventricular filling pressures, diastolic dysfunction, echocardiography

THE DIAGNOSTIC AND PROGNOSTIC IMPORTANCE OF BLOOD COUNT DERIVED PARAMETERS IN CARDIOVASCULAR DISEASES

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Background: The prevalence, mortality, and disability rates of cardiovascular diseases (CVD) are high worldwide. Clinical examinations, functional diagnostics, immunochemical techniques, or cardiac biomarkers are typically used to diagnose CVDs. Red cell distribution width (RDW), mean platelet volume (MPV), total white blood cell count (WBC), neutrophil-lymphocyte ratio (NLR), platelet-tolymphocyte ratio (PLR), and monocyte to high-density lipoprotein ratio (MHR) are the most important diagnostic/prognostic values among all clinical blood test parameters concerning CVD, according to recent data from international research. **Material and methods:** The PubMed database and Google Scholar search engine were used to find and collect English-language literature (2018-2025). We utilized the following keywords: "Mean platelet volume", "Red cell distribution width, "Complete blood count" and "Cardiovascular disease." **Results:** The assessment of the total white blood cell count, NLR,monocyte to high-density lipoprotein ratio (MHR), and platelet to lymphocyte ratio (PLR) may be highly valuable in predictingthe prognosis of various cardiovascular diseases (CVDs), such as coronary artery duisease, myocardial infarction and heart failure.Red cell distribution width (RDW) has been shown in numerous studies to be an independent predictive biomarker for CVDdisorders. Another significant predictive biomarker for CVDs is MPV. In patients with CVD (particularly those with myocardialinfarction and heart failure), elevated inflammatory markers such the neutrophil to lymphocyte ratio (NLR) may indicate a badprognosis. **Conclusions:** For patients with CVD, whole blood count is a common, affordable, and useful supplementary predictivetool. The prognostic and diagnostic importance of blood cout derived parameters for CVD represents a significant research topic

Keywords: Mean platelet volume, Red cell distribution width, Complete blood count, Cardiovascular disease, neutrophil-lymphocyte ratio

EMERGING TOOLS FOR FOLLOW-UP IN PULMONARY HYPERTENSION: BIOMARKERS, IMAGING AND RISK SCORES

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Background: Right heart failure (RHF) in pulmonary hypertension (PH) remains under-recognised and undertreated, partly because clinical practice still emphasises left-sided disease. Consistent and pragmatic follow-up is crucial to detect early RHF decompensation and guide therapy escalation. Advances in biomarkers, imaging, and risk scores are reshaping contemporary surveillance strategies. **Material and methods:** This mini-review integrates recent evidence from key clinical and translational studies addressing biomarkers, imaging parameters, and risk models for PH follow-up. The analysis focused on advances published over the last five years that enhance diagnostic precision, prognostic assessment, and treatment monitoring in patients with PH and RHF. Relevant literature was identified through a narrative review of PubMed and Google Scholar (January 2020-May 2025),using the search terms pulmonary hypertension, right heart failure, and biomarkers. Human studies published in English thatevaluated longitudinal follow-up, risk stratification, or treatment monitoring were prioritised, whereas small case series and single-patient reports were deprioritised. **Results:** Traditional biomarkers such as NT-proBNP and high-sensitivity troponin retainestablished prognostic value, yet lack specificity for right-sided dysfunction. Novel candidates—including galectin-3, soluble ST2,asymmetric dimethylarginine, and growth-differentiation factor-15—show encouraging potential but require broader validation.Imaging indices such as right-ventricular free-wall longitudinal strain and TAPSE/PASP ratio on echocardiography, as well as right-ventricular ejection fraction and fibrosis markers on cardiac MRI, have emerged as dynamic parameters for longitudinal assessment. Functional capacity measures (6-minute walk distance and cardiopulmonary exercise variables) and contemporary risk scores suchas REVEAL and COMPERA complement biological and imaging markers, enabling multiparametric follow-up. However, methodological heterogeneity and lack of standardisation still limit comparability and routine implementation. **Conclusions:** Follow-up in PH is evolving toward a comprehensive, right-ventricle-centred, biomarker-driven approach. Future research should aim to integrate circulating, imaging, and functional parameters into unified risk algorithms to facilitate personalised management and improve long-term outcomes.

Keywords: pulmonary hypertension, right heart failure, biomarkers, echocardiography, risk stratification

CARDIOVASCULAR SURGERY

IMPROVING THE FONTAN

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Background: The single ventricle represents a particular circulatory configuration, with various anatomical variants, which physiologically converges toward a system in which the single ventricle actively supports the systemic circulation, while the pulmonary circulation becomes passive through a sequence of surgical interventions performed in the first years of life. The ideal passive pulmonary circulatory model is strongly influenced by the diameter of the pulmonary arteries, assessed by the Nakata index, and by pulmonary vascular resistance. **Material and methods:** At the Emergency Institute for Cardiovascular Disease and Transplantation, Târgu-Mureş, approximately 20 patients with single-ventricle physiology are operated on each year, with experience covering the full spectrum of required procedures. Regarding the Glenn procedure, the initial strategy was to eliminate antegrade pulmonary blood flow; however, many centers have shifted this approach, maintaining or even augmenting antegrade pulmonary blood flow. Thus, starting in 2024, our center has adopted the strategy of a partial cavo-pulmonary connection with additional pulmonary flow, applied so far in 6 cases. We also have a new objective: to perform this procedure earlier, within the 3-6-month of life. To avoid long-term complications, one of the potential solutions is the classical atrial fenestration, or a decompression of the superior venous axis through the Hraska procedure. **Results:** Immediate postoperative oxygen saturation was significantly higher than in a standard partial cavo-pulmonary connection, averaging around 90%, with venous pressure approximately 12 mmHg.Although the literature describes increased chest drainage as an early postoperative complication, we did not encounter this issue **Conclusions:** Under these oxygenation and pressure conditions, the likelihood of developing aorto-pulmonary collaterals is reduced, thus providing a favorable substrate for the subsequent Fontan operation. Ultimately, these patients require the best possible quality of life, with a prolonged postponement of cardiac transplantation.

Keywords: single ventricle, Glenn, circulation, Fontan, palliative

DENTAL MEDICINE

120 YEARS SINCE THE BIRTH OF MIKLÓS GUZNER: A REFLECTION ON A MULTIFACETED CAREER - A SYSTEMATIC LITERATURE REVIEW

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Background: In 2025, two important anniversaries are celebrated: the 80th anniversary of the establishment of the Hungarian-language State University of Cluj, predecessor of the present-day University of Medicine, Pharmacy, Science and Technology of Târgu Mureș and the 120th anniversary of the birth of Dr. Miklós Guzner, dentist and university professor. Despite his professional and academic importance, Guzner's career has not been comprehensively explored to date. The aim of this study is to compile and analyze all available data concerning his life and professional activity, while also presenting previously unexamined information. **Material and methods:** For this purpose, an extensive and systematic literature search was conducted without temporal restriction, utilizing the Arcanum and Hungaricana databases. The investigation focused on publications, mainly contemporary newspaper and journal articles that specifically referred to Miklós Guzner. In total, 141 potentially relevant sources were identified, of which 109 fulfilled the inclusion criteria. **Results:** The analyzed materials enabled a detailed reconstruction of Guzner's early years and his professional development in Cluj, where he was actively involved in scientific, professional, and public life. Furthermore, the study provides new insights into his later academic career in Târgu Mureș, emphasizing its broader significance within the historical evolution of the institution. **Conclusions:** The findings highlight Dr. Miklós Guzner's significant role in shaping the intellectual and institutional heritage of his era.

Keywords: Miklós Guzner, systematic literature review, academic career, institutional history

EVALUATION OF THE POTENTIAL DYSBIOTIC EFFECT OF ORTHODONTIC BONDING ADHESIVES

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Background: Periodontal disease has a growing prevalence among the population, where the susceptibility of the host plays acrucial role, along with an erroneous immune response to microbial attack and the increased virulence of microbial flora. In fixed orthodontic treatment, brackets create retentive spots for plaque, good oral hygiene is more difficult to maintain. Mechanical and chemical irritation caused by adhesives can also increase the prevalence of periodontal disease. The purpose of the study is toanalyze the potential dysbiotic effect of orthodontic adhesives. **Material and methods:** This study enrolled 40 patients under theage of 18 years who had been referred to the Department of Orthodontics at the Faculty of Dental Medicine, University ofMedicine, Pharmacy and Science G.E. Palade, for fixed orthodontic treatment. Brackets (Roth Omni, GAC) were bonded using3M™ Transbond™ XT Light Cure Adhesive (n=20) and GC Fuji ORTHO™ LC (n=20) cements. Gingival crevicular fluid sampleswere collected under isolation using sterile paper tips (Miro-Ident sampling set) before bonding (T1) and 3 months after it (T2).The samples were analyzed using the polymerase chain reaction (PCR) method. **Results:** Statistical analysis was performed using GraphPad Prism version 9.5.1 and SPSS, in order to evaluate the microbiome changes according to the type of adhesive used for bonding. The statistical significance level was set at = 0.05.**Conclusions:** After applying the Bonferroni correction, no statistically significant changes were observed in the studied groups. Although without statistical significance, the most notable bacteria at the time of T2 measurements are Eikenella corrodens, Campylobacter rectus, and Parvimonas micra, with significant changes in prevalence.

Keywords: Adhesive, Dysbiosis, Brackets

LIFE CYCLE ASSESSMENT OF A BONE MORPHOGENETIC PROTEIN CONTAINING BONE GRAFT MATERIAL USED IN IMPLANTOLOGY

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Background: Bone grafting is essential in modern implantology, and better results can be achieved with materials containing bone morphogenetic protein (BMP), which is found in the cortical layer of long bones. It is possible to produce allografts containing BMP using human donor cadavers. Our goal was to perform a life cycle assessment (LCA) of the production of this bone graft to make implantology more environmentally conscious. **Material and methods:** In this study, was performed a life cycle assessment of bone grafts produced from human donor cadaver, observing their production in the laboratory of the Tissue Bank department of the Petz Aladár County Teaching Hospital in Győr, Hungary. OpenLCA software was used to examine the environmental impacts of production, and applied the ReCiPe 2016 midpoint(H) and endpoint(H) methods to analyze the impact. **Results:** During the process, 300g of bone graft material was produced. According to the life cycle assessment, the largest part of the adverse environmental impacts is related to material resource of metals-minerals (463.248 kg Cu-Eq), followed by terrestrial ecotoxicity (242.711 kg 1,4-DCB-Eq), climate change (48.824 kg CO2-Eq) and ionising radiations (16.166 kBq Co-60-Eq). The bone graft material is prepared in a 1g package, which has a carbon footprint of 162.746 gCO2-Eq and a Disability Adjusted Life Years of approximately 1.261 man-minutes. **Conclusions:** The environmental impact of bone graft production is significantly determined by the use of resources, and it also has a significant impact on climate change and human health. Based on the LCA analysis, it is necessary to optimize the production process to reduce environmental impact.

Keywords: sustainability, bone augmentation, implantology, life cycle assessment, bone morphogenetic protein

CLINICAL AND BEHAVIOURAL CORRELATES OF EARLY POST-ERUPTIVE PATHOLOGY OF FIRST PERMANENT MOLARS IN CHILDREN: A CROSS-SECTIONAL ANALYTICAL STUDY

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Background: The first permanent molars are the earliest permanent teeth to erupt, usually around 6-7 years of age, and are therefore highly susceptible to early post-eruptive caries. Their condition reflects a combination of oral hygiene behaviors, dietary habits, socio-economic status, and parental influence. This study explored how children's daily oral hygiene, dietary practices, sociodemographic factors, and family background relate to the early clinical status of these teeth. **Material and methods:** Between 3-11 April 2024, a cross-sectional study was conducted in Harghita County, Romania, including 119 children. Each participant received a dental examination, and parents completed a 21-item questionnaire covering hygiene routines, diet, and sociodemographic factors. Data was analyzed using Microsoft Excel, applying chi-square tests to assess associations ($p < 0.05$ considered significant). **Results:** Children living in rural areas (42%) showed a higher rate of carious lesions on their first permanent molars compared to those in urban areas (58%) ($p = 0.03$). Daily sweet consumption was linked with more frequent oral pathology (52%) versus occasional consumption (24%) ($p = 0.04$). Brushing twice or more per day significantly reduced caries occurrence compared to brushing once daily ($p = 0.004$). Higher parental education was associated with fewer lesions ($p = 0.003$), while children of less educated parents reported more frequent sweet intake ($p = 0.0006$). **Conclusions:** Children's oral health strongly mirrors family habits and parental guidance. Encouraging healthy routines, improving parental awareness, and introducing preventive education early in life and in all the communities the child is part of are essential to protect the first permanent molars and prevent early post-eruptive damage.

Keywords: first permanent molars, dental caries, oral hygiene

CORRELATIONS BETWEEN CRANIO-FACIAL CHANGES AND THE AHI INDEX IN PATIENTS WITH SLEEP-RELATED BREATHING DISORDERS

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Background: Sleep-related respiratory pathology has traditionally been associated with age, affecting approximately 45-50% of the male population, with an average age between 40 and 60 years (Friedman M, 2009). Recent studies indicate an alarming increase in children and young adults, especially with Class II/1 Angle dento-maxillary anomalies.In this context, our aim is to evaluatecraniofacial parameters in a group of patients with sleep-related breathing disorders and maxillary compression syndrome. **Material and methods:** The study was conducted at the Orthodontics Department of the Faculty of Dental Medicine, UMFSTTârgu Mureș, and at the Dr. Xray Imaging Center, on a group of 17 patients(9 female and 8 male), aged between 14 and 18 years,all presenting various forms of Class II/1 Angle anomaly. Clinical investigations were carried out(ENT and orthodonticexaminations).The patients were divided into two main groups(female and male) and subsequently into three subgroups, accordingto their apnea-hypopnea index(AHI) values obtained from polygraphic recordings. After ENT evaluations, cephalometric analysiswere performed.The following parameters were measured:• Position of the maxilla relative to the cranial base: SNA angle• Positionof the mandible relative to the cranial base: SNB angle• Relationship between the two bones: ANB angle• Position of the posterior pharyngeal space: PAS• Growth axis: S-Gn(Y-axis) **Results:** Cephalometric analysis revealed alterations at the level of the maxilla, with a narrowing of the posterior airway space (PAS), a decrease in SNB angle values (mandibular retrognathism) and an increase in SNA angle values (maxillary prognathism). ENT examination showed that nasal septum deviation was associated with snoring, while oropharyngeal and hypopharyngeal changes were more frequently observed in obstructive sleep apnea, particularly in cases with tonsillar hypertrophy. **Conclusions:** The interrelationship between ENT pathology (turbinate deviation, tonsillarhypertrophy) and sleep-related breathing disorders is evident. Alterations in skeletal parameters observed on lateral cephalometricradiographs correlate with the AHI index value, patient age and associated comorbidities.

Keywords: Sleep-disordered breathing, Apnea–Hypopnea Index (AHI), Class II/1 Angle malocclusion, Cephalometric analysis, Cephalometric analysis

COMPLEX ORAL REHABILITATION USING IMMEDIATE POST-EXTRACTION DENTAL IMPLANTS: A CASE SERIES

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Background: Functional and aesthetic rehabilitation on implants depends on their optimal placement within an adequate alveolar ridge. Dimensional changes in the alveolar ridge following tooth extraction have been well documented, and immediate implant placement alone has not been successful in preventing such changes. Immediate implant placement combined with bone grafting, minimally invasive extraction, three-dimensional guided implantation, and the immediate use of provisional prosthetic restorations has demonstrated predictable functional and aesthetic outcomes. **Material and methods:** This paper presents three clinical cases involving immediate post-extraction implant placement. The first case describes a vertical fracture of a maxillary central incisor, the second addresses periodontal involvement of the four maxillary incisors, and the third involves a full-arch rehabilitation with immediate implant placement following the All-on-Four concept. In all cases, immediate prosthetic loading was achieved. **Results:** The IDR (Immediate Dentoalveolar Restoration) procedure is a fast and simple reconstructive technique that allows for the efficient extraction and replacement of a tooth in a single treatment session. Under normal circumstances, the replacement of a single tooth is a relatively straightforward procedure. **Conclusions:** Proper management of the post-extraction socket, both in terms of bone preservation and soft tissue handling, is an essential factor for success from both aesthetic and functional perspectives. Choosing the appropriate technique allows for the fabrication of a provisional crown on the implant, which is a common patient request.

Keywords: implant, surgery, post-extraction

ARTIFICIAL INTELLIGENCE AND PREDICTIVE MODELLING IN CLEAR ALIGNER ORTHODONTICS: CURRENT EVIDENCE AND EMERGING DIRECTIONS IN PERSONALIZED TREATMENT

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Background: The main innovation driver for orthodontics through clear aligner (CA) therapy comes from artificial intelligence (AI). AI achieves precision treatment planning through the combination of digital modelling with biomechanical simulation and data-driven monitoring systems which generate patient-specific decisions.The purpose if this review was to examine AI applications in CA orthodontics through studies of predictive modelling, adaptive feedback systems and biologically oriented or personalized methods. **Material and methods:** The research team performed a systematic literature review of articles from PubMed, Scopus and Web of Science Core Collection databases which included studies from January 2020 to November 2025. The strategy integrated three conceptual areas which included AI predictive systems, orthodontic aligner therapy and biomechanical and biological modelling through Boolean operators and controlled filters. A full-text review and thematic synthesis was performed, including 24 articles which made it through the deduplication and multi-phase screening process. **Results:** The research demonstrated that AI technology enables CA orthodontics through 3 main integration methods: predictive modelling, adaptive feedback systems and biologically personalized simulations. The predictive models improved both the accuracy of tooth movement predictions and the accuracy of treatment duration. The adaptive frameworks improved patient compliance and real-time treatment modifications through teleorthodontic monitoring systems. AI processed CBCT and 3D anatomical data, from biologically oriented models, to develop personalized treatment plans for patients. **Conclusions:** AI technologies in CA orthodontics allow for predictive analysis to forecast treatment results and create individualized biological treatment strategies for every patient. Standardized validation methods, together with multi-center data sharing and algorithm transparency, need to be implemented so that medical imaging technology development achieves both clinical reliability and ethical responsibility in future applications.

Keywords: artificial intelligence, clear aligner orthodontics, machine learning, treatment accuracy, predictive modelling

ORAL HEALTH STATUS OF PATIENTS WITH PSYCHIATRIC MEDICATIONS

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Background: Psychiatric patients generally exhibit poorer oral health due to behavioral factors, limited dental care access, and medication-related side effects such as xerostomia. Although international studies consistently report higher caries and periodontal disease rates in this population, data from Central Europe are limited, and we aimed to obtain such data specifically for Hungary. **Material and methods:** A total of 188 psychiatric outpatients (118 females; mean age 48.6 ± 15.6 years, and 70 males; mean age 43.5 ± 14.6 years) from the Semmelweis University, Faculty of Medicine, Department of Psychiatry and Psychotherapy were examined. The control group consisted of 173 healthy individuals with no psychiatric history. Oral health status was evaluated using the DMF-T index, Bleeding on Probing (BOP), and Periodontal Probing Depth (PPD). Data distribution was assessed using the Shapiro-Wilk test, and group differences were analyzed using Mann-Whitney-U tests. **Results:** Psychiatric patients exhibited significantly higher DMF-T values than controls for both sexes (males: 15.97 ± 6.67 vs. 12.77 ± 7.65, p=0.0153; females: 17.57 ± 7.23 vs. 14.39 ± 8.29, p=0.0069). PPD was also significantly greater among psychiatric patients (males: 2.75 ± 1.03 mm vs. 2.20 ± 0.68 mm, p=0.0001; females: 2.40 ± 1.15 mm vs. 1.90 ± 0.81 mm, p=0.000007). BOP did not differ significantly between groups. **Conclusions:** Psychiatric outpatients demonstrated substantially poorer oral health compared to healthy individuals, with higher caries experience and more severe periodontal inflammation. These findings underscore the need for integrating oral health screening and preventive strategies into psychiatric care to reduce long-term morbidity and improve overall quality of life.

Keywords: psychiatric disorders, xerostomia, oral health, DMF-T

ADVANCES IN PERIODONTAL REGENERATION: IS HYALURONIC ACID A VALID ALTERNATIVE TO ENAMEL MATRIX DERIVATIVE?

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Background: Periodontitis is a chronic inflammatory disease that often leaves residual periodontal pockets after initial therapy, especially in sites with intrabony defects. Modern regenerative methods typically use biologic elements like enamel matrix derivative (EMD), but recent studies have explored hyaluronic acid (HA) as a promising adjunct due to its anti-inflammatory, wound-healing, and matrix-modulating properties. However, there is currently no consensus on the best indications or formulations of HA use for periodontal regeneration. **Material and methods:** A structured literature review was performed in PubMed Central focusing on clinical trials and randomized controlled trials published within the last five years. The search included the terms (hyaluronan OR hyaluronic acid) AND periodontitis, limited to English-language, open-access, human clinical studies. Out of 21 identified papers, 20 met the inclusion criteria and were evaluated for clinical outcomes, defect morphology, adjunctive effects, and comparisons with established biomaterials like EMD. **Results:** In the included trials, HA showed measurable benefits in soft tissue wound healing, reducing postoperative discomfort, improving probing pocket depth (PPD) and clinical attachment loss (CAL) when used alongside professional mechanical plaque removal (PMPR), scaling and root planing (SRP), minimally invasive non-surgical technique (MINST), or regenerative surgery. Cross-linked HA (xHyA) demonstrated the most consistent improvements, especially in intrabony defect therapy, though differences compared to EMD were generally not significant in short-term follow-ups. Studies on HA use in suprabony defects, palatal donor sites, frenectomy healing, and diabetic patients also reported enhanced soft tissue response. However, several trials noted limitations such as small sample sizes, heterogeneity in HA formulations, lack of defect morphology documentation, and short follow-up periods. **Conclusions:** The current evidence suggests that HA is a viable adjunct in periodontal therapy, providing favorable clinical outcomes comparable to EMD in selected intrabony defects and additional benefits for soft tissue wound healing. More standardized, long-term studies with detailed defect characterization are needed in order to establish definitive clinical indications and the most effective HA formulations for regenerative periodontal treatments.

Keywords: hyaluronic acid, periodontal regeneration, intrabony defects, residual pockets, periodontitis

ONE STAGE VERSUS TWO STAGE ALVEOLAR RIDGE SPLIT FOR DENTAL IMPLANT REHABILITATION – A RETROSPECTIVE STUDY

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Background: Although single-stage alveolar ridge split (ARS) is claimed to give very good results in most cases, various authorshave mentioned some disadvantages, namely intra- and postoperative complications: dehiscence, fracture, exposure, infection, badsplit. A modified technique, consisting of two or even three-stage ARS, has been proposed to overcome these drawbacks. **Material and methods:** Twenty consecutive edentulous pacients who underwent the bone split technique, 14 in one-stage and 6 in two-stage, were retrospectively analyzed. Osteotomies were performed in both cases using a piezosurgical device; in the one-stage technique, minimal periosteal elevation at the crest was followed by immediate implant insertion fillling biomaterial, without osteosynthesis; in the two-stage technique, the first operation involved complete buccal flap elevation and rectangular osteotomy, and the second operation involved limited flap elevation, ARS, implant placement, along with synthetic filler (Ethoss®), and transmucosal osteosynthesis. We monitored the intra- and postoperative complication rate, as well as the dimensional stability ofthe bone. **Results:** Single-stage ARS was associated with a much higher rate of intra- and postoperative complications in themandible than the two-stage technique and also with greater alveolar ridge resorption in both the maxilla and mandible. Two-stageARS was applied only to the mandible in our cases and only few and manageable complications were noted. **Conclusions:** Single-stage ARS appears to be risky when applied to the mandible, whereas the two-stage technique offers much greater safety. The needfor preservation of periosteal vascularity at reentry in the two-stage technique should be further investigated, as our results suggestthat it is not mandatory, probably due to the regional acceleratory phenomenon.

Keywords: alveolar ridge split, two-stage osteotomy, dental implants, regional acceleratory phenomenon, complications

IN VITRO COMPARISON OF CANDIDA ADHESION ON DENTURE RESINS

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Background: The adhesion of Candida species to dental materials plays a crucial role in the development of prosthesis-related oral infections. Surface topography and fabrication technique may significantly influence microbial colonization. This in vitro study aimed to evaluate and compare the adhesion of Candida albicans and Candida krusei on three types of denture base materials—conventional heat-polymerized resin, CAD/CAM milled resin, and 3D-printed resin—under two surface conditions (polished and unpolished). **Material and methods:** Standardized samples were prepared for each material and surface condition. The specimens were incubated with standardized suspensions of C. albicans and C. krusei. After incubation, the non-adherent cells were removed, and the remaining biofilm was quantified using the crystal violet assay. Optical density values were measured spectrophotometrically to assess the degree of microbial adhesion. Data were analyzed statistically to determine the influence of material type and surface roughness on biofilm formation. **Results:** Candida albicans exhibited higher adhesion levels than Candida krusei across all materials. The unpolished samples showed significantly higher biofilm formation compared to the polished ones . Among the materials tested, the conventional heat-polymerized resin and 3d-printed resins demonstrated the highest degree of adhesion, while the milled resin showed the lowest. **Conclusions:** Surface finishing and fabrication method significantly affect Candida adhesion on denture base materials. Polishing procedures and the use of milled resins may reduce microbial colonization, contributing to improved prosthetic hygiene and longevity.

Keywords: Candida albicans, Candida krusei, CAD/CAM, 3D printing, Biofilm adhesion

DERMATOLOGY

NON-INVASIVE TESTS FOR MONITORING LIVER ACTIVITY IN PATIENTS WITH PSORIASIS – A CASE-BASED LITERATURE REVIEW

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Background: Psoriasis is an autoinflammatory systemic disease associated with increased metabolic risk and a higher prevalence of hepatic steatosis. Several systemic therapies for psoriasis may further increase the risk of liver fibrosis in these patients. **Material and methods:** This paper reviews recent advances in non-invasive strategies for monitoring hepatotoxicity in psoriasis patients receiving systemic therapy. To illustrate the practical use of modern monitoring tools, we present the case of an adult patient with psoriasis vulgaris treated with methotrexate (MTX), monitored exclusively with minimally invasive tests. **Results:** Classical immunosuppressants and biologic agents are frequently used in psoriasis, however, MTX remains the primary concern regarding hepatotoxicity. Transient elevation of liver enzymes is common in patients treated with MTX, while fibrosis and cirrhosis may occur with long-term use, requiring close monitoring. For decades, liver biopsy was considered the gold standard for fibrosis assessment; however, current guidelines favor non-invasive methods. Imaging techniques such as transient elastography and magnetic resonance elastography, alongside serum biomarkers such as FibroTest, FIB4, ELF (Enhanced Liver Fibrosis) score are now recommended for monitoring liver toxicity in psoriasis patients treated with MTX. Updated clinical guidelines now provide clear recommendations to optimize MTX therapy while ensuring patient safety. **Conclusions:** The implementation of non-invasive tests for evaluating liver fibrosis has improved the monitoring of patients with psoriasis undergoing systemic treatment, enhancing both patient safety and adherence to long-term therapy.

Keywords: psoriasis, liver fibrosis, non-invasive tests, methotrexate

THE ROLE OF CHRONIC INFLAMMATION IN CHRONIC VENOUS INSUFFICIENCY VERSUS HYPERTROPHIC LICHEN PLANUS

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Background: Chronic venous insufficiency and hypertrophic lichen planus are two types of inflammatory skin disorders, each presenting distinct pathophysiological mechanisms and clinical manifestations, with a predilection for localization at the level of the lower limbs. **Material and methods:** The aim of this paper is to synthesize data from the specialized literature regarding inflammatory mechanisms in chronic venous insufficiency and hypertrophic lichen planus, and to present a clinical case that associates the two cutaneous pathologies. **Results:** The main causes of the inflammatory process in chronic venous insufficiency consist of prolonged venous hypertension and valvular incompetence, which lead to the activation of endothelial cells. These cells subsequently release a large number of adhesion molecules, promoting the recruitment of circulating leukocytes to the venous wall, along with the release of pro-inflammatory mediators involved in the inflammatory response. This ultimately results in remodeling of the venous wall and perivascular tissues, fibrosis, and eventually the development of venous ulcers. Oxidative stress and reduced nitric oxide bioavailability further contribute to the worsening of vascular lesions and the persistence of chronic inflammation. While chronic venous insufficiency involves hemodynamically induced inflammation, hypertrophic lichen planus develops immune-mediated inflammation, driven by T lymphocytes and the Th1/IFN-☒ response. Inflammation manifests through dense lymphocytic infiltrates at the dermo-epidermal junction, marked epidermal hyperplasia and microvascular dilation. **Conclusions:** Although inflammation plays a key role in both conditions, its origin and manifestations may differ significantly.

Keywords: chronic venous insufficiency, hypertrophic lichen planus, inflammation

ENT (OTORHINOLARYNGOLOGY)

CLINICAL AND PATHOLOGICAL PROFILE OF LARYNGECTOMIZED PATIENTS IN TRANSYLVANIA

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Background: Laryngeal cancer remains a significant health burden in Central and Eastern Europe, yet regional data on the clinical and pathological profile of patients undergoing total laryngectomy are limited. This study aimed to describe the demographic characteristics, risk factor distribution, diagnostic timelines, and tumor pathology of laryngectomized patients treated at a tertiary center in Transylvania. **Material and methods:** We performed a retrospective analysis of patients who underwent total laryngectomy between 2016 and 2020 at the Otorhinolaryngology Clinic of Târgu Mureș. Data collected included age, sex, smoking habits and alcohol consumption, occupational exposures, comorbidities, symptoms, need for preoperative tracheostomy, time intervals from symptom onset and biopsy to surgery, TNM classification, tumor margin status, perineural and lymphovascular invasion, and ASA score. Descriptive statistic and bivariate analyses were used to characterize patterns and associations within the cohort. **Results:** Most patients were male and long-term smokers, with dysphonia being the most common presenting symptom. Advanced-stage disease (T3-T4) was frequent and associated with longer symptom-to-treatment intervals, presence of preoperative tracheostomy, and higher comorbidity burden. Perineural and lymphovascular invasion occured predominantly in patients with advanced tumors. **Conclusions:** Laryngectomized patients in the examineda region exhibit high rates of risk-factor exposure, delayed presentation, and advanced stage disease. These findings highlight the need for improved early detection strategies and targeted risk-reduction interventions in the region.

Keywords: laryngectomy, cancer, tracheostomy

THE GEOMETRY OF SLEEP- PREDICTING OSA THROUGH CEPHALOMETRY

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Background: Obstructive Sleep Apnea (OSA) is a chronic disorder characterized by recurrent episodes of airflow limitation during sleep, leading to intermittent hypoxia and sleep fragmentation. Given that craniofacial structures influence airway stability, radiographic cephalometric parameters have gained interest as potential markers of disease severity. This study aimed to explore the relationship between three cephalometric indicators—mandibular plane to hyoid distance (MPH), pharyngeal airway space (PAS), and uvula length—and the apnea-hypopnea index (AHI). **Material and methods:** A total of 152 patients diagnosed with OSA were retrospectively evaluated (138 men and 14 women; age range 47-102). All participants underwent overnight polysomnography, and cephalometric measurements were obtained from lateral head radiographs. Correlations between AHI and the selected anatomical variables were examined using Spearman's nonparametric method. **Results:** Two cephalometric parameters demonstrated weak yet statistically significant positive associations with AHI: MPH ($p = 0.036$; $r = 0.1699$) and uvula length ($p = 0.01$; $r = 0.208$). PAS showed no significant relationship with OSA severity ($p = 0.176$; $r = -0.11$), suggesting that this dimension may not reliably reflect airway compromise in this cohort. **Conclusions:** MPH and uvula length appear to have modest predictive value in estimating the severity of OSA and may assist clinicians when integrated with standard diagnostic tools such as polysomnography. While cephalometric analysis alone cannot define disease severity, it may contribute to a more comprehensive pre-treatment evaluation.

Keywords: Obstructive Sleep Apnea, Craniofacial Morphology, Cephalometric Indicators, Airway Assessment, Apnea–Hypopnea Index

GENETICS

THE IMPACT OF GENETIC VARIATION ON PHENOTYPE AND THERAPEUTIC RESPONSE TO LANADELUMAB IN A FAMILY WITH HEREDITARY ANGIOEDEMA TYPE 2

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Background: The C1-inhibitor (C1INH) deficiency related hereditary angioedema (HAE) results from various mutations in the SERPING1 gene. The severity and clinical manifestations of the disease can differ significantly, even among family members carrying the same mutation. The aim of this study was to evaluate the genotype-phenotype correlation and assess the effectiveness of lanadelumab therapy in a family with HAE-C1INH type 2. **Material and methods:** The phenotype was assessed based on the age at symptom onset, C4 levels, C1-INH esterase levels at diagnosis, and a clinical severity score, and was compared among family members. For patients receiving lanadelumab therapy, the Angioedema Control Test (AECT), Angioedema Quality of Life Questionnaire (AE-QoL), and attack frequency were evaluated before and after treatment initiation. **Results:** In the analysed family, 15 affected members were identified across four generations, eight of whom are currently followed at our center. A missense mutation in exon 8 of the SERPING1 gene was detected in five of these patients. At diagnosis, all five patients had undetectable C1-INH activity, symptom onset before the age of 10 years, and a clinical severity score greater than six. Three patients are currently receiving lanadelumab therapy. One patient became symptom-free after the first dose, while the remaining two experienced a significant reduction in attack frequency. **Conclusions:** Our findings highlight the marked variability in clinical expression of HAE-C1INH type 2, even among carriers of the same SERPING1 mutation. Early onset and low C1-INH activity were associated with more severe disease. Lanadelumab proved highly effective in preventing attacks and improving disease control in affected family members, supporting its use as a long-term prophylactic therapy in HAE-C1INH type 2.

Keywords: hereditary angioedema, genotype, phenotype, lanadelumab

MYELOPROLIFERATIVE NEOPLASMS - TESTING OPTIONS

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Background: The *BCR-ABL1*-negative myeloproliferative neoplasms consist of primary myelofibrosis, essential thrombocythemia, and polycythemia vera. The precise diagnosis necessitates the identification of mutations in the *JAK2, CALR*, and *MPL* genes. Behind these driver mutations, additional genetic alterations have also been identified. The coexistence of multiple mutations within a single patient is associated with reduced overall survival and a heightened risk of leukemic transformation. **Material and methods:** In rapid molecular evaluation of driver mutations, techniques such as real-time PCR, fragment analysis, and MLPA are particularly valuable. For patients who are triple-negative for driver mutations, next-generation sequencing is indispensable. **Results:** The application of these diagnostic methods has helped resolve findings that were previously regarded as inconclusive. **Conclusions:** New technologies show that clinically relevant information extends beyond the determination of driver mutations. It is essential to understand the specific characteristics of each molecular technique employed in the diagnosis of myeloproliferative neoplasms. **Acknowledgment:** This work was supported by the project "Dezvoltarea cercetării genomice în România (ROGEN)", contract no. 96006/17.12.2024, project code SMIS 324809. Funding was provided by The Ministry of Investments and European Projects, through the Managing Authority for the Health Program, PS/272/PS_P5/OP1/RSO1.1/PS_P5_RSO1.1_A9-ROGEN.

Keywords: myeloproliferative neoplasms, driver mutations, next-generation sequencing, molecular techniques

HEMATOLOGY

DIFFERENCES IN ANEMIA SEVERITY AMONG EMERGENCY DEPARTMENT PATIENTS: INSIGHTS FROM HUNGARY AND ROMANIA

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Background: Anemia remains a prevalent and multifactorial condition in patients presenting to emergency departments, reflecting both acute and chronic disease burdens. Despite its clinical and economic significance, data on anemia prevalence in Central European emergency care are limited. The aim of the study was a bicentric retrospective study aimed to compare the prevalence and severity of anemia among adult patients presenting to the EDs of the University of Pécs Clinical Centre (Hungary) and the Emergency County Hospital of Târgu Mureș (Romania) from January to June 2023. **Material and methods:** Electronic laboratory results of adult patients were analyzed. Anemia was defined according to WHO criteria (Hb Results: Among 27,525 patients included (13,691 from Pécs; 13,834 from Târgu Mureș; median age 61 years; 51.9% females), the overall anemia prevalence was 22.7% (95% CI: 22.2–23.2), comparable between sites. However, severe anemia was significantly more frequent in Târgu Mureș (2.7% vs. 1.5%, pConclusions: Although the overall anemia prevalence was comparable between the two centers, marked regional differences could be observed in severity, suggesting distinct underlying determinants. These results highlight the need for country-specific patient blood management strategies and enhanced screening for background diseases and nutritional etiologies.

Keywords: anemia, iron deficiency, severity, prevalence, screening

HYGIENE

THE QUALITY OF THE ARTIFICIAL INTELLIGENCE CHATBOT RESPONSES REGARDING CATARACTS

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Background: In the era of digitalisation, online medical information has become highly accessible both for medical professionals and patients. AI-powered chatbots are rapidly emerging as innovative tools in the rapid dissemination of medical information online. While they are heading towards revolutionising healthcare, assessing the safety of these tools is critical. Therefore, this study was designed to evaluate the accuracy and completeness of chatbot answers in English regarding one of the most common eye disease, cataracts. **Material and methods:** The information about cataracts provided by the most commonly used AI chatbots (ChatGPT 4.0 and 5.0, Gemini, Claude, Copilot, Mistral, Deepseek) in English was evaluated against an evidence-based benchmark, containing 22 items. Two scenarios were designed to prompt the chatbots: (A) one single broad question about cataracts; (B) 22 specific questions following the benchmark items. Completeness and accuracy were calculated on a scale from 0 to 10. For scenario B only accuracy was evaluated. Mean completeness (scenario A) and accuracy (scenario A and B) scores were calculated and compared performing t-test at alpha 0.05 using Graphpad. **Results:** The overall completeness score in scenario A was 4.3, with Deepseek achieving the highest score (5.5). The overall accuracy was 5.0, with Claude obtaining the highest score (6.3). Scenario B showed an overall accuracy of 9.1 with Deepseek and Claude sharing the highest accuracy score (9.5). The mean completeness and accuracy scores in scenario A did not differ significantly (p=0.3265). In contrast, the difference in accuracy scores between scenarios A and B was highly significant (p=0.0001). **Conclusions:** The completeness score was moderate for scenario A. Accuracy scores were low in scenario A and high in scenario B. There was a statistically significant difference between the accuracy for scenario A vs B, therefore asking specific questions entails a more accurate answer.

Keywords: artificial inteligence, cataracts, benchmark, completeness, accuracy

INFECTIOUS DISEASES

HIV-1 MATRIX PROTEIN P17 VARIANTS AS PREDICTORS OF LYMPHOMA RISK USING NOVEL SEQUENCING-BASED APPROACHES

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Background: The HIV-1 matrix protein p17, primarily involved in viral assembly and maturation, has recently been implicated in lymphomagenesis. Specific molecular insertions within p17 generate distinct variants (vp17), some of which are more prevalent in HIV-1 positive patients with lymphoma than in those without. This study aims to explore the potential of these variants as biomarkers for predicting lymphoma risk in HIV-1 positive individuals, employing ultradeep sequencing technologies such as next-generation sequencing (NGS). **Material and methods:** A comprehensive English literature search was performed in PubMed using the keywords "HIV-1 matrix protein p17", "p17 variants", "HIV-related lymphoma", and "sequencing". Studies published within the last 15 years were included, and reference snowballing complemented the selection process. **Results:** Mutations in p17 destabilize the protein and induce misfolding, thereby exposing the clonogenic epitope in the globular head (amino acids 1-20), which is normally masked by steric hindrance. Experimentally induced deletions (C-terminal 36-amino-acid truncation), substitutions (such as the patient-derived S75X variant, in which Glycine replaces Arginine at position 76), and C-terminal insertions observed in patients all confer clonogenic B-cells activity to vp17 via this mechanism. Sanger sequencing of plasma samples from HIV-1 positive individuals with lymphoma revealed a higher frequency of p17 insertions at positions 114-115 (Glu-Lys), 117-118 (Ala-Ala), and 125-126 (Gly-Asn) compared with HIV-1 positive controls without lymphoma. NGS, as a second-generation sequencing approach, enables rapid, high-throughput detection and quantification of minor viral variants, even at frequencies as low as 1%, providing a significant advantage for detailed viral profiling. **Conclusions:** A standardized NGS protocol, coupled with a dedicated bioinformatic pipeline, could be developed and routinely applied to monitor clonogenic p17 mutations in HIV-1 positive patients. This approach would serve as a longitudinal screening tool for lymphoma risk assessment and open avenues for targeted preventive strategies to reduce lymphoma incidence in this population. Acknowledgements: Research funded by PNRR/2022/C9/MCID/I8, grant no.760252/28.12.2023.

Keywords: protein p17 variants, HIV-related lymphoma, clonogenic B-cell activity, next-generation sequencing

MECHANISTIC AND THERAPEUTIC INSIGHTS INTO HIV-1 MATRIX PROTEIN P17 VARIANTS DRIVING LYMPHOMAGENESIS

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Background: Emerging research indicates that HIV-1 matrix protein p17 variants (vp17s) significantly contribute to the risk of B-cell lymphomas. Structural insertions in the C-terminal region destabilize the p17 hydrophobic core and expose functional epitopes such as the AT20 loop. This enables vp17s to aberrantly activate PAR1, EGFR, PI3K/Akt, and CXCR1/2 signaling, promoting B-cell proliferation, angiogenic and lymphangiogenic remodeling.This study aims to clarify how vp17s drive B-cell transformationand lymphomagenesis, in order to identify vp17s-related molecular pathways that represent promising targets for precisiontherapies. **Material and methods:** A comprehensive PubMed literature search was performed using the terms "HIV-1 matrixprotein," "p17 variants," "AT20 loop," "B-cell clonogenic activity," and "lymphomagenesis." Only English-language studiespublished in the last 10 years were included. Reference snowballing was used to capture all relevant studies. **Results:** Vp17spromote lymphomagenesis through structural alterations that expose the AT20 functional epitope. Insertions at positions 117-118 or 125-126 destabilize the hydrophobic core, revealing AT20 loop and enabling aberrant PAR1 engagement, EGFR transactivation, and robust PI3K/Akt activation. This cascade enhances B-cell proliferation and resistance to apoptosis, while AT20-mediated binding to CXCR1/2 drives angiogenesis and lymphangiogenesis. These mechanisms offer multiple therapeutic opportunities. AT20 loop-directed monoclonal antibodies can block vp17 binding to PAR1 and CXCR1/2, and AT20-based vaccines can induce neutralizing antibodies. Inhibiting the PAR1-EGFR-PI3K/Akt axis represents another promising strategy: MMP inhibitors such as Batimastat and Ilomastat reduce EGFR transactivation, while oncology small-molecule inhibitors—including PI3K inhibitors (e.g., Idelalisib), Akt inhibitors (e.g., MK-2206), and mTOR inhibitors (Everolimus, Temsirolimus)—can suppress vp17-driven proliferative and survival signaling. **Conclusions:** vp17s drive HIV-associated lymphomagenesis by exposing the AT20 epitope and activating PAR1-EGFR-PI3K/Akt and CXCR1/2 pathways, promoting B-cell transformation and lymphangiogenesis. AT20-targeted antibodies or vaccines and PAR1/PI3K/Akt inhibitors represent emerging precision therapies for affected patients. These insights highlight urgent clinical opportunities to counter vp17-driven oncogenic signaling in HIV-positive populations today. Research funded by PNRR/2022/C9/MCID/I8, grant n. 760252/28.12.2023

Keywords: HIV-associated lymphoma, vp17s, p17 variants, lymphomagenesis, targeted therapy

CASE-BASED LONGITUDINAL ANALYSIS OF A VERTICALLY HIV-INFECTED CHILDWITH CHRONIC RESPIRATORY FAILURE AND RECURRENT OPPORTUNISTICINFECTIONS

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Background: Vertically acquired HIV infection in infancy is commonly associated with rapid immune deterioration, recurrent severe infections, and major vulnerability in socioeconomically disadvantaged settings. This study summarizes the longitudinal clinical evolution of a male infant diagnosed with HIV infection, clinical-immunologic stage C3, followed across sixhospitalizations between August 2024 and October 2025 at the Infectious Diseases Clinic I, Târgu Mureş, Romania. **Material and methods:** A retrospective review was performed for six hospital admissions (August 2024; October 2024; January, February, July,and October 2025). Clinical progression, laboratory data, CD4 count, HIV RNA, imaging findings, and therapeutic interventionswere analyzed. The patient received antiretroviral therapy (abacavir, lamivudine, dolutegravir), secondary prophylaxis (co-trimoxazole, valganciclovir), and prolonged anti-tuberculosis treatment. **Results:** At initial diagnosis (August 2024, age 4 months),the infant presented with severe bilateral bronchopneumonia, acute respiratory failure, Candida stomatitis, gastrointestinalbleeding, malnutrition, hepatocytolysis, high HIV viral load, and profound immunosuppression (CD4 = 251 cells/mm³). DuringOctober 2024, he experienced respiratory deterioration, CMV viremia, C. difficile toxin positivity, hematochezia, and CT-confirmed pneumatosis intestinalis, requiring temporary cessation of ART and anti-tuberculosis therapy. By January 2025, partial immune restoration was observed (CD4 = 580 cells/mm³; HIV RNA undetectable). In February 2025, he was readmitted with bilateral pneumonia and acute-on-chronic respiratory failure. In July 2025, he developed acute gastroenterocolitis due to Enteropathogenic *Escherichia coli* and Sapovirus, with newly detectable HIV RNA (819 copies/mL) despite preserved CD4 count (1063 cells/µL), suggesting inconsistent adherence. The final admission (October 2025) involved severe bilateral pneumonia, markedly elevated inflammation markers (CRP 316 mg/L; leukocytes 30×10^9/L), and thrombocytosis. Clinical improvement occurred under antibiotics and corticosteroids, but the mother prematurely requested discharge. **Conclusions:** This six-episode longitudinal observation highlights the fragile clinical balance of pediatric AIDS, where recurrent respiratory and gastrointestinal infections, malnutrition, and inconsistent ART adherence hinder immune recovery and long-term virologic suppression. Optimal outcomes require rigorous adherence, support, and integrated multidisciplinary management.

Keywords: Pediatric HIV, Vertical transmission, Opportunistic infections, Antiretroviral therapy, Infectious Diseases

PREVALENCE AND DETERMINANTS OF DYSLIPIDEMIA IN PLWH

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Background: With the advance and widespread availability of antiretroviral therapy, HIV has transitioned to a chronic and manageable condition. The attention shifted towards non-AIDS comorbidities, most notably cardiometabolic disease. The metabolic syndrome is an important cause of morbidity in people living with HIV and a major component in the development of cardiovascular disease, having a more complex etiology in this population. It involves the traditional risk factors as well as the antiretroviral therapy and chronic inflammation. **Material and methods:** We aimed to determine the prevalence of metabolic syndrome in people living with HIV and identify independent clinical, biochemical and HIV related risk factors. We conducted a cross-sectional study on over 300 PLWH, receiving routine care at the Mureș County Hospital, who have at least one clinical and paraclinical follow-up after 2024. We collected data on demographics, anthropometrics and biochemistry most notably: blood glucose levels and lipid profile. Systemic inflammation was determined using CRP and HIV characteristics included: viral load, lymphocyte CD4 count. **Results:** The cross-sectional study cohort had 321 patients, from which 65% were male, with a medianage of 36 years and a median exposure of 10 years to ARV. All patients receive a combination of antiretroviral therapy, across thecohort viral suppression was achieved in 85% of cases and 69% had a CD4 lymphocyte count over 450/µl. Key anthropometricand metabolic parameters revealed a median BMI of 24.96 kg/m², with 48.3% being overweight or obese. The lipid profile showeda high prevalence of hypertriglyceridemia and high LDL-cholesterol levels in 43.35% of cases and 29.16% respectively. The fasting blood glucose levels were elevated only in 8.43% **Conclusions:** This cohort of mostly virally suppressed PLWH, indicates a persistent burden for metabolic risk due to widespread dyslipidemia, alongside high rates of obesity. These findings confirm that cardiovascular risk factors, remain a challenge for the chronic HIV infection.

Keywords: HIV, dyslipidemia, obesity, metabolic syndrome

INTERNAL MEDICINE

PROGRESSION PATTERNS OF GASTRIC PRECANCEROUS LESIONS IN AUTOIMMUNE AND HELICOBACTER PYLORI GASTRITIS: INSIGHTS FROM A ROMANIAN LONGITUDINAL COHORT STUDY

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Background: Current guidelines acknowledge uncertainty regarding optimal surveillance intervals for autoimmune gastritis, recommending "individualized assessment" without evidence-based criteria. This study provides a head-to-head comparison of progression rates between autoimmune and H. pylori gastritis in an Eastern European population. **Material and methods:** Retrospective cohort study of 117 patients (52 autoimmune, 65 H. pylori gastritis) at Târgu Mureş County Hospital (2013-2024) with serial endoscopies using systematic five-site biopsies (median follow-up 60 and 49 months respectively). Autoimmune gastritis was classified by corpus-predominant histological patterns with H. pylori negativity. Primary outcomes included development and progression of glandular atrophy and intestinal metaplasia, analyzed using Kaplan-Meier curves and Cox regression. **Results:** Overall progression occurred in 63.5% of autoimmune versus 36.9% of H. pylori patients (p=0.003). Autoimmune gastritis demonstrated substantially greater lesion advancement: atrophy increased 48.1 percentage points (17.3% to 65.4%, p<0.001) versus 15.7 points in H. pylori gastritis. Intestinal metaplasia increased 40.4 points versus 17.2 points respectively. Reversibility was minimal in autoimmune gastritis (5.8% atrophy resolution, 0% metaplasia resolution) compared to H. pylori gastritis (10.8% and 6.2%). Among H. pylori patients, sustained eradication showed intermediate progression rates (42.9%) versus persistent infection (70.0%). PPI use showed no differential effect between gastritis types (p=0.536). Clinical risk factors failed to predict progression (AUC=0.499). **Conclusions:** Autoimmune gastritis exhibits significantly more aggressive progression with minimal reversibility, highlighting the need for etiology-specific surveillance strategies. Progression rates in this Romanian cohort substantially exceed Western European rates, emphasizing the importance of population-adapted surveillance protocols.

Keywords: autoimmune gastritis, Helicobacter pylori, gastric precancerous lesions, progression, prevention

MICROBIOLOGY

MICROCYTIC VERSUS MACROCYTIC ANEMIA: A COMPARATIVE ANALYSIS OF CLINICAL, ENDOSCOPIC, AND LABORATORY PROFILES

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Background: Anemia remains a significant global health burden, with serious implications for patient morbidity and healthcare resource utilization. The differentiation between microcytic and macrocytic anemia subtypes remains fundamental for accurate diagnosis and targeted therapeutic interventions implementation. This study aimed to evaluate and compare clinical manifestations, laboratory parameters, endoscopic and histopathologic changes in patients presenting with microcytic or macrocytic anemia. **Material and methods:** This retrospective single-center analysis enrolled 218 patients admitted at the Emergency County Hospital of Targu Mures, Romania (2019-2024), of whom 149 presented with microcytic anemia and 69 with macrocytic anemia. Clinical manifestations, upper gastrointestinal endoscopic features, and systematic laboratory evaluation (hemoglobin concentration, mean corpuscular volume, serum iron, coagulation indices, metabolic and inflammatory biomarkers) were compared between groups. **Results:** Clinical presentation, including epigastric pain, heartburn, bloating, nausea/vomiting, loss of appetite and unintentional weight loss, showed no statistically significant differences between microcytic and macrocytic anemia groups (all $p > 0.05$). As expected, alcohol consumption rates were higher in those with macrocytic anemia (OR = 0.5375, 95% CI 0,2955 to 0,9848, $p = 0.0456$). Endoscopic evaluation revealed comparable prevalence rates of gastric erythema, erosive gastritis, submucosal hemorrhage, ulcer, and duodenal lesions (all $p > 0.05$). Similarly, histopathological analyses (including Helicobacter pylori-associated/non-infectious gastritis, and premalignant gastric lesions) yielded no significant differences. Regarding laboratory parameters, significantly lower hemoglobin levels were present in patients with microcytic anemia compared to macrocytic anemia (9.1 vs. 10 g/dL, $p = 0.0286$). Other measured parameters did not differ significantly between groups (all $p > 0.05$). **Conclusions:** Although clinical and endoscopic profiles were similar, microcytic anemia was characterized by significantly lower hemoglobin compared with macrocytic anemia, highlighting impaired hemoglobin synthesis as a predominant mechanism. The absence of discriminatory endoscopic or histopathological features suggests that gastrointestinal mucosal findings alone may not distinguish between anemia types, emphasizing the need for targeted laboratory evaluation when differentiating anemic subtypes.

Keywords: microcytic anemia, gastritis, macrocytic anemia, gastric ulcer, H. pylori

NEONATOLOGY

THE ROLE OF INTERLEUKIN-6 AND INTERLEUKIN-8 IN PREDICTING EARLY-ONSET NEONATAL SEPSIS

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Background: Neonates are highly susceptible to infections. Early-onset neonatal sepsis (EONS) occurs within 72 hours of birth and it is usually due to maternal infection. Proinflammatory cytokines such as interleukin-6 (IL-6) and IL-8 have been suggested as novel diagnostic markers, as they have shown an increase within a few hours after onset of infection in neonates. This study aims to assess if these ILs may predict EONS. **Material and methods:** 50 term neonates who were born from pregnancies with maternal-fetal infectious risk admitted to the Neonatal Departments of Clinical County Emergency Hospital of Târgu-Mureş and Mureş County Clinical Hospital during six months were analyzed prospectively. The levels of IL-6 and IL-8 were depicted from blood samples taken from the umbilical cord (UC) of the neonates and from blood samples of their mothers. The neonates were divided into: study group(n=25) and control group(n=25). **Results:** The two study groups were similar in terms of gestational age(p=0.34), birth weight(p=0.02), length(p=0.2), head circumference(p=0.1), gender distribution(p=0.77) and Apgar score at 5 minutes of life(p=0.72). Statistically significant differences were observed between the two groups in the value of C-reactive protein($p<0.01$), procalcitonin(p=0.03) and neutrophil to lymphocyte ratio($p<0.01$). Among the maternal risk factors identified, we mention rupture of amniotic membranes>18 hours antepartum(0.08, OR=2.70, IC: 0.85-8.19) and lack of maternal antibiotherapy administered antepartum that were associated with EONS(0.39, OR= 1.64, IC:0.51-4.66). UC blood (UCB) IL-6 and IL-8 were higher in study vs control group($p<0.01$). IL-6(p=0.06) and IL-8(p=0.04) detected from maternal blood were higher in control vs study group. UCB ILs and maternal ILs did not present any significant correlation (IL-6: r=-0.15, IC:-0.42-0.13, p=0.28; IL-8: r=0.04, IC:-0.24-0.32, p=0.78). **Conclusions:** IL-6 and IL-8 levels determined from maternal blood reflect rather maternal status and cannot predict EONS. UCB IL-6 and IL-8 may be used as predictive factors for EONS. However, further studies on larger cohorts are needed.

Keywords: neonate, predict, interleukin-6, interleukin-8, early-onset neonatal sepsis

NEUROLOGY

REACHING NEDA-3 UNDER CLADRIBINE TREATMENT IN RELAPSING-REMITTING MULTIPLE SCLEROSIS: A SINGLE-CENTER EXPERIENCE

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Background: Multiple sclerosis is a chronic neuroinflammatory and neurodegenerative disorder affecting the central nervous system, characterized by highly heterogeneous pathologic mechanisms, clinical evolution and response to different disease-modifying treatments (DMT). Cladribine, a nucleoside analog of deoxiadenosine, acts as an immune reconstitution therapy, causing a transient depletion of B and T helper lymphocytes, followed by a recovery phase in which the number of cells returns to normal but with different phenotypes. **Material and methods:** In this retrospective study, data from patients diagnosed with relapsing-remitting multiple sclerosis according to the 2017 McDonald criteria, between 2021 and 2024, were obtained from the preexisting registry and analyzed. The primary outcome was the achievement of "No evidence of disease activity - 3" (NEDA 3). **Results:** A total of 44 patients of the observed cohort completed the two cycles of cladribine. Of these, 25 were females and 19 were males, with a median age of 32 years (interquartile range (IQR) 28-40). Fifteen patients (34%) were treatment- naive, while 29 patients (66%) had received a prior DMT before starting cladribine. The median EDSS score was 3 (IQR 1,5-4,5). At the initiation of treatment, four patients had fewer than 10 MRI T2-FLAIR lesions, 29 patients had between 10 and 20 lesions, and 3 patients had more than 20 lesions. After completing two full courses of cladribine treatment, 23 patients (52%) achieved NEDA-3. Among those who did not meet the criteria for NEDA-3, 8 experienced EDSS progression, 12 developed new symptoms, and 6 had new MRI lesions. **Conclusions:** Given the heterogeneity of treatment response in multiple sclerosis, there is a need for a reliable biomarker that can accurately predict individual patient response to treatment.

Keywords: Multiple sclerosis, Cladribine, NEDA-3, Biomarker

FIRST CLINICAL EXPERIENCE WITH FCRN BLOCKADE USING EFGARTIGIMOD ALPHA IN REFRACTORY MYASTHENIA GRAVIS

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Background: Myasthenia gravis (MG) is an autoimmune disease mediated by antibodies directed against nicotinic acetylcholine receptors (AChR) or associated proteins (MuSK, LRP4), leading to fluctuating muscle weakness. Blockade of the neonatal Fc receptor (FcRn) is an innovative therapeutic strategy, designed to reduce the circulating levels of IgG involved in neuromuscular junction dysfunction. Efgartigimod alpha, the first FcRn antagonist approved for clinical use, has shown efficacy in refractory, anti-AChR-positive MG. This paper presents the first two cases of generalized MG treated with efgartigimod in our clinic and evaluates their clinical evolution. **Material and methods:** We analyzed the evolution of two patients with refractory anti-AChR positive MG, both with a history of thymectomy and long-term evolution (15 and 24 years). Efgartigimod was administered at a dose of 10 mg/kg weekly for four weeks, followed by a four-week pause, in repeated cycles. Monitoring was performed through Myasthenia Gravis Activities of Daily Living (MG-ADL) and Quantitative Myasthenia Gravis (QMG) scores, the need for symptomatic treatment and adverse events. **Results:** The first patient completed 10 treatment cycles with a sustained favorable outcome. Both subjective and objective assessments demonstrated an improvement in disease severity, with the MG-ADL score decreasing from a mean of 4.5 ± 2.3 at the first infusion to 0.5 ± 0.52 at the fourth, and QMG scores from 10.5 ± 2.22 to 7.3 ± 1.76. The second patient exhibited a limited response, with a 2-point decrease in MG-ADL and a 4-point reduction in QMG in the first cycle. Two weeks after treatment, she developed bronchopneumonia followed by clinical deterioration requiring intensive care admission. **Conclusions:** Efgartigimod therapy provides significant and sustained clinical improvement in patients with refractory MG, allowing for reduction of corticosteroid therapy and improvement of living. However, its efficacy and safety profile require careful patient selection and rigorous monitoring of infectious risk during FcRn-targeted treatment.

Keywords: myasthenia gravis, FcRn blockade, refractory autoimmune disease, neuromuscular disease

ENHANCING REHABILITATION IN STROKE PATIENTS USING AUGMENTED VIRTUAL REALITY.

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Background: The aim of the present study is to evaluate the efficacy of the non immersive virtual reality therapy(augmented virtual reality) using the Kinect sensor and the MIRA platform in the improvement of motor control and motor function of the paretic upper limb in stroke patients. **Material and methods:** 17 patients diagnosed with stroke and hemiparesis were randomized in two groups: the active study group and the control group. The patients in the control group benefited from a 10-day conventional rehabilitation treatment, while hospitalized in the Neurorehabilitation Unit, consisting from: massage, one session/day, kinetotherapy, one session/day, physiotherapy, 2 sessions/day. The active group received, in addition to the conventional rehabilitation program, a 10 days course of 30 minutes/day virtual reality therapy sessions. The parameters that were followed were: the ARAT test, the Fugl-Meyer test for the upper limb, the 3 meters Up & Go test, the 5 Times Sit to Stand test and the Berg balancescale. **Results:** At the end of the study, a statistically significant ($p<0.05$) improvement of all the study parameters was found in both groups, compared to the initial values, but the improvement in the active group was statistically significantly greater, compared to the control group. **Conclusions:** Virtual reality therapy using the Kinect sensor and the MIRA platform is a promising method for the treatment of stroke patients. It improves the motor control and motor function of the paretic upper limb, as well as the static and dynamic equilibrium of these patients.

Keywords: Stroke, Virtual reality, Rehabilitation, Kinetotherapy, Upper limb

IDENTIFYING BLOOD BIOMARKERS OF POST-STROKE NEUROPLASTICITY

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Background: Angiogenesis and neuroplasticity processes start immediately after an ischemic event, under conditions of hypoxia, inflammation, edema, metabolic disturbances, apoptosis, and neuronal degeneration. The regulatory and inductive mechanisms of angiogenesis are controlled by proteins such as VEGF-A and angiopoietin Ang2. Brain-derived neurotrophic factor (BDNF), fibronectin type III domain-containing 5 (FNDC5), and matrix metalloproteinase 9 (MMP9) are proteins whose activity modulates neuroplasticity and neurogenesis. It has been shown that microglial activation overlaps both temporally and spatially with neuronal remodeling processes, suggesting that microglia may have a significant impact on neuroplasticity in stroke. **Material and methods:** To identify blood biomarkers of neuroplasticity after ischemic brain injury, and assess their predictive potential in post-stroke rehabilitation. **Results:** Progress in stroke rehabilitation relies on clarifying both spontaneous and therapy-induced mechanisms of recovery. Moreover, integrating neural biomarkers into research and clinical practice will support a multimodal assessment of brain function and enhance the ability to predict post-stroke functional outcomes. **Conclusions:** Investigating these factors is essential for understanding the mechanisms underlying neurological recovery, as well as for developing predictive models and personalized post-stroke rehabilitation strategies.

Keywords: neuroplasticity, ischemic stroke, biomarkers

NUTRITION AND DIABETES

INDUCTION OF GESTATIONAL DIABETES MELLITUS IN EXPERIMENTAL ANIMAL STUDIES

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Background: This study aimed to identify the different experimental models of gestational diabetes mellitus (GDM) and the associated induction methods used in animal studies, through a narrative review of the scientific literature. **Material and methods:** Data were retrieved from scientific databases - PubMed, ScienceDirect, SpringerLink, and Google Scholar - using keywords such as "gestational diabetes mellitus animal model," "streptozotocin-induced GDM," "high-fat diet pregnancy," and "experimental induction of GDM." Of the 132 articles initially identified, 50 full-text English-language articles published up to 2025 were included. These described experimental models of GDM in laboratory animals (rats, mice, sheep, pigs, and dogs). Clinical studies on humans, papers lacking data on induction methods or metabolic parameters, as well as commentaries or reviews without experimental data, were excluded. **Results:** Three main types of models were identified: pharmacological models, based on the administration of diabetogenic substances such as streptozotocin (STZ) or alloxan in sub-diabetogenic doses to produce partial pancreatic ⊠-cell dysfunction; nutritional models, which use hypercaloric diets rich in fats and simple carbohydrates to induce insulin resistance and impaired glucose homeostasis during gestation; and combined models, which associate nutritional exposure with diabetogenic agents, offering a more realistic representation of GDM pathophysiology. Additionally, genetic models were identified, based on the manipulation of genetic factors involved in GDM pathogenesis, such as altered expression of genes regulating glucose metabolism, insulin sensitivity, or placental development. **Conclusions:** In conclusion, experimental models of gestational diabetes mellitus are essential tools for investigating the physiopathological, molecular, and epigenetic mechanisms of the disease. Among all, combined models demonstrate superior translational value in replicating gestational diabetes mellitus. Further research on this topic is required.

Keywords: animal model, gestational diabetes mellitus, review

OPHTHALMOLOGY

UV-A AND RIBOFLAVIN-MEDIATED TARSAL COLLAGEN CROSSLINKING: SAFETY ASSESSMENT THROUGH HISTOLOGICAL AND THERMOGRAPHIC ANALYSIS

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Background: Floppy Eyelid Syndrome (FES) and related lax eyelid conditions are characterized by reduced tarsal rigidity and consequent loss of eyelid support. We evaluated the biological safety of our novel photochemical crosslinking procedure using UV-A radiation and riboflavin to mechanically reinforce tarsal collagen through complementary histological and thermographic assessments. **Material and methods:** Ten ex-vivo ovine upper eyelids were sectioned into four 5 mm tarso-conjunctival segments and submerged in 0.1% riboflavin 5'-monophosphate sodium salt solution in phosphate-buffered saline for 30 minutes. Specimens were irradiated trans-conjunctivally with UV-A (365 nm) at irradiances of 45, 75, 150, and 250 mW/cm² for 3 minutes. Specimens were snap-frozen in optimal cutting temperature medium and cryosectioned. Histological analysis was performed using Hematoxylin & Eosin and Van Gieson staining. In parallel experiments, infrared thermography continuously monitored conjunctival surface temperatures over 3 minutes in twelve full-thickness ovine upper eyelid specimens during irradiation at the same four irradiance levels. **Results:** Histological evaluation revealed no significant tissue injury except minor epithelial alterations in three specimens (one at 75 mW/cm², two at 250 mW/cm²). Deeper structures, including Meibomian glands and tarsal connective tissue, remained intact. Enhanced collagen network organization was observed in all irradiated specimens. Temperature increases (ΔT: 3.3-14°C) showed linear dependence on fluence. At clinically relevant fluence levels (<20 J/cm²), temperatures remained below collagen denaturation thresholds. **Conclusions:** Our multifaceted safety assessment demonstrates negligible tissue injury, with minor epithelial changes likely attributable to surface desiccation, and controlled thermal effects at clinically relevant parameters, supporting tarsal collagen crosslinking as a safe, minimally invasive therapeutic approach for treating eyelid laxity and FES.

Keywords: biological safety, collagen crosslinking, floppy eyelid syndrome, thermal effects, ultraviolet-A radiation

PATHOLOGY

THE INTERPLAY BETWEEN CD4, CD8, PD-L, AND HISTOPATHOLOGICAL PARAMETERS IN GASTRIC ADENOCARCINOMA

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Background: Gastric adenocarcinoma is a biologically heterogeneous malignancy in which the tumor immune microenvironment plays a crucial role. Tumor-infiltrating lymphocytes (TILs), particularly CD4 and CD8 subsets, are key mediators of the antitumor immune response and may influence the expression of immune checkpoint molecules such as PD-L1. Understanding these immune interactions and their association with histopathological parameters may provide insights into tumor behavior and potential predictors of immunotherapy response. The study objective was to digitally quantify CD4 and CD8 TILs in gastric adenocarcinomas and assess their correlation with PD-L1 expression and key histopathological features. **Material and methods:** The study included 133 patients diagnosed with gastric adenocarcinoma at the Mureș County Clinical Hospital. Immunohistochemical staining for CD4 and CD8 T lymphocytes was digitally quantified using QuPath. PD-L1 expression was evaluated by the combined positive score. Based on CD8 TIL density, cases were stratified by the cohort median (high, ≥ 2.90%; low, < 2.90%). The CD8/CD4 ratio was calculated as %CD8/%CD4 and dichotomized at the median (high, ≥ 0.446; low, < 0.446). **Results:** A high CD8 infiltrate was significantly associated with smaller tumor size (< 5 cm, $p = 0.0005$), lower lymphatic ($p = 0.01$) and venous invasion ($p = 0.0004$), and lower nodal stage ($p = 0.006$). A high CD8/CD4 ratio correlated with smaller tumors ($p = 0.03$) and venous invasion ($p = 0.03$), with a trend for lower lymphatic invasion ($p = 0.08$). Kaplan-Meier analysis showed significantly improved overall survival for high CD8 cases (log-rank $p < 0.001$; HR = 0.33). Spearman analysis showed no correlation between CD8 density and PD-L1 expression ($r = 0.09$, $p = 0.86$). **Conclusions:** High CD8 TIL density and CD8/CD4 ratio were associated with less aggressive features and longer survival in gastric adenocarcinoma, underscoring the prognostic value of digital immune profiling. (The study was supported by UMFST, research grant number 171/11/09.01.2024).

Keywords: gastric adenocarcinoma;, TILs;, PD-L1.

THE PROGNOSTIC VALUE OF PD-L1 IN HEPATOCELLULAR CARCINOMA

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Background: Hepatocellular carcinoma (HCC) is known to be a highly resistant tumor to classic chemotherapy regimens. Immunotherapy is difficult to be used in such cases and no guidelines are known to be elaborated. The aim of this study is to define the possible prognostic value of PD-L1 in HCC. **Material and methods:** The immunoexpression of PDL-1, clone 28-8 from Agilent (DAKO), was checked in 50 HCC consecutive samples and the follow-up of patient was done for a median time of 42 months (ranging from 4 to 89 months). All cases with over 1% positivity in the tumor cells (and/or lymphocytes) were considered to express PD-L1. **Results:** The PD-L1 positivity was seen in 26 cases; in 10 of them, lymphocytes also expressed PD-L1. Statistically significant association was proved between PD-L1 positivity and presence of intravascular emboli (p=0.02) and cirrhosis (p=0.02). Despite of this association, a better survival was registered for PD-L1 positive-cases. **Conclusions:** In patients with PD-L1 positive HCC cells, a better survival rate can be expected, despite of presence of vascular emboli.

Keywords: hepatocellular carcinoma, PD-L1, prognosis

INITIAL ASSESSMENT OF TUMOR XENOGRAFT DEVELOPMENT IN NUDE MICE WITHIN THE UMFST BIOBASE FACILITY

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Background: Cancer research relies heavily on data generated from human studies and experimental animal models. Although our laboratories are equipped for a wide range of animal experiments, oncology research requires clearly defined protocols to ensure both reliable results and adherence to ethical standards. This pilot study establishes a clear and reproducible protocol for future experiments involving xenografted tumors in mice. **Material and methods:** Prior to inoculation, CFPAC-1 cells were expanded in conditioned medium for seven days. Once they reached full confluency, cells were trypsinized and aliquoted into cryotubes, each containing approximately 1 × 106 cells. On the day of inoculation, five cryotubes were thawed, yielding a total of ~5 × 106 cells for subcutaneous injection into either flank of each mouse. Immediately before the injection, mice were anesthetized with inhaled isoflurane and the injection site was clened with rubbing alcohol. **Results:** Tumors were monitored throughout their progression until day 60. Mice were examined every two days to assess general condition, detect early signs of infection, determine whether the tumor had become palpable, and identify any onset of ulceration. Immediately after excision, tumors were fixed in formaldehyde for 72 hours and subsequently measured with calipers in all three anatomical planes. Tumor volumes varied from 0.7 to 2.2 cm^3. **Conclusions:** The established workflow proved reproducible and operationally stable, providing consistent tumor growth and dependable sample processing. However, we have also encountered two drawbacks in our work: the experiments evaluated only one cell line and resorted to a small group of specimens. Further optimization will refine the model and expand its applicability to therapeutic testing and advanced tumor biology research.

Keywords: Xenograft tumor Nude mice, Nude mice, Inoculation protocol

HIGH-GRADE TRANSFORMATION IN BREAST ADENOID CYSTIC CARCINOMA: HISTOPATHOLOGICAL PROFILE OF A RARE AGGRESSIVE VARIANT ASSOCIATED WITH SYNCHRONOUS HIGH-GRADE NST CARCINOMA

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Background: Adenoid cystic carcinoma (ACC) of the breast is an uncommon neoplasm typically characterized by low-grade cytologic features, dual epithelial-myoepithelial differentiation, and a favorable clinical course. The presence of high-grade transformation (HGT) within ACC represents a rare but clinically significant event, associated with loss of the characteristic biphasic architecture, marked cytologic atypia, and acquisition of aggressive biological behavior. This study presents the detailed histopathological assessment of a mixed invasive carcinoma composed of ACC with HGT and a synchronous high-grade invasive carcinoma of no special type (NST). **Material and methods:** An 85-year-old woman presented with a palpable right breast mass accompanied by elevation of the overlying skin flap. A modified radical mastectomy was performed, and the specimen underwent standard histopathological processing. Hematoxylin-eosin staining and immunohistochemical profiling were used to evaluate architectural patterns, cytologic atypia, and the presence of lymphovascular, perineural, and nodal involvement. **Results:** Microscopic evaluation revealed classic ACC areas juxtaposed with sharply circumscribed foci of high-grade transformation, characterized by solid architecture, prominent nuclear pleomorphism, increased mitotic rate, and focal necrosis. A concomitanthigh-grade invasive carcinoma NST (grade 3) was identified. Extensive lymphovascular invasion and perineural infiltration werepresent. Metastatic carcinoma was detected in three axillary lymph nodes. These findings correspond with published data indicatingthat ACC with HGT exhibits a significantly more aggressive clinical phenotype compared with conventional ACC. **Conclusions:**This case underscores the diagnostic relevance of identifying high-grade transformation in breast ACC, a rare variant associatedwith adverse pathological parameters and documented aggressive behavior. Recognition and accurate reporting of this phenotype, particularly when associated with a synchronous high-grade NST component, are essential for appropriate prognostic stratification and multidisciplinary management.

Keywords: breast carcinoma, adenoid cystic carcinoma, metastatic carcinoma, high-grade transformation

RENAL CELL CARCINOMA BIOPSY: UROLOGIST' EXPECTATION VS. PATHOLOGISTS' REALITY

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Background: The incidence of renal cell carcinoma (RCC) continues to rise, and surgery, the only curative option for localized disease, is often not feasible for many patients due to advanced age, multiple comorbidities, poor ECOG status, or severe renal impairment. Consequently, accurate histopathologic diagnosis through minimally invasive renal mass biopsy has become increasingly important for guiding appropriate therapeutic management. **Material and methods:** Data on renal mass biopsy, histopathologic evaluation, and key immunohistochemical markers were synthesized to highlight essential principles, practical approaches, and criteria for accurate diagnosis of renal tumors. **Results:** Renal tumors are a heterogeneous group, with clear cell RCC being the most frequent subtype, followed by papillary and chromophobe RCC. Immunohistochemistry (IHC) is essentialfor differential diagnosis, using markers such as CK7, AMACR, and CA IX to help distinguish subtypes. Nuclear grading accordingto the WHO/ISUP system provides important prognostic information, but it may be underestimated due to sampling bias andtumor heterogeneity. Necrosis is another crucial prognostic feature; if the biopsy fragment is entirely necrotic, an accurate diagnosismay not be possible. Furthermore, the limited tissue in needle biopsies restricts the morphological and IHC evaluation, which mayresult in ambiguous diagnosis or misclassification, especially when subtypes overlap or when only a small part of the tumour issampled. Differential diagnosis can be further complicated by uncommon tumors such as renal lymphoma, or benign lesions likeoncocytoma or angiomyolipoma, which require morphologic and IHC correlation for distinction. **Conclusions:** Renal biopsy is auseful tool for assessing renal masses, although small samples often lead to inconclusive findings. Concordance with surgicalspecimens is high, but grading can be underestimated. Despite its limitations, biopsy remains essential for diagnosis, risk stratification, and guiding management.

Keywords: renal biopsy, renal cell carcinoma, immunohistochemistry, clear cell RCC

PROGNOSTIC AND PREDICTIVE VALUE OF IHC-BASED MOLECULAR CLASSIFICATION IN MUSCLE-INVASIVE UROTHELIAL BLADDER CARCINOMA

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Background: Urothelial bladder carcinoma (UBC) is a biologically diverse malignancy marked by pronounced variation in clinical behavior and response to therapy, largely reflecting its underlying molecular heterogeneity. While molecular subtyping has substantially enhanced our understanding of UBC, its integration into routine practice remains limited by financial and technical constraints. Immunohistochemistry (IHC) offers a practical and cost-effective alternative for approximating molecular subtypes in daily diagnostics. In this context, our study aimed to evaluate the prognostic and predictive utility of IHC-based UBC classification and to identify the most informative IHC markers for reliable use in clinical settings. **Material and methods:** A systematic searchof the PubMed and Scopus databases was performed in January 2025 in accordance with PRISMA recommendations. Guided bythe PICOS criteria, we included observational studies published after 2020 that examined patients with muscle-invasive UBC whowere assigned into molecular subtypes using IHC, and in which these subtypes were analyzed in relation to oncological outcomesand treatment responses. **Results:** Overall, luminal subtypes tend to show more favorable PFS, DSS, and OS, although variabilityexists across studies. Basal tumors generally achieve better RFS than double-negative subtypes and display a markedly enhancedresponse to neoadjuvant chemotherapy (NAC). Double-positive tumors are frequently associated with superior OS, whereas double-negative tumors consistently correspond to the poorest prognostic profiles. Among the IHC markers most commonly employed,GATA3 and CK5/6 are central for identifying luminal and basal phenotypes, while p16 assists in differentiating Luminal Unstablefrom Luminal Papillary subtypes. **Conclusions:** Our findings demonstrate that IHC-based classification offers a feasible andvaluable method for categorizing UBC patients and estimating both prognosis and therapeutic responsiveness. We propose asystematized IHC panel designed to strengthen uniformity and reproducibility in both routine diagnostics and researchapplications.

Keywords: muscle-invasive urothelial bladder carcinoma, molecular classification, immunohistochemistry

PATHOLOGICAL AND MOLECULAR INSIGHTS INTO EARLY-STAGE UROTHELIAL CARCINOMA

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Background: Non-muscle-invasive bladder cancer (NMIBC) is a heterogeneous disease, with wide variability in clinical behavior and pathological characteristics leading to different patient outcomes. This heterogeneity reflects distinct underlying molecular pathways that influence recurrence patterns, progression potential, and therapeutic response, limiting the accuracy of traditional prognostic tools based on grade and stage alone. **Material and methods:** Key advances in NMIBC were structured by integrating the most recent evidence and guidelines, focusing on pathological and molecular factors that influence recurrence and progression. **Results:** Although traditional morphological parameters—such as stage, grade, tumor size, and the presence of CIS—remain essential prognostic factors, they offer limited precision when used alone. As a result, current research is focusing more on molecular classification as a more accurate way to stratify patients. In recent years, early-stage urothelial carcinomas have been classified using gene expression profiling. To facilitate the integration of molecular subtyping into routine diagnostic practice, immunohistochemistry (IHC) has been proposed as an accessible, cost-effective surrogate for mRNA-based molecular classification, making it a practical and accessible way to help evaluate risk and guide treatment in NMIBC. Overall, IHC markers demonstrate promising prognostic value and offer a feasible approach for routine pathology practice, although variability in the choice of IHC markers and in cut-off definitions limits their current standardization. **Conclusions:** While the molecular subtypes have already contributed to personalized therapeutic strategies in muscle-invasive bladder cancer (MIBC), their relevance in NMIBC remains largely unexplored. Standardization of IHC panels and prospective validation are required before routine clinical implementation.

Keywords: non-muscle-invasive bladder cancer, molecular classification, immunohistochemistry, prognostic

PEDIATRICS

ASSOCIATIONS OF GUT DYSBIOSIS WITH FONTAN PATHOPHYSIOLOGY IN PEDIATRIC PATIENTS

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Background: Despite significant surgical advances, the Fontan circulation remains characterized by chronic systemic venous hypertension and reduced cardiac output. Over time, this unique physiology contributes to multiple complications, including chronic inflammation, hepatic congestion, and impaired gastrointestinal function, such as protein-losing enteropathy. One potential factor underlying these complications is the gut microbiota, which plays a crucial role in host metabolism and immune regulation. We hypothesized that pediatric patients with Fontan circulation exhibit reduced gut microbiota diversity compared with healthy controls. To test this hypothesis, we conducted a comparative study of pediatric Fontan patients and age-matched healthy controls. **Material and methods:** The study included 30 participants: 15 pediatric Fontan patients with single left ventricular morphology (median age 10.1 years; 10 boys, 66%) and 15 age-matched healthy controls. Gut microbiota profiling was performed using 16S rRNA gene sequencing of stool samples, focusing on measures of biodiversity and the Shannon diversity index. **Results:** A significant reduction in both biodiversity and Shannon diversity index ($p < 0.05$) was observed in the Fontan cohort, indicating a potential association between gut dysbiosis and Fontan pathophysiology. This microbial imbalance may contribute to enhanced intestinal permeability and systemic inflammation, factors that are recognized as major challenges in the long-term management of patients with Fontan circulation. **Conclusions:** Although our sample size was small, this research highlights the emerging role of the gut microbiota in pediatric cardiology. Larger studies are needed to validate these findings and determine whether microbiome-focused interventions—through diet or probiotics— can truly benefit Fontan patients in the future. Funding: This work was supported by the "George Emil Palade" University of Medicine, Pharmacy, Science and Technology of Târgu Mureş. Research Grant number 795/6/22.01.2025.

Keywords: pediatric cardiology, Fontan pathophysiology, gut dysbiosis

CELIAC DISEASE AS PART OF A BROADER AUTOIMMUNE SPECTRUM- PEDIATRIC CASE REPORT

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Background: Celiac disease is a chronic enteropathy triggered by the ingestion of gluten, characterized by immune-mediated mechanisms in the mucosa of the small intestine, which leads to malabsorption and a wide range of clinical manifestations. **Material and methods:** We report the case of an 11-year-old girl, known with stature hypotrophy, who presents xerotic skin and oral lichen for 6 months, which, for about 1 month, also associates alopecia areata. She was initially assessed by a dermatologist,who initiated topical corticosteroid therapy and referred her for pediatric evaluation. **Results:** A subsequent pediatric assessment, including an extensive clinical and laboratory work-up, identified a moderate hypochromic, microcytic anemia, prompting the initiation of oral iron therapy. Further paraclinical investigation were performed, in order to exclude an autoimmune pathology, revealing positive antinuclear antibodies, elevated anti-transglutaminase antibodies (IgA >200; IgG 136), a high-titer of antiendomisium antibodies (1:320), as well as positive MI-2, RO-52 and CENP-B auto-antibodies. In light of these findings, the possibility of an additional autoimmune disorder, associated with celiac disease was raised, prompting further specialist consultations. In order to further investigate, the patient was admitted to our clinic and a gluten-free diet was initiated upon admission. Following pediatric rheumatology and endocrinology evaluations, a new panel of laboratory tests was performed, which demonstrated results consistent with those previously reported. Although the immunologic profile, characterized by MI-2, RO-52 and CENP-B positivity, further strengthened the suspicion of an inflammatory myopathy, clinically, the patient showed no signs suggestive of muscle weakness, joint involvement or systemic inflammation. **Conclusions:** This case underlines the need to view celiac disease within a broader autoimmune context, allowing time and careful monitoring to clarify evolving patterns.

Keywords: Celiac Disease, Alopecia areata, Myopathy

DIGITAL HORIZONS IN PEDIATRIC OBESITY EVALUATING THE IMPACT OF A WEIGHT MANAGEMENT APP ON ANTHROPOMETRIC, METABOLIC, AND PSYCHOLOGICAL OUTCOMES

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Background: Background: Pediatric obesity is an increasing public health concern with long-term metabolic and psychosocial consequences. Given the limited adherence to traditional lifestyle interventions, this study aims to evaluate the effects of a digital educational weight management program in children and adolescents with overweight and obesity, focusing on anthropometric, metabolic, inflammatory, and psychological outcomes. **Material and methods:** Material and method: A prospective, longitudinal study will enroll 200 participants aged 5-18 years, diagnosed with overweight or obesity, monitored for 12 months at the Pediatric Clinic I, UMFST Târgu Mureș. All participants will access a digital weight management app integrating nutritional guidance, physical activity recommendations, behavioral assignments, and psychological support. Assessments will be conducted at baseline, 6 months, and 12 months, including anthropometric and paraclinical parameters, inflammatory biomarkers (IL-6, IL-10), and standardized psychological evaluations (ASEBA YSR/CBCL). Adherence will be quantified using a composite 0-100 score integrating weekly reports on physical activity, dietary goals, educational task completion, sleep, and screen-time indicators. Statistical analyses will explore associations between adherence level and biological, metabolic, and psychological outcomes. **Results:** Expected Results: High adherence is expected to correlate with a significant decrease in z-BMI at 6 months, sustained at 12months, alongside improvements in body composition, metabolic profile, inflammatory status, and psychological well-being. **Conclusions:** Conclusions: This study will provide the first national longitudinal data on the feasibility and efficacy of a hybriddigital educational intervention for pediatric obesity management in Romania, supporting the integration of such tools into routinepediatric care.

Keywords: pediatric obesity, digital intervention, mHealth, weight management, behavioral change

PHARMACOLOGY

BOTANICAL ALTERNATIVES AS POSSIBLE TATTOO INK PIGMENTS

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Background: Traditional tattoo inks contain heavy metals, PAHs and azo dyes that may elicit toxic reactions in humans. The search for safer alternatives has led to growing interest in pigments obtained from plants, which present potential for biocompatible tattoo ink colorants, however their instability under UV, heat, pH variations and uncertain cutaneous safety currently limit clinical applicability. **Material and methods:** We reviewed available data about natural pigment extraction, composition, stability, and encapsulation, focusing on microencapsulation and nanoparticle stabilization with polysaccharides and biopolymers for controlled particle size and dermal delivery, alongside toxicological assessments and EU REACH regulatory considerations. **Results:** Evidence shows that plant-derived colorants can achieve improved stability when encapsulated in biodegradable carriers. Techniques successfully applied in the food industry present a promising alternative for tattooing, enhancing UV and pH stability, maintaining pigment dispersion, and controlling particle sizes for optimal transdermal deposition. In vitro studies with curcumin- and indigo-loaded nanoparticles reveal low cytotoxicity and high fibroblast and keratinocyte viability, indicating optimal biocompatibility. However, most natural pigments degrade under UV exposure without protective matrices, and long-term in vivo data remain limited, future potential in undebatable. Regulatory approval under REACH is still pending due to insufficient standardized documentation, though research in this area remains open. **Conclusions:** Plant-derived pigments stabilized through microencapsulation offer a promising approach for creating safer, biocompatible tattoo inks. By replacing synthetic dyes, they can potentially reduce allergic and toxic reactions while providing an environmentally friendly alternative. Microencapsulation improves pigment stability, dispersibility, and controlled particle size for dermal docking, enhancing transdermal deposition and overall performance. Further research is needed to optimize formulations, verify long-term dermal stability, and establish detailed biocompatibility and degradation profiles. Developing standardized testing protocols is crucial for regulatory approval, particularly under frameworks like EU REACH, ultimately enabling the advancement of next-generation, sustainable organic tattoo inks.

Keywords: tattoo ink, pigment microencapsulation, biopolymers, tattoo toxicity, plant- derived pigment

EXPLORATORY ASSESSMENT OF ADOLESCENT BEHAVIORAL EFFECTS AFTER PRENATAL BENZYDAMINE EXPOSURE

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Background: Given the recreational misuse of benzydamine and the increased risk of unplanned pregnancies among individuals who abuse substances, this study investigated the behavioral outcomes of offspring following maternal oral benzydamine exposure. **Material and methods:** Forty female Wistar rats were randomly assigned to two experimental groups: one received benzydamine at a dose representative of recreational human exposure, while the control group received vehicle only. Treatment was initiated on gestational day 1 and continued throughout the entire gestational period. Offspring behavior was assessed using the Novel Object Recognition test and the Elevated Plus Maze at an age corresponding to human adolescence. A significance level of $p < 0.05$ was considered statistically significant. **Results:** The results indicate that prenatal benzydamine exposure did not affect behavioral parameters—including the discrimination index, distance traveled, or time spent in open arms. **Conclusions:** Given thepreliminary nature of this study and the absence of prior literature on the effects of prenatal benzydamine exposure, this researchwas conducted as a pilot investigation aimed at exploring potential behavioral alterations in the offspring. Consequently, furtherstudies with larger sample sizes and more comprehensive experimental designs are required to confirm and refine thesefindings.This work was supported by George Emil Palade University of Medicine, Pharmacy, Science and Technology of TârguMureş, Research Grant number 163/6/10.01.2023.

Keywords: benzydamine, behavior, memory

EXPLORING THE ANTI-AGING EFFECTS OF OFF-LABEL MEDICATION: PRECLINICAL INVESTIGATIONS OF CELLULAR AND FUNCTIONAL MECHANISMS IN A MURINEMODEL

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Background: Aging is a complex biological process characterized by the progressive accumulation of cellular dysfunction, including senescence, low-grade chronic inflammation, and disturbances of autophagic pathways. Certain classes of drugs traditionally used for unrelated indications—such as vasodilators and anthelmintics—have recently gained attention for their potential to modulate mechanisms implicated in aging, owing to their effects on cellular metabolism, oxidative stress, and tissue homeostasis. This project explores, in a general and preclinical manner, the potential anti-aging effects of a combined pharmacological intervention involving representatives of these drug classes. **Material and methods:** Mice will be allocated into four groups, including a control group, while the remaining three groups will receive a vasodilator, an anthelmintic, or a combination of both. The impact on longevityand key physiological parameters will be assessed. Cognitive, behavioral, and strength-related evaluations (Y-Maze, Rotarod, GripTest), along with hematological and biochemical analyses, histopathology, and advanced micro-CT imaging, will be performed. Transcriptomic and epigenetic analyses will also be included to estimate biological age. The methodological framework is integrative, incorporating functional, molecular, and structural assessments to comprehensively characterize age-associated changes.
Results: Preliminary observations suggest that the combined treatment may induce modifications in the behavioral, functional, and biological profiles of the animals, with the anthelmintic-treated group showing potential influences on mechanisms linked to aging. Although exploratory, these findings outline favorable trends across several physiological and structural parameters. Cellular and molecular changes will also be quantified to establish correlations between treatment and aging-related pathways. **Conclusions:**The pharmacological intervention combining a vasodilator with an anthelmintic demonstrates potential for modulating processes relevant to healthy aging. Owing to its multifactorial design, the study provides a robust preclinical framework for future translational research aimed at developing innovative anti-aging strategies.

Keywords: anti-aging, autophagy, senescence, vasodilators, anthelmintics

PHARMACY

EFFECT OF CYCLODEXTRIN COMPLEXATION ON THE SIMULTANEOUS SEPARATION OF INSULIN ANALOGUES

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Background: Human insulin is a pancreatic peptide hormone that plays an essential role in blood glucose homeostasis. As the number of approved insulin analogues continues to increase, there is a growing need for cost- and time-efficient methods for their quality control. The aim of this study was to develop a capillary electrophoresis (CE) method capable of separating human insulin and five of its analogues using successive multilayer ionic layer (SMIL) coated capillaries. **Material and methods:** The different insulin analogues were analysed by CE using a 33 cm length bare fused-silica capillary. Two different types of SMIL-based surface coatings were tested: PDADMAC/PSS and polybrene/PSS. Various background electrolytes were screened, and several neutral and anionic cyclodextrins were tested to improve selectivity. The effect of organic modifiers was also tested in varying concentrations. Samples were hydrodynamically injected at 50 mbar for 4s and detection was carried out at 210 nm. **Results:** The performance of the separation was significantly improved by using dynamically coated capillaries, with results depending on both surface coating and buffer composition. Better selectivity was obtained with polybrene/PSS-coated capillary compared to PDADMAC/PSS-coating. The PDADMAC/PSS coating provided partial resolution with an acetic acid-based background electrolyte, supplied with various CDs. Selectivity of the method further improved with the use of polybrene/PSS coating, and the best separation was achieved when ammonium acetate buffer at pH 9 was employed, supplemented with (2-Carboxyethyl)-β-CD. Under these conditions, the six insulin analogues showed clearly distinctive migration profiles within approximately 5 minutes. **Conclusions:** In conclusion, SMIL-based surface modification in combination with CD-containing background electrolytes enhanced selectivity in CE. These conditions enabled rapid differentiation of the six insulin analogues within a short analysis time.

Keywords: insulin, insulin analogues, capillary electrophoresis, SMIL

PHARMACIST LIABILITY IN DIETARY SUPPLEMENT DISPENSING: A QUALITATIVE STUDY OF RISK PERCEPTION IN ROMANIAN COMMUNITY PHARMACIES

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Background: Dietary supplements are increasingly challenging in pharmaceutical practice, taking up about 50% of pharmacy shelf space in Romania and existing in a regulatory grey zone. This research investigates how Romanian community pharmacists perceive malpractice risks linked to dispensing dietary supplements, emphasising aspects that might lead to professional liability. **Material and methods:** This qualitative study employed a mixed-methods approach with 40 participants (21 pharmacists in three focus groups, 19 respondents to a structured survey) conducted between April and July 2025. Focus group discussions were audio-recorded, transcribed verbatim, and all collected data were analysed using Delve qualitative analysis software. Thematic analysis identified risk patterns related to dietary supplements, generating 49 coded text segments specific to supplement management. **Results:** Five major liability dimensions emerged: (1) Challenges in verifying drug-supplement interactions, complicated by multi-component phytocomplexes and the lack of comprehensive interaction databases; (2) Inadequate counselling practices due to time constraints and incomplete patient medication histories; (3) Commercial pressures creating conflicts between patient safety and business profitability; (4) Pharmacist liability for products purchased through unregulated online channels and health stores; (5) Disproportionate legal responsibility where pharmacists are held liable regardless of awareness ("with or without knowledge"). Participants expressed a sense of professional vulnerability caused by insufficient scientific evidence on herbal interactions, lack of standardised procedures, and the perception that responsibility falls solely on pharmacists, while physicians prescribing supplements face minimal accountability. **Conclusions:** The risk of malpractice related to dietary supplements poses a significant professional vulnerability for Romanian pharmacists, marked by information gaps, regulatory uncertainty, and uneven liability distribution. These findings highlight the urgent need for comprehensive interaction databases, standardised counselling protocols, and legislative clarification of shared professional responsibilities. Acknowledgement: This work was supported by the George Emil Palade University of Medicine, Pharmacy, Science, and Technology of Târgu Mureș Research Grant number 795/4/22.01.2025.

Keywords: pharmaceutical malpractice, dietary supplements, pharmacist liability, professional vulnerability, drug-supplement interactions

INVESTIGATION OF RESISTANCE-ASSOCIATED MOLECULAR PATHWAYS AND FLAVONOID-BASED CHEMOSENSITIZATION IN DOXORUBICIN-RESISTANT TNBCCELLS

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Background: Triple-negative breast cancer (TNBC) is an aggressive and highly heterogeneous subtype with limited targeted therapeutic options. Although systemic chemotherapy remains the mainstay of treatment, chemoresistance frequently develops. Newer approaches such as immunotherapy, PARP inhibitors, and antibody-drug conjugates show inconsistent benefit due to molecular heterogeneity and the lack of robust biomarkers. Multi-omics analyses have highlighted major resistance-associated pathways, including DNA repair activation, drug efflux, EMT, immune evasion, and cancer stem cell persistence. Natural flavonoids including apigenin, luteolin, quercetin, curcumin, pterostilbene, and Penta-O-galloylglucose (PGG) exhibit antiproliferative effects and modulate these pathways, suggesting a potential to counteract doxorubicin resistance in TNBC. Investigating these interactions may help identify molecular markers relevant for treatment response and inform more effective combination strategies. **Material and methods:** The study will be conducted in vitro using parental and doxorubicin-resistant MDA-MB-231 TNBC cells. Experimental groups will include untreated controls, doxorubicin alone, individual flavonoids, and combination treatments. Functional assays will assess viability, apoptosis, cell-cycle distribution, and autophagy. Candidate resistance-associated genes will be identified from TCGA, METABRIC, and GEO datasets, followed by targeted qPCR validation. Complementary to qPCR, histone deacetylase activity will be measured using a luminescent HDAC I/II assay. Integrated bioinformatic and statistical analyses will correlate molecular alterations with functional responses across groups. **Results:** Published bioinformatic studies consistently report differential expression of genes involved in DNA repair, drug efflux, EMT, apoptosis, and stemness in TNBC. These candidates were selected for qPCR validation in parental and doxorubicin-resistant MDA-MB-231 cells. Flavonoid treatments—particularly combined with doxorubicin—are expected to reduce viability, enhance apoptosis, alter cell-cycle profiles, and modulate autophagy, together with corresponding changes in gene expression and HDAC activity, supporting their potential chemosensitizing role. **Conclusions:** Resistance-associated genes identified in the literature will be further investigated in TNBC models. Upcoming molecular and functional analyses are expected to clarify their relevance and support the refinement of flavonoid-based combination strategies.

Keywords: TNBC, chemoresistance, flavonoids, gene expression, qPCR

ANALYTICAL AND FORMULATION INSIGHTS INTO CANNABIDIOL-LOADED OILS AND EMULSIONS

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Background: Cannabidiol (CBD), is a natural compound with an increased therapeutic potential in different pathologies. The development of reliable CBD delivery systems requires careful selection of excipients and robust analytical methods to ensure formulation stability and content uniformity. **Material and methods:** This study investigates two classes of liquid formulations—simple oil-based solutions and oil-in-water emulsions—using four plant-derived oils: sunflower, pumpkin, linseed, and sesame. Physicochemical parameters such as acid, saponification, ester, and peroxide values were determined to evaluate the quality and oxidative stability of each oil. **Results:** Notably, several oils exhibited deviations from pharmacopeial specifications, raising concerns about the reliability of commercially sourced excipients. Quantification of CBD was performed using UV spectrophotometry and high-performance liquid chromatography (HPLC), revealing that sunflower oil offered the most favorable matrix for both stability and analytical recovery. HPLC proved more reliable than spectrophotometry, especially in heterogeneous systems where matrix interference was significant. **Conclusions:** The findings underline the critical influence of excipient qualityon formulation performance and highlight sunflower oil as a promising carrier for CBD delivery in both homogeneous and heterogeneous systems.Funding: This research was funded by George Emil Palade University of Medicine, Pharmacy, Science and Technology of Targu Mures, Romania, Research Grant number 163 /7/ 10.01.2023.

Keywords: cannabidiol, homogenous preparation, emulsions, stability test, analytical assay

PHYSIOLOGY

ADAPTING RAT HFPEF MODELS TO HUMAN HFPEF: ADDRESSING KEY TRANSLATIONAL CHALLENGES

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Background: The intricate, comorbidity-driven pathophysiology of heart failure with preserved ejection fraction (HFpEF) and the limited number of treatment alternatives require enhanced experimental models for mechanistic and therapeutic investigation. This review assesses current rat HFpEF models and their translational reliability. **Material and methods:** A comprehensive literature search across major databases identified studies on HFpEF rat models, supplemented by manual reference screening. **Results:** Models incorporating hypertension, metabolic dysfunction, and aging exhibit varying abilities to replicate diastolic dysfunction, concentric hypertrophy, and preserved systolic function. Among these, the Dahl-salt sensitive and Zucker diabetic fatty obese models most closely resemble human HFpEF phenotypes, since they exhibit key comorbidities and develop cardiac structural and functional abnormalities. However, there is not a single model that fully encompasses the multifactorial and heterogeneous nature of HFpEF. Recent multifactorial "multiple-hit" approaches combining metabolic syndrome components demonstrate superior replication of cardiac structural, functional, and inflammatory changes, offering a platform for further mechanistic and therapeutic testing. **Conclusions:** While recent multifactorial rat models substantially advance HFpEF research, developing a model that captures the multifactorial comorbidity burden that drives HFpEF pathophysiology remains a critical priority for therapeutic discovery. This research was funded by UEFISCDI, project number PN-IV-P8-8.3-ROMD-2023-0007.

Keywords: experimental model, HFpEF, translational potential

PLASTIC SURGERY

CUTANEOUS REGENERATION IN THIRD-DEGREE BURNS USING ADSCS AND DERMAL BIOMATERIALS: EVALUATION OF RECENT PRECLINICAL AND CLINICAL EVIDENCE

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Background: Third-degree burns result in complete destruction of the epidermis and dermis, with variable extension into the hypodermis and, in more severe cases, damage to underlying structures such as muscle and nerves. Adipose-derived mesenchymal stromal cell (ADSC) therapy has gained increasing relevance due to the cells' role in modulating inflammation, secreting trophic factors, and promoting angiogenesis. In parallel, acellular dermal matrix (ADM) is used as a three-dimensional support for skin regeneration and as a vehicle for stem cell seeding. The combination of MSCs with ADM represents a promising approach to achieving superior-quality healing compared to standard methods and has been increasingly explored in recent studies. **Material and methods:** This review aims to critically analyze the literature published between 2023 and 2025 regarding the efficacy of ADSCs combined with ADM or other similar dermal matrices in the healing of severe burn injuries. Original articles, preclinical studies, clinical reports, and systematic reviews were selected through searches in databases such as PubMed and ScienceDirect. Keywords used included "adipose-derived stem cells," "acellular dermal matrix," and "burn wound healing." Both animal model research and available clinical data were included. **Results:** Preclinical evidence shows that ADSCs, either applied directly or integrated within a dermal scaffold, accelerate re-epithelialization, enhance neovascularization, and reduce inflammation and scar formation by influencing the collagen I/III ratio and modulating MMP activity. Exosomes derived from ADSCs applied onto ADM demonstrate similar effects, suggesting potential for cellular and post-cellular therapeutic strategies. Clinically, ADM has shown favorable outcomes in the treatment of severe wounds; however, data on ADSC-ADM combination therapies in patients remain limited. **Conclusions:** The synthesis of recent literature indicates that combining ADSCs with ADM constitutes a promising strategy for regenerating extensively damaged skin. Nevertheless, the lack of standardized procedures, variability across experimental models, and limited clinical evidence underline the need for further studies to enable validation and therapeutic translation.

Keywords: Adipose-derived stem cells, Acellular dermal matrix, Third-degree burns, Cutaneous regeneration, Burn wound healing

PNEUMOLOGY

RETROSPECTIVE EVALUATION OF THROMBOTIC RISK IN PATIENTS WITH CONCOMITANT TUBERCULOSIS AND COVID-19

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Background: Tuberculosis and COVID-19 co-infection is associated with amplified systemic inflammation and endothelial dysfunction, which may enhance thrombotic risk. Current evidence regarding this association remains limited. This study aimed to evaluate mortality and thrombotic risk among patients with pulmonary tuberculosis and concomitant SARS-CoV2 infection, compared with patients hospitalized for tuberculosis alone, and to explore the relationship between these outcomes, comorbidities, and clinical risk scores. **Material and methods:** A retrospective, single-center study was conducted in the Adult Tuberculosis Department of the Pulmonology Clinic, Mureș County Clinical Hospital between 2021 and 2023, that included 80 consecutive patients: 40 with microbiologically confirmed pulmonary TB who developed COVID-19 (RT-PCR/antigen confirmed) during hospitalization, and 40 with pulmonary TB and no history of COVID-19, admitted during a comparable period. Demographic, clinical, imaging, and laboratory data (including D-dimer, fibrinogen, platelet count), treatment regimens (antituberculous, antiviral, corticosteroid, anticoagulant), COVID-19 severity (mild/moderate/severe), thromboembolic events (venous thrombosis, pulmonary embolism), and in-hospital mortality were recorded. Thrombotic risk was retrospectively assessed using the Padua, IMPROVE-DD, and an adapted mini-score (high-risk cutoff ≥4). **Results:** Tuberculosis and Covid-19 co-infection was significantly associated with an increased risk of thrombotic events compared to TB alone ($p < 0.01$). Co-infected patients exhibited higher mean D-dimer and fibrinogen levels, as well as elevated Padua and IMPROVE-DD scores. Thrombotic risk correlated with COVID-19 severity and with comorbidities such as cardiovascular disease, diabetes mellitus, and obesity. A tendency toward higher in-hospital mortality was observed in patients with severe forms of COVID-19 and high-risk scores. **Conclusions:** Tuberculosis and Covid-19 co-infection is associated with an excess thrombotic risk, supported by both laboratory biomarkers and clinical risk assessments. Early identification of coagulopathy and personalized therapeutic strategies, including risk-guided anticoagulant prophylaxis, are warranted, particularly in tuberculosis endemic regions. Prospective multicenter studies are needed to validate these findings and refine management protocols.

Keywords: tuberculosis, COVID-19, SARS-CoV2, venous thromboembolism, mortality

LIQUID BIOPSY IN LUNG CANCER: ADVANTAGES, DIAGNOSTIC STRATEGIES, AND COMPARATIVE PERFORMANCE WITH CONVENTIONAL TISSUE BIOPSY

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Background: Lung cancer is the leading cause of cancer-related mortality in Romania, particularly among men, with a high proportion of patients diagnosed at an advanced stage. Conventional tissue biopsy remains essential but is invasive, sometimes not feasible, and may fail to capture tumor heterogeneity. The objective of this study is to highlight the advantages of liquid biopsy as a minimally invasive diagnostic and monitoring tool in pulmonary cancer, emphasizing various sampling methods and their comparative performance. **Material and methods:** We reviewed clinical evidence regarding circulating tumor DNA (ctDNA), circulating tumor cells (CTCs), and exosomal nucleic acids obtained from peripheral blood. Additionally, we examined liquid biopsy sampling via pleural effusion and bronchial aspirate in cases of malignant pleural involvement or endobronchial disease. Detection platforms assessed include digital PCR and next-generation sequencing, compared with histopathology and molecular profiling from tissue biopsy. **Results:** Liquid biopsy demonstrated high specificity for actionable oncogenic alterations (EGFR, ALK, KRAS) and allowed repeated sampling, enabling real-time monitoring of treatment response and clonal evolution. Sampling from pleural effusion or bronchial aspirate provided increased diagnostic yield in patients where tissue biopsy was limited or contraindicated. Sensitivity remains lower in early-stage tumors and depends on tumor DNA shedding, but continues to improve with advanced sequencing methods. **Conclusions:** Liquid biopsy offers a safer, repeatable, and dynamic diagnostic approach, complementing tissue biopsy and enhancing personalized therapeutic decision-making, particularly in advanced lung cancer.

Keywords: liquid biopsy, lung cancer, bronchial aspirate

INHALED CORTICOSTEROIDS IN POST-COVID ASTHMA: IMPACT OF CORRECT INHALER TECHNIQUE AND DELIVERY OPTIMIZATION ON LONG-TERM LUNG OUTCOMES

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Background: The COVID-19 pandemic has complicated asthma management, with many patients developing persistent respiratory symptoms consistent with long-COVID. Post-COVID asthma often involves small-airway dysfunction and chronic inflammation, which may alter responsiveness to inhaled corticosteroids. **Material and methods:** A narrative review of clinical trials, cohort studies, reviews, and real-world data was conducted, focusing on ICS therapy, inhaler technique, and outcomes in asthma patients following SARS-CoV-2 infection. **Results:** Evidence indicates that continued ICS therapy after COVID-19 improves lung function and symptom control, particularly when inhaler technique is optimized. Up to 50% of patients misuse inhalers, and post-COVID fatigue or inspiratory weakness may exacerbate delivery errors. Studies demonstrated that correct technique improved FEV_1 and vital capacity independent of ICS dose. Extra-fine particle formulations enhance small-airway deposition an important consideration given the distal obstruction frequently seen after COVID-19. Smart inhalers, structured education, and remote training significantly improve adherence and outcomes. However, optimal dosing, phenotype-specific responses, and integration with biologic therapies remain unclear. **Conclusions:** For patients with post-COVID asthma, maintaining ICS therapy and ensuring proper inhaler use are key to improving long-term pulmonary outcomes. Device patient matching, extra-fine formulations, and digital adherence tools should be integrated into post-COVID care. Future research should focus on phenotype-stratified trials, small-airway function assessment, and long-term follow-up to refine treatment strategies.

Keywords: Post-COVID asthma, inhaled corticosteroids, inhaler technique, small-airway dysfunction, long-term outcomes

THE IMPORTANCE AND METHODS OF LUNG CANCER SCREENING

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Background: The COVID-19 pandemic caused abrupt, worldwide disruptions in oncology services, with lung cancer (LC) diagnoses showing some of the steepest declines. Population-based registries from all over the world documented 10-20% drops in incident LC in 2020, concentrated in early-stage and screen-detected disease, with parallel stage-migration toward advanced tumors and no compensatory rebound afterward. These patterns, mirrored and often amplified in structurally vulnerable systems such as Romania, strongly suggest a "diagnostic deficit" rather than a true fall in carcinogenesis. **Material and methods:** SARS-CoV-2 engages pathways central to lung oncogenesis, including ACE2/RAS signaling, autophagy, inflammasomes, and immune checkpoints, raising questions about longer-term biological interactions. Across registries, the temporal nadir of LC incidence aligned with lockdowns, suspension of elective imaging, restricted bronchoscopy, staff redeployment, and fear-driven avoidance of healthcare. Modeling studies predict that even short diagnostic delays worsen LC survival, and year-long deficits may translate into excess mortality. **Results:** Mechanistically, acute and long COVID feature sustained perturbations of cytokines and chemokines (IL-1□, IL-6, IL-8, IL-17, TNF-□, CCL2, CCL5, CXCL9/10) that regulate myeloid recruitment, T-cell positioning, angiogenesis, fibrosis, and PD-1/PD-L1 dynamics—core circuits in LC pathogenesis and checkpoint inhibitor response. Persistent small-airways disease, impaired gas transfer, and post-viral fibrotic remodeling provide additional, indirect substrates for tumor promotion. **Conclusions:** Current evidence supports health-system disruption as the primary driver of the pandemic-era decline in observed LC incidence, with substantial diagnostic debt and likely adverse survival impact. Mechanistic plausibility exists for SARS-CoV-2-related inflammation, fibrosis, and immune dysregulation to modulate LC risk and progression, but definitive epidemiologic proof of virus-driven increases in LC incidence is lacking. Future work should link infection and vaccination histories to cancer registries, embed biospecimen collection in post-COVID cohorts, and apply multi-omic and machine-learning approaches to cytokine/chemokine and checkpoint networks to distinguish diagnostic artifacts from genuine oncogenic effects and to guide resilient LC control during future respiratory epidemics.

Keywords: Lung cancer screening, Low-dose computed tomography (LDCT), Early detection, Mortality reduction, High-risk population

PSYCHIATRY

ATTENTION AND PROBLEMATIC INTERNET USE IN ADULT POPULATION IN ROMANIA - A META ANALYSIS

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Background: The use of internet has been linked to multiple adverse effects in latest research studies, mainly on cognitive functions. However, attentional parameters seem to have become an important part of future research directions. While most studies focus on children and adolescents, adults are a particularly relevant population sample, due to their different exposure to internet use. **Material and methods:** A meta-analysis was conducted. Electronic databases (PubMed, Scopus, ScienceDirect, Cochrane Library, Google Scholar) were searched for studies published between January 2015 and September 2025. Eligible studies included papers that investigated the adult population and focuse on the effect of problematic internet use on attentional impairment. **Results:** 12 studies met the inclusion criteria, the majority cross-sectional and of moderate methodological quality.Most of them found a significant association between problematic internet use and modified sustained or selective attention.Considerable heterogeneity in definitions, methodology, and results limited reaching to a consensus. **Conclusions:** Problematic internet use was associated with attentional impairments in adults, but no direct causality was found. Future research directions could point towards stronger designs, methodology and larger population to strengthen the evidence base.

Keywords: problematic internet use, attention, meta-analysis, adults

PUBLIC HEALTH

ROUTINE GGT LEVELS AS A MARKER OF HEPATO-METABOLIC-RENAL INTERACTION: EVIDENCE FROM OVER 2100 LABORATORY SAMPLES

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Background: The interconnection between hepatic, renal, and metabolic biomarkers is considered the main frame of the general health of the population. Gamma-glutamyl transferase (GGT) is recognized as a marker of hepatic and metabolic stress, but its association with renal and hematologic indices in a routine clinical population remains underexplored. The aim of this study is the interpretation of the mechanism underlying the association between hepatic, metabolic, renal function and GGT biomarker, in a sample of the population undergoing annual health assessments. **Material and methods:** We performed a cross-sectional analysis on 2143 laboratory samples, between 2024-2025, upon Mures county adults, 18-79 years old, who had undergone periodical and psychological assessment in medical center, including renal (creatinine, eGFR, urea), metabolic (glucose, cholesterol), hematologic, and hepatic (GGT, AST, ALT) parameters **Results:** Our results revealed significant positive correlations between GGT and AST($r=0.388$, $p<0.001$), highly significant moderate positive correlation, GGT and cholesterol($r=0.296$, $p<0.001$), significant moderate positive correlation, and GGT and glucose ($r=0.216$, $p<0.001$), significant positive correlation, also weak correlation between GGT levels and age ($r=0.149$) revealing tends to increase slightly with age; GGT and eGFR had a weak negative correlation, significant ($r=-0.069$, $p<0.001$) and glucose ($r=0.216$, $p<0.001$), positive significant correlation. We observed strong associations between enzymes GGT, AST, TGO, reflecting the hepatic linkage, 423 patients (19.8%) presented GGT levels above the reference level (>55 U/L), 57 patients (2.66%) had upper values simultaneously (ALT>41U/L, AS >35 U/L); moderate positive correlation between cholesterol and glucose suggesting linkage with metabolic stress, and inversely correlation between eGFR and GGT that can indicate a mild decline in renal function with higher metabolic burden. **Conclusions:** Routine biochemical markers explain a consistent pattern between hepato-metabolic-renal interconnection, with GGT marker emerging as an integrative biomarker of metabolic stress, age-related change, and renal decline, that highlights the value of integrating routine biochemical parameters for the early identification of metabolic dysregulation

Keywords: clinical laboratory data, GGT, hepatic biomarkers, renal function, metabolic syndrome

REGENERATIVE MEDICINE

ADVANCES AND CURRENT PERSPECTIVES IN CHRONIC DIABETIC WOUND THERAPY

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Background: Chronic diabetic wounds, particularly diabetic foot ulcers, represent one of the most severe and persistent complications of diabetes mellitus, often leading to infection, amputation, and a significantly reduced quality of life. Despite the progress made in wound care and management, conventional therapies frequently fail to achieve complete and sustained healing due to impaired angiogenesis, chronic inflammation, and oxidative stress in diabetic tissues. **Material and methods:** This review summarizes the advances that have emerged in the field of regenerative medicine and biomaterial-assisted wound therapy, focusing on novel scaffold-based approaches. Studies addressing the use of micro-fragmented adipose tissue (MFAT) and bioactive scaffolds such as hyaluronic acid (HA) were analyzed to highlight their regenerative potential and mechanisms of action in chronic wound healing. **Results:** Both MFAT and HA demonstrated beneficial effects in promoting angiogenesis, modulating inflammation, and supporting tissue regeneration in preclinical and clinical studies. Moreover, the combination of cellular therapies with bioactive scaffolds appears to provide superior outcomes in wound closure and tissue remodeling compared to conventional treatment options. **Conclusions:** Recent advances in regenerative strategies provide promising perspectives for improving the management of chronic diabetic wounds. Future research should focus on developing integrative therapeutic systems that combine biocompatible scaffolds and bioactive molecules to accelerate tissue repair and improve patient outcomes.

Keywords: diabetic wound healing, MFAT, hyaluronic acid, bioactive scaffold, chronic wound

RADIOLOGY

EARLY DIAGNOSIS OF DECREASED BONE MINERAL DENSITY BY IMAGING (DXA) AND LABORATORY METHODS

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Background: Early identification of decreased bone mineral density relies on the combination of DXA, as the reference imaging method and laboratory investigations, supplying metabolic background. The aim of the study was to evaluate the ability of tests from the routine investigation panel to highlight problems of bone mineral density (BMD) in relation to DXA values. **Material and methods:** A cross-sectional study was conducted on 69 patients (men and women) at the RMN Diagnostica Clinic in Sibiu; the study was carried out between May 2025 and September 2025. Fasting (à jeun) blood samples were collected for routine laboratory tests (total/ionized calcium, phosphorus, magnesium, total protein, 25-hydroxyvitamin D [25-OH vitamin D], parathyroid hormone [PTH], and thyroid-stimulating hormone [TSH]). Routine biochemical analyses were performed by photometric methods on a Thermofisher Indico Plus ISE automated biochemistry analyzer; vitamin D by chemiluminescent immunoassay on the Maglumi X3 device; and PTH and TSH by ECLIA on the same device. These results were compared with DXA status measured at a lumbar spine segment. **Results:** The mean values of routine tests had a predominantly contextual role and did not provide information that characterized BMD status better than DXA, neither by patient age nor by sex. Nevertheless, several physiologically relevant negative correlations were observed, useful for identifying associated conditions—for example, 25-OH vitamin D-PTH ($r = -0.2383$; $p = 0.049$), magnesium-TSH ($r = -0.3059$; $p = 0.011$), and phosphorus-PTH ($r = -0.2382$; $p = 0.049$). **Conclusions:** Routine laboratory tests do not independently reveal decreased BMD and cannot replace DXA; their role is complementary, providing metabolic context and aiding in the detection of secondary causes of bone loss.

Keywords: bone mineral density (BMD), DXA, routine laboratory tests

MODERN HIGH-PRECISION MARKERS FOR OSTEOPOROSIS AND THEIR DIAGNOSTIC ROLE

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Background: Modern high-precision markers for osteoporosis can provide an early window into bone turnover, complementing DXA. The aim of the study was to evaluate modern bone remodeling markers in relation to DXA in order to assess their contribution to identifying bone demineralization. **Material and methods:** In a cohort of 69 patients aged ≥55 years (predominantly postmenopausal women), bone mineral density (BMD) was assessed at a lumbar spine segment by dual-energy X-ray absorptiometry (DXA) using a DEXXUM T device. Alkaline phosphatase was measured by a photometric method on a Thermofisher Indico Plus ISE automated biochemistry analyzer, while the special bone turnover markers beta-crosslaps (β-CTX) and osteocalcin were measured by ELISA from serum on the Maglumi X3 automated immunology analyzer, in the same patients who underwent DXA. The study was conducted at the RMN Diagnostica Clinic in Sibiu between May and September 2025. **Results:** Modern, high-precision turnover markers (β-CTX, osteocalcin) support the hypothesis of a progressive age-related decline in bone formation. Osteocalcin was lower in those ≥65 years ($p = 0.024$) compared with patients aged 55-65 years. Physiologically relevant correlations were observed: osteocalcin-β-CTX ($r = 0.6296$, $p < 0.0001$) and alkaline phosphatase-β-CTX ($r = 0.2837$, $p = 0.018$), indicating that metabolic dynamics may precede structural changes observable by DXA. **Conclusions:** Although DXA remains the reference method for structural diagnosis, modern bone turnover markers can provide early information useful for risk stratification and therapy monitoring.

Keywords: beta-crosslaps, bone turnover markers, DXA, osteocalcin

ASSESSING SKELETAL MUSCLE MASS AND QUALITY AT L3, T12 AND T4 ON CT IN LUNG CANCER PATIENTS: CORRELATION AND FEASIBILITY STUDY

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Background: Sarcopenia, a loss of skeletal muscle mass, quality, and strength, affects about 40-45% of lung cancer patients. It can be evaluated using clinical or imaging methods, with CT measurement at the L3 level being the most common. In lung cancer patients, the scan coverage may not always include this level, whereas newer studies examine the use of T12 or T4 levels. Our aimin this study is to compare muscle mass area and quality, expressed as the mean attenuation, at the L3 level with those at the T12and T4 levels. **Material and methods:** We analysed a total of 52 patients with lung cancer who underwent chest, abdomen, andpelvis CT scans between 01.01.2022 and 31.12.2023 at the TopMed Private Hospital. Using Slicer 3D software, we segmented the muscle components at the L3, T12 and T4 levels and compared the values. **Results:** The study included 34 male patients and 18 female patients, with a mean age of 67.88 ± 8.14 years. The median (Q1-Q3) muscle area was 125.25 (106.45 - 140.17) cm^2 at the L3 level, 83.04 (69.10 - 92.01) cm^2 at the T12 level, and 162.16 (142.81 - 192.05) cm^2 at the T4 level. Using Spearman's rank correlation test, we found a very strong, positive correlation between L3 and T12 muscle area ($r=0.851$, $p<0.001$) and a strong correlation between L3 and T4 ($r=0.745$, $p<0.001$), with stronger correlations within the male subgroup ($r=0.824$ for T12 and $r=0.633$ for T4). Muscle quality correlated very strongly with the T4 level ($r=0.810$, $p<0.001$) and the T12 level ($r=0.850$, $p<0.001$), using Pearson's correlation test. **Conclusions:** Our study showed that muscle area measurements at the T12 and T4levels can be valuable when the L3 level is unavailable for assessing sarcopenia. There was a strong correlation between muscle areaand mean muscle density.

Keywords: sarcopenia, lung cancer, skeletal muscle area, segmentation, computed tomography

RHEUMATOLOGY

REFRACTORY HETEROTOPIC OSSIFICATION: MANAGING PROGRESSIVE GENERALIZED MYOSITIS OSSIFICANS OVER THREE DECADES

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Background: Myositis ossificans progressiva, also known as fibrodysplasia ossificans progressiva, is a rare, disabling connective tissue disorder characterized by heterotopic ossification of skeletal muscles, tendons, and ligaments. The generalized form is extremely uncommon, with limited therapeutic options and a variable clinical course. Best long-term outcome would involve slow progression with preserved mobility and near normal lifespan, whilst worst long-term outcome could mean rapid, widespread ossification causing severe disability and early death from respiratory failure. **Material and methods:** A 45-year-old female from a rural area was diagnosed with generalized myositis ossificans at the age of 20 (with first manifestations at the age of 14). At that time, she underwent surgical excision of bilateral sternocleidomastoid calcifications and received prednisone 30 mg daily. In 2005, she presented with progressive bilateral thigh pain and was initiated on methotrexate and hydroxychloroquine. Two years later, she was readmitted with worsening right thigh pain; imaging revealed fractures of calcified right abductor muscles. Azathioprine was introduced in 2015 but discontinued due to poor response, and methotrexate 10 mg weekly was reinstated in 2017, continuing to the present day (2025). Genetic testing done in 2022 could not establish a diagnosis for the patient's phenotype. Radiographs from 2023 demonstrated extensive, bilateral musculotendinous calcifications of the thighs whilst current CT scans showed multiple muscular calcifications at new sites, including the paravertebral muscles. Previous therapy with Ibandronic acid was not well tolerated. **Results:** This case highlights the chronic and progressive nature of generalized myositis ossificans and the therapeutic challenges associated with managing recurrent calcification and pain. Despite long-term immunosuppressive and supportive treatment, disease progression persists. **Conclusions:** Early recognition, avoidance of invasive procedures, and a multidisciplinary approach are essential to improve symptom control and preserve quality of life in patients with generalized myositis ossificans.

Keywords: myositis ossificans progressiva, connective tissue disorder, heterotopic ossification, immunosuppression, rheumatology

SERUM WNT INHIBITORS IN KNEE OSTEOARTHRITIS COHORT: DKK1 CORRELATES WITH KNEE PAIN IN OSTEOARTHRITIS PATIENTS ACROSS BMI RANGES

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Background: Knee osteoarthritis is one of the most common musculoskeletal complaints. The etiology is multifactorial, and its mechanisms are not yet fully understood. The current study examined biochemical markers, including inhibitors of the Wnt pathway. **Material and methods:** In our cross-sectional analysis, we examined the serum of 72 patients with knee osteoarthritis for sclerostin, osteoprotegerin (OPG), RANKL, and DKK-1. Statistical analysis was performed to determine correlations with clinical and paraclinical data, such as pain scores, radiographic staging, and standard laboratory evaluations. **Results:** Eighty-six percent of our patients were female and 14 percent were male. Patients with acute infectious, inflammatory, or neoplastic disorders were excluded. The mean Kellgren-Lawrence radiographic score was 2.35 ± 0.08 and the mean VAS score was 4.41 ± 0.17. We applied principal component analysis. DKK-1 showed a positive correlation with VAS scores of 5 or greater and with the KOFUS knee osteoarthritis flare-up score ($r = 0.23$, $p = 0.046$). DKK-1 is also elevated in patients with slightly elevated BMI. We found no significant correlations in SOST, RANKL, or OPG levels in our cohort. **Conclusions:** DKK-1 is a strong parameter in knee osteoarthritis (OA) that is elevated even in the mild-to-intermediate stages of the disease and is associated with progressive pain. Its use as a potential biomarker would help improve our understanding of the mechanisms involved in knee osteoarthritis.

Keywords: knee osteoarthritis, pain, biomarker, DKK-1, Wnt inhibition

SURGERY

INTEGRATED CLINICAL, FUNCTIONAL, AND IMMUNONUTRITIONAL ASSESSMENT AFTER DISTAL GASTRECTOMY FOR GASTRIC CANCER: A PROSPECTIVE MULTI-PARAMETRIC ANALYSIS

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Background: Gastric cancer remains a major oncologic challenge, demanding curative surgery that ensures both oncological radicality and functional preservation. This doctoral project integrated three complementary prospective studies to comprehensively evaluate surgical performance, immunonutritional evolution, and quality of life after distal gastrectomy with Billroth I versus Billroth II/Roux-en-Y reconstruction. **Material and methods:** The research examined 150 patients who received medical care at General Surgery Clinic I in Târgu Mureş during October 2021 through December 2024. The study evaluated surgical safety and recovery metrics by using Clavien-Dindo grading and inverse probability of treatment weighting (IPTW). The study evaluated immunonutritional patterns through CONUT score measurements taken at three time points: the beginning of the study, early postoperative stages, and three-month follow-ups. The EORTC QLQ-STO22 questionnaire was used to collect patient-reported data at three different time points, which included baseline, 3 months, and 6 months. The research used EasyMedStat (SAS, France) for data analysis. **Results:** The two reconstruction methods produced similar rates of short-term complications, which affected 32-36% of patients and resulted in 3-5% patient deaths. The CONUT score at elevated levels served as an independent risk factor for developing major and total postoperative complications (OR 1.15-1.25, $p<0.05$), while the reconstruction technique did not affect patient nutritional recovery. The quality-of-life domains related to health experienced major declines in dysphagia, pain, reflux, and eating restrictions at 3 months ($p<0.001$) before showing some improvement at 6 months. The gastrojejunal reconstruction method produced better reflux and dietary restriction scores, while Billroth I resulted in superior functional adaptation and decreased symptom intensity. **Conclusions:** Integrating surgical, immunonutritional, and functional dimensions provides a holistic view of postoperative recovery in gastric cancer. Although reconstruction type does not modify immunonutritional trajectories, it significantly influences quality-of-life outcomes. Billroth I reconstruction, when anatomically feasible, offers superior functional recovery, whereas serial CONUT monitoring enhances perioperative risk prediction and individualized patient management.

Keywords: gastric cancer, distal gastrectomy, Billroth I, Roux-en-Y, surgical outcomes

CLINICAL INSIGHTS FROM LONG-TERM EVALUATION OF ARTERIOVENOUS FISTULAS IN ELDERLY PATIENTS

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Background: The gold standard for vascular access (VA) in dialysis is represented by the arteriovenous fistula (AVF). However, in the long term, the performance of the AVF is suboptimal, primarily due to the quality of the vessel. The main scope of this study is to examine the long-term performance of the AVF in elderly patients. **Material and methods:** This monocentric observational study included 316 patients with end-stage chronic kidney disease hospitalized at the Vascular Surgery Clinic from 2019 to 2025 for surgical AVF creation. Data were collected from the hospital's electronic database. Long-term AVF patency was monitored through follow-up communications with dialysis centers. This research was funded by George Emil Palade University of Medicine, Pharmacy, Science and Technology of Târgu Mureș, Romania, grant number 170/3/09.01.2024. **Results:** In the elderly group(>70 years), we found a significantly higher incidence of atrial fibrillation (p=0.011) and diabetes (p<0.001). There were nodifferences in pre-operative vascular mapping data or AVF type. Additionally, the Kaplan-Meier survival curve showed similar long-term AVF failure rates in elderly or non-elderly patients (p=0.273). These findings were consistent in the subgroup of patients with Radio-Cephalic AVF (p=0.860) and Brachio-Cephalic AVF (p=0.196). Cox regression analysis indicated that elderly patients did not have an increased risk of long-term AVF failure, regardless of demographic data, cardiovascular risk factors, AVF type, or pre-operative vascular mapping (HR: 0.92, p=0.925). **Conclusions:** The AVF created in elderly patients demonstrated long-term performance similar to that of non-elderly patients, independent of demographic data, cardiovascular risk factors, AVF type, and pre-operative vascular mapping.

Keywords: Vascular Surgery, Arteriovenous Fistula, AVF, Dialysis, ESKD

ELEVATED LEUKOCYTE GLUCOSE INDEX IS ASSOCIATED WITH ADVERSE EVENTS FOLLOWING ABDOMINAL AORTIC ANEURYSM REPAIR

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Background: Abdominal aortic aneurysm (AAA) is a condition that can worsen rapidly, leading to rupture and death if not treated promptly. Currently, aside from measuring the maximum aneurysmal diameter, no other markers are routinely used to stratify patients with AAA effectively. The primary aim is to evaluate the significance of the leukocyte glucose index (LGI) at admission in relation to AAA rupture and adverse outcomes after AAA repair. **Material and methods:** This monocentric observational study involved 156 patients with AAA admitted to the Vascular Surgery Clinic in 2019-2025 for either emergency or elective repair. Patient data were retrieved from the hospital's electronic database. At admission, we assessed whether AAA rupture occurred, and at 30 days, we recorded the risk of postoperative acute kidney injury (AKI) and mortality. This research was supported by a grantfrom George Emil Palade University of Medicine, Pharmacy, Science and Technology of Târgu Mureș (grant number 170/2/09.01.2024). **Results:** Patients with ruptured AAA are generally older (p=0.013) and exhibit a higher incidence of valvulopathy (p=0.020), a history of myocardial infarction (MI) (p=0.006), and chronic obstructive pulmonary disease (COPD) (p=0.008). Furthermore, these patients demonstrated increased rates of AKI (p<0.001) and 30-day mortality (p<0.001). At ROC-curve analysis, an optimal cutoff value for the LGI was identified at 1.44 for predicting AAA rupture and mortality, and at 1.72 for AKI risk. Additionally, univariate analysis revealed that higher age, valvulopathy, history of MI, and COPD were associated with both AAA rupture and 30-day mortality, but not with post-operative AKI. Multivariate analysis showed that higher baseline LGI values were independently associated with increased risk of post-operative AKI (OR:1.64, p=0.021) and 30-day mortality(OR:2.06, p=0.009), after adjusting for age, sex, risk factors, and treatment. **Conclusions:** Elevated LGI values at baseline werelinked to increased risk of post-operative AKI and 30-day mortality, regardless of age, sex, cardiovascular risk factors, or treatment.

Keywords: Abdomnial Aortic Aneurysm, AAA, Vascular Surgery, LGI

STANDARD OF CARE FOR STAGE IB-IIB CERVICAL CANCER

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Background: In cervical cancer radical surgery remains a primary therapeutic strategy, offering significant quality of life advantage over radiation, preservation of ovarian function, it can allow a more accurate assessment of lymph node status. Our aim was to document and analyze the component of the therapeutic approach at our Department of Obstetrics and Gynecology. **Material and methods:** We studied the operative management of cervical cancer patients with stage IB-IIB in Targu Mures County Emergency Clinical Hospital between 2023 and 2025: clinical stage, pathology reports (histologic type, tumor grade, lymph node assessment) surgical method (ovarian preservation, lymph node dissection, complication). **Results:** This retrospective study included a total of 38 patients diagnosed with cervical cancer at clinical stage IB through IIB who underwent surgical management at the Department of Obstetrics and Gynecology, Targu Mures County Emergency Clinical Hospital, between 2023 and 2025.The mean age of the patients were 50,24±12,17 years. The study was predominantly characterized by Squamous cell carcinoma (SCC) (78,95%, n=30) with a smaller proportion of Adenocarcinoma (AC) (21,05%, n=8). The overall major complication rate among the radical hysterectomies was 11,76%. There was found a statistically significant difference between the age of patients with or without metastasis (p=0,0146, Unpaired t-test). There was no significant difference between the two histological subtypes regarding the pathologic stage at diagnosis (p=0,2502, Mann Whitney test), **Conclusions:** Younger age was associated with lower likelihood of positive lymph nodes, which can open the discussion for more personalized fertility preservation. The lack of differential stage recognition between AC and SCC suggests that current screening practices remain equally effective for both subtypes. Future research should focus on the distinct drivers for surgical complications (urinary complication included and metastatic risk.

Keywords: Figo Stage IB-IIB, fertility preservation, predictor of lymph node metastasis, urinary complications

UROLOGY

SILENT GIANT: LAPAROSCOPIC RADICAL NEPHRECTOMY FOR AN INCIDENTALLY DETECTED HUGE RENAL ANGIOMYOLIPOMA IN AN ASYMPTOMATIC WOMAN

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Background: Renal angiomyolipoma (AML) is a rare benign tumor, whose overall incidence is about 5/1.000.000 women, composed of blood vessels, smooth muscle and adipose tissue. Although asymptomatic, large AMLs are associated with a risk of spontaneous retroperitoneal hemorrhage. The laparoscopic approach was increasingly demonstrated its value even in complex cases.
Material and methods: We report a case of a huge right renal AML in an asymptomatic woman, successfully managed by laparoscopic radical nephrectomy. **Results:** A 77-years-old woman underwent abdominal imaging as part of a routine medical check-up, without any urinary or systemic symptoms. Ultrasound followed by contrast-enhanced CT revealed a voluminous, predominantly fat-containing mass arising from the right kidney, with high imaging suspicion of angiomyolipoma. Right radical nephrectomy was planned and it was performed entirely laparoscopically. After establishing pneumoperitoneum and trocar placement, the right colon was mobilized, the huge renal mass was exposed and early vascular control of the renal hilum was achieved. The huge kidney was mobilized and extracted through a slightly enlarged middle incision. Operative blood loss was limited, and no intraoperative complications occurred. Postoperatively, the patient was discharged on 5th postoperative day.
Conclusions: This case demonstrates that laparoscopic radical nephrectomy is a safe and effective option even for huge renal AMLs, preserving the advantages of minimally invasive surgery without compromising surgical safety. Equally, it emphasizes the importance of routine medical screening, as the lesion was detected incidentally in an asymptomatic patient, allowing timely elective treatment and prevention of potentially life-threatening hemorrhagic event.

Keywords: angyomiolipoma, radical nephrectomy, laparoscopy

SCIENCE AND TECHNOLOGY

CHEMISTRY ENGINEERING

CORRELATIONS BETWEEN CLINICAL AND HAMILTON TEST DETECTED DEPRESSION AND SERUM SELENIUM LEVELS IN SĂCALU DE PĂDURE

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Background: Background. Examining the population of Săcalu de Pădure, a mountainous village in Upper Mureş valley, we found a higher prevalence of depression than in the surrounding settlements. We investigated in this respect the potential role of serum selenium (Se) levels. Material and methods. Clinical examinations were performed on 68 subjects randomly allocated. Se concentration in drinking water was determined with an inductively coupled plasma mass spectrometer, while its serum-concentrations with methods of Dora Medicals Lab. The lithium concentrations in drinking water were examined in the ICIA Lab in Cluj-Napoca, using flame atomic absorbtion spectrometry. We applied two questionnaries: the Hamilton scale in diagnosis of depression, and a test to recognize selenosis. Results. In drinking water of all examined localities the Se concentrations were low, below the limit of determination; however this does not plead for a Se deficiency, because its main sources are the aliments. In Săcalu de Pădure in 11 subjects from 29 was found depression, while in other localities (Glăjărie and Brâncoveneşti) only in 2 cases from 39. In Săcalu de Pădure, of the 7 patients with depression in 4 were detected high Se values, or at the upper normal limit (one of them having toxic values, i e selenosis). It must be emphasized that only in this village were found relatively high Li concentrations in the drinking waters. Conclusions.The prevalence of depression in Săcalu de Pădure is significantly higher than in the surrounding settlements. One possible explanation is the elevated serum selenium level of the patients, with the relatively high lithium concentration in the local drinking water, resulting a synergism.The excess of selenium can be iatrogenic, too, and must be prevented.

Keywords: Selenium, Lithium, Hamilton test, Depression

HISTORY

THE INTEGRATION OF BUKOVINA INTO THE ROMANIAN STATE: POLITICAL AND ADMINISTRATIVE CHANGES IN THE FIRST INTERWAR DECADE (1918–1928)

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Background: This article examines the complex process of political, legal, and administrative integration of Bukovina into the Romanian state during the first interwar decade (1918-1928), highlighting the profound transformations triggered by the collapse of the Habsburg administration and the establishment of Romanian institutions. The study traces the key stages of this process: the Romanian military intervention and the consolidation of the authority of the National Council in November 1918, the adoption of provisional local legislation, the conflict between the autonomist vision (Iancu Flondor) and the centralist one (Ion Nistor), as well as the creation of a hybrid administrative framework that prepared the ground for legislative unification. The analysis underscores the crucial role of the decrees issued between 1918 and 1920, the unification commissions, and the replacement of former Austro-Hungarian structures with Romanian institutions, culminating in the adoption of the 1923 Constitution and the 1925 Administrative Unification Law. In parallel, the study examines linguistic, judicial, economic, and agrarian reforms and their impact on minorities and local elites. The findings show that although the unification process generated significant tensions and resistance among the local population, its final outcome was the complete and irreversible integration of Bukovina into the administrative and political system of Greater Romania - a process fully consolidated by 1928 through institutional and symbolic standardization.

Keywords: Bukovina, Greater Romania, integration, centralization, administrative unification

THE PROFESSIONAL TRAJECTORY OF JURIST IOACHIM MUREȘANU

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Background: The evolution of Ioachim Mureşanu illustrates the development of a jurist who succeeds in converting the rigor of his training into social prestige and intellectual authority. From his earliest experiences in legal practice to his work within the central structures of the Habsburg Empire, his career is marked by discipline, consistency, and an impressive capacity for adaptation, confirmed by official commendations and institutional recognition. Upon returning to Năsăud, Mureşanu does not withdraw from public life; on the contrary, he amplifies his role, becoming one of the central figures of the local elite. He steadfastly defends the rights of the border guards, drafts extensive petitions, participates in delegations to Vienna, and contributes decisively to resolving disputes concerning the community's patrimony. Through his active involvement in public representation and in the management of the border guard estates, Ioachim Mureșanu becomes a genuine mediator between the imperial authorities and the Romanian community of Transylvania. His enduring prestige, confirmed both by contemporary press accounts and by the steady trust of the people of Năsăud, shapes the portrait of an elite jurist-intellectual, for whom the profession becomes an instrument for defending rights, strengthening local identity, and cultivating civic responsibility.

Keywords: legal career, jurist, academic training, legal practice, professionalism

THE CONTRIBUTION OF ORGANIST DANIEL CRONER TO THE EVOLUTION OF TRANSYLVANIAN MUSIC IN THE 17TH CENTURY

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Background: The Brașov organist Daniel Croner, the son of a Brașov tailor, stood out as an important instrumentalist and composer. With studies at the "Honterus" Gymnasium in Brașov, the College in Alba Iulia, the "Maria Magdalena" Gymnasium in Wrocław in Poland and at the Academicum Universitas in Wittenberg, he became a preacher at the Church of St. John in Brașov and later a priest in Hălchiu. Croner left behind two notebooks with pieces for organ and other keyboard instruments (clavichord, spinet, harpsichord): fantasies, toccatas, canzones, fugues, preludes, but also the musical treatise "Institutiones Musicae Samuelis Mylii. Von der Musica. Musiklehrbuch aus dem Jahre 1675, geschrieben von Daniel Croner. Tabulaturlesen. Generalbasslehre von Johann Crüger" written in 1675, in which notions of theory, composition and musical forms are found. In addition to his own compositions, Daniel Croner's contribution is that he brought the most recent musical developments from Germany to his native Transylvania through scores.

Keywords: Transylvania, Music, Organ music, Daniel Croner, Biography

VOLLEYBALL IN THE COMMUNIST ERA: MEMORY, IDENTITY, AND ARTISTIC COMMUNICATION IN THE EASTERN EUROPEAN SPORTING CONTEXT

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Background: The article explores the intersection of identity, memory, and artisitic communication in the context of volleyball during the commuist period, highlightning the ways in which this sport was used as a tool for promoting iedology and national identity within the totlitarian regimes or Eastern Europe. Through historical and cultural analyses, the research traces the evolution of volleyball as a social and sporting phenomenon, emphasizing its role in constructing a collective discourse, particularly regarding the formation of collective memory related to the achivements and symbolism of this sport. The study also examines how volleyball games and their representations in mass media and visual arts contribuited to consolidating an idealized image of the regime. The research is based on an interdisciplinary methodology, including arcival analyses, interviews, and case studies from the 1950 - 1989 period. The conclusion suggest that volleyball played a crucial role in creating a symbolic framework that suppported the perpetuation of s communist ideal of unity and strength, while simultaneously generating tensions withhin society by redefining norms or feprformance and belonging.

Keywords: identity, ideology, communism, volleyball, sport

HUMANITIES/PHILOLOGY

BODIES THROUGH THE MIRROR OF LYRICISM . ILEANA MĂLĂNCIOIU AND THE BORDER BETWEEN WORLDS

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Background: Placed at the confluency of worlds of a distinct essence, the body defines in Ileana Mălăncioiu's literary work a poetics of the fragmentary, pervaded by the irisations of tragic. More than a poetical prop item, it entails different types of scenery, spun off a history on the edge of myth and of the biographical universe. In this regard, on a background calibrated by "the consubstantiality of life and death" (according to Eugen Negrici) are taking place quasi-ritualic mise-en-scène, that reveal a particular relation between the poetical ego and the world. Evanescent or shattered by the vagaries of faith, the body is constantly unveiled through the correspondence between part and the whole, their binder being one of sacred nature (see *Richard The Lionheart*, *Aurelian The Emperor*). The strangeness reflects an intimate complicity of the poet with the echo of the other world, the one that lies in the plan of affective conscience and the representation of whom it complies to a passing through the mirror of the real. Beyond there is a world in which the body loses its carnation, but still works due to the light of memory. The dead bride, Ierodesa, Ieronim and Natanel remain the representatives of an illusory world, in which the limits of the body are dimmed on behalf of a symbolic augmentation of the characteristic element. *My Sister Beyond* follows a distinct lyrical scenography, one in which the tragic is highlighted through the unsettling demise. Death is now under the lense of the microscope, and the *great evil* (the cancer) is being watched through the signs on the body. The fragmentary remains a constant of the lyrical discourse as poems correspond to a litany, a cry of sufferance. The malady does not forgive anyone as death interferes more strikingly in the substance of everyday existence.

Keywords: myth, sense of tragic, poetical mise-en-scène, trauma, cancer

LITERATURE

REWRITING THE BODY IN MARGARET ATWOOD'S FICTION

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Background: This study examines the intersections between Michel Foucault's theorization of power, discipline, and resistance, and Margaret Atwood's fiction, with a focus on the corporeal inscription of history and the biopolitical regulation of bodies. Foucault conceptualizes individuals as "bodies imprinted by history," whose energies are disciplined, docile, and mobilized as instruments of submission. Within Atwood's dystopian framework, this logic is materialized in the Gileadean state's systemic control of female reproduction and its public punishment, which resonates with Foucault's analyses in Discipline and Punish.The dramatization of Salvagings and Particicution exemplifies the political nature of execution, which Foucault identifies as the most visible manifestation of sovereign power. Atwood's depiction of corporeal suffering thus underscores the materiality of power, aligning with Foucault's claim that power operates through torture and discipline. The reproductive apparatus of Gilead further illustrates the principle of biopolitics, where governance penetrates the most intimate dimensions of existence to regulate life and perpetuate authority.Yet Foucault's assertion that "there cannot be power without resistance" becomes equally important within Atwood's narrative. By analyzing the disciplinary technologies, surveillance mechanisms, and carceral forms structuring Gilead, this paper situates Atwood's novels within a Foucauldian paradigm that illuminates the dialectics of domination and resistance inscribed upon the female body.

Keywords: power, body, resistance, discipline, Foucault

THE POWER OF STORYTELLING IN PETRU CIMPOEȘU'S PROSE

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Background: Petru Cimpoeșu's prose, one of the most representative fiction writers of contemporary romanian literature, extends far beyond a mere reflection of historical and social reality, for it transcends this representation, reshaping it into a space of ontological reflection, of meditation on the human condition and the power of storytelling as a means of knowledge, of reordering existential chaos, and of cultural and identity resistance. A close reading and an interpretive examination of volumes such as "*Amintiri din provincie", "Firesc", "Erou fără voie", "Simion liftnicul. Roman cu îngeri și moldoveni", "Celălalt Simion", "Bărbați fără degete și alte amintiri penibile"*, and "*Scrisori către Taisia"* highlights the significance of storytelling as a cognitive, spiritual, and ethical instrument, in accordance with the author's view that literature is far more than a cultural ornament: it represents a form of "resistance through story". In Petru Cimpoeșu's vision, the writer's purpose is not limited solely to the act of creation, but extends to the social and cultural meanings of the stories he writes. Thus, storytelling serves not merely to illuminate the world but also to transform it. By offering new perspectives or critiquing the present situation, the writer contributes to shaping the collective imagination; the stories become more than narratives—they stand as reflections of humanity confronting social, existential, and political challenges.

Keywords: Petru Cimpoeșu, storytelling, writer, literature, humanity

NEW TRENDS IN HUMANITIES

THE SITUATION OF ROMANIAN LEXICOGRAPHY IN THE SEVENTEENTH CENTURY

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Background: The configuration of the female image in the nineteenth century remains an enigma. Over time, the condition and role of women in public life, its privacy, the manner of beauty and the fashion whims have aroused the curiosity and admiration of the general public, but also the interest of researchers. The lexicographic works represent a veritable document of the time in which they were conceived, one that "preserves the semantic memory of the era, of the community in which the" was elaborated, and the linguistic material they have corresponds, thus, to the image of the linguistic reality from the period of the dictionary's composition. The historical and linguistic importance of the works becomes all the greater as, through the information on the attestation, circulation, meaning, and form of the words, we can now observe their morphological and semantic evolution, and by including them in the dictionaries of the time, we are revealed objects, customs, procedures and actions of female beauty of interest to us at present.

Keywords: lexicography, seventeenth century, beauty, vocabulary, community

MULTIMODALITY IN BANKING ADVERTISING - A CASE STUDY OF THREE ONLINE INTERNATIONAL BANK ADS

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Background: Method. Case studies are key research tools in linguistics, offering an in-depth, intensive analysis of qualitative data. This paper conducts a parallel analysis of three distinct case studies of Facebook advertising that belong to three major international banks: Bank of America (USA), Lloyds Banking Group (UK), and Banca Transilvania (BT) (RO) Analysis. The case studies focus on the employment and role of major pragmalinguistic variables in banking advertising, such as repetition, deixis, politeness, modality, morpho-syntactic structures (ellipsis, imperatives), metaphor, and specialised banking terminology, likely to contribute to the refinement of the essence of online banking advertising research. Results and conclusion. In deciphering multimodality in banking advertising, case studies offer a rich, holistic perspective on the interplay between language and visual narratives, bringing granular details that best describe the dynamic of online banking communication and employment of pragmalinguistic persuasive strategies. Despite belonging to different cultures, in addressing potential customers to appeal to their services, the three banks in the analysed case studies demonstrate besides specificities, a common framework of pragma-linguistic persuasion in online advertising: a combination of familiar imagery, congenial simple language and clear calls to action, combined with the banks' messages of support, expertise, and security.

Keywords: Multimodality, Online banking advertising, Pragmalinguistic variables, Case study, Persuasion

LITERATURE AND COLONIALISM

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Background: This article examines how colonialism reshaped intimacy by imposing Victorian and Romantic ideals of monogamous, emotionally exclusive love onto societies whose marital systems emphasized kinship, reciprocity, and labor. Drawing on Mamdani and Goody, it shows how colonial authorities denigrated polygamy while instrumentalizing "customary law" for control. At the same time, European literature, from Conrad's repressed treatment of sexuality to missionary and travel writing, reinforced the moral divide between "civilized" love and "barbaric" sexuality (Hawthorn; Pratt). Colonial encounters thus staged a collision of imaginaries - oral traditions valorizing kinship versus Romantic novels valorizing passion - making literature itself a colonial technology that not only judged but also reshaped both indigenous and European models of intimacy.

Keywords: colonialism, intimacy, literary imaginaries, Victorian love, polygamy

THE USE OF EUPHEMISTIC LANGUAGE IN GEORGE CARLIN'S STAND-UP COMEDY

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Background: The concept of euphemism is of great interest in contemporary studies, given the fact that a significant influence on thought and the mind is exercised through spoken language itself. Believing that words carry a remarkable power in the real world when spoken by someone, one can discover an entire history of purposeful speech. The timeline of creating intention before speaking reveals a range of events in human history, from the oldest to the most recent, such as superstitions and deities, the Divine and the Evil Word, good manners and politeness, linguistic manipulation, and so forth. When talking about George Carlin's work on stage, the language used to create each show performed in front of his audience reveals a clear perspective of the comedian, namely, the idea that the soft language Americans use becomes a subtle way of altering truth and reality. By analysing the central themes in Carlin's texts and books, we can identify various domains in which euphemisms have evolved over time, as well as observe a corresponding enrichment of the lexicon.

Keywords: euphemisms, stand-up comedy, George Carlin, soft language, offensive

THE STORY OF CLINICAL TALK: INTEGRATING DISCOURSE ANALYSIS ANDNARRATIVE MEDICINE

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Background: This paper approaches medical consultation primarily as a distinct type of discourse: a form of institutional, goal-oriented talk in which roles, identities, and power relations are negotiated turn by turn. It situates this view in the broader historyof discourse analysis, from early concerns with text and cohesion, through pragmatics and conversation analysis focused on turn-taking and repair, to later critical and Foucauldian approaches that foreground institutions, power, and the social construction of knowledge. In parallel, it traces the emergence of narrative medicine at the end of the twentieth century as a response to the limitations of strictly evidence-based models of care, drawing on literary theory and the medical humanities to argue for narrative competence and sustained attention to patients' stories. Consultations are described as highly constrained yet locally improvised interactional events, shaped by asymmetries of knowledge and authority, institutional time pressures, and culturally patterned expectations about "how a visit should go." Features such as question design, mitigation and hedging, repair, and closing sequences are considered as discursive resources through which clinicians and patients construct together responsibilities and options for action, while at the same time doing narrative work on illness and self. The encounter between discourse analysis and narrative medicine is explored as a productive "collision": institutional talk and narrative trajectories intersect when illness stories are elicited, interrupted, reformulated, or silenced by routine consultation practices. The paper proposes that clinical talk is best understood as a hybrid genre, between the positivist and constructivist approaches. It closes by indicating possible implications for research and training, in which recordings of real consultations and reflective narrative exercises could help clinicians recognize how their ways of speaking either open space for patient agency and shared decision-making or, conversely, limit what can be said, asked, and imagined within the medical encounter.

Keywords: narrative medicine, consultation, Foucauldian

THE UNICORN – A FUNDAMENTAL MYTHOPOETIC SYMBOL IN LUCIAN BLAGA'S POETRY

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Background: As a product of imaginative synthesis rooted in mythic thought, the unicorn emerges from the archaic bestiary of universal mythology. It also nourished Lucian Blaga's poetic imagination. Unlike other animal symbols, which appear more sporadically in Blaga's work, the unicorn holds a central role due to its symbolic richness into his poetic vision. In Blaga's poetic universe, the unicorn is not simply a borrowed figure from pagan or Christian mythology; rather, it becomes an original symbolic construct - either integrated into a mythic framework or narrative, or sublimated into a phantasm that expresses the poet's aspiration for purity and the absolute (much like in the works of R. M. Rilke), or "stylized" as an exclusively ideal embodiment, one whose discursive substance becomes more significant than any empirical appearance with which it no longer shares any meaningful connection.Defined by Blaga himself as one of the "most suggestive creations of mythological imagination" (Blaga 2011: 253), the unicorn - also known as licorn or unicorn - is a discursive construct that preserves and reactivates the exemplary mythic virtues of this mysterious being. At once naïve and strange in its wildness, yet ethereal and sublimated, the unicorn becomes, in Blaga's verse, a mythopoetic symbol of the consubstantiality between humanity and the cosmos, of transgression and, simultaneously, of the sacralization of worlds. It reflects the mystery of existence and being. Its image gradually transforms - from a "gentle herald" of love into a messenger of death or an epiphany of the sacred, from an emblem of the poet or a cosmic projection of his soul to a symbolic double of the lyrical self. In these chimera-like hypostases opposites converge in a dynamic, harmonious balance: cruelty and gentleness, elemental vitality and pure spiritual force, instinct and spiritual refinement, impetuousness and majesty, and more.

Keywords: unicorn, mythical construct, chimerical embodiment, mythopoetic symbol, bestiary

PHILOLOGY

BETWEEN IRONY AND ANXIETY: TRAUMATIC STRUCTURES IN THE POEMS OF FLORIN IARU

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Background: This paper investigates the presence and articulation of trauma in the poetry of Florin Iaru, situating his work at the intersection of postmodern irony and underlying psychological anxiety. Combining close textual analysis with trauma-studies frameworks and contextual literary history, the study examines how traumatic structures emerge through rhetorical fragmentation, semantic instability, and the poet's characteristic ludic aesthetic. The methodological approach integrates narratological tools—particularly the examination of voice, perspective, and discontinuity—with historical contextualization, emphasizing how poetic form becomes a vehicle for mediating experiences of pressure, fear, and inner rupture. Biographical elements inform the analysis: born in 1954 in Bucharest, Iaru belonged to the 1980s generation and was an active member of Cenaclul de Luni, a defining literary circle during late communism. His formation under censorship, surveillance, and ideological conformity leaves discernible traces in the atmosphere of distortion and instability that permeates his early poems. Following 1989, his writing reflects the disorientation and ambivalence of the post-revolution transition, suggesting a shift from systemic trauma to existential and identity-based fracture. Thematically, the paper identifies three main layers of trauma: historical trauma, encoded through grotesque exaggeration and allegorical absurdity; individual psychological trauma, manifested in the fragmentation of the lyrical self; and linguistic trauma, visible in the dissolution of meaning and the poetic mistrust of language. By analyzing these dimensions together, the paper argues that Iaru's irony does not neutralize trauma but instead reveals it as an ever-present undercurrent, shaping both poetic expression and lived experience.

Keywords: Postmodernism, Trauma studies, Romanian poetry

PHILOLOGY

STYLE AND EXPRESSIVENESS IN THE LITERARY WORK OF VALERIU ANANIA

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Background: Although writer Valeriu Anania remained a complex personality from youth to old age, driven by multiple trials, more or less orthodox, it would seem that Valeriu Anania retained his status as a chameleon-like personality. The writer's range of expressions is generous, from the gentle giant to the wrecker, who peers into your eyes or, as Constantin Stancu expresses it in a late, poignant October, about Aurel Pantea's thrilling lyricism, not the man of philosophers, dear Lord, not the man of theologians, nor the creature of politicians, to me comes the image of one accompanied by weakness and fornication, one in whom destruction laughed, the man left behind..." Such an experience used to be awakened in the consciousness of every individual who approached Valeriu Anania's lyrical mantle. Theologian Radu Preda, a close exegete of the writer and one of his collaborators of great spiritual elevation, used to admit the hypothesis that "memory is transcedental" and it can be observed that only through its appeal or even its call, the poetry of Valeriu Anania is part of this long tradition regarding the memorial writing (following Mircea Eliade's local vein and the exotic novel, recorded under the auspices of memoirs or diary writings, preferred with predilection within pastoral settings with cultural-linguistic interferences and explanations from Valeriu Anania). The writer not only succeeded in fulfilling his mission, surviving the times, but also transferred onto paper a kind of malleable creation, according to even small comparative studies, such as the visions similar to those of contemporary poets like Aurel Pantea. Often, Valeriu Anania's lyricism is inspired and anchored in an immediate, consistent reality, not only through the eyes of a dreamer, but also through the vision of someone who experiences his own creative output in a precise, accurate but often fixed range of colors.

Keywords: historical time, religious art, literal restoration, spiritual exuberance, allegorization

PIETY AND SACRILEGE IN THE WORK OF ANGELA MARINESCU. A POETICS OF AMBIVALENCE

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Background: From an ideological point of view, 20th-century romanian literature was characterised by an effervescence of cultural and literary currents and movements which, on the one hand, coexisted and, on the other, excluded each other due to aesthetic differences. Within this dynamic, the poet and feminist Angela Marinescu stands out through her ideologically unrestrainedpoetics, which display characteristics inherent to neomodernism, expressionism and postmodernism alike. The poet stands outthrough her nonconformist poetics, which stems from obscene language that lends authenticity to her discourse, and from theradical nature of her poetic subject matter, transforming illness, death and pain into themes with artistic significance. The poet'swriting is characterised by a visceral discourse that results both from a deeply confessional style and from lascivious language,revealing an authorial entity that frees itself from trauma through words. Words thus take on a therapeutic dimension, which iswhy the text-symptom is considered a key concept in Angela Marinescu's poetics. The concept of the poetics of ambivalence refersto the poets's recurring tendency to express contrasting, which could be explained either from a medical perspective, as aconsequence of acute bipolarity, or from a psychological-affective perspective, as a result of a fragmented poeticconsciousness. Angela Marinescu's poetry oscillates between piety and vulgarity, between harmlessness and violence, being ahomogeneus mixture of anger, impetuosity and fragility. The poetic imagination sketches a world in which the ambivalence ofsacred-profane, life-death, meekness-vulgarity coexists in the poet's being. The poet proclaims herself a ''saint'' in a world populatedby disabled nuns and churches thrown onto the sidewalk. The sacred is projected into the profane and vice versa. In this article, weaim to identify the explanation underlying these contrasting attitudes and illustrate how the sacred and the profane take on themeaning of fundamental life experiences that directly influence poetic consciousness.

Keywords: Angela Marinescu, Poetry, Ambivalence, Sacred, Profane

GASTRONOMIC REFLEXES IN CONTEMPORARY ROMANIAN LITERATURE

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Background: This study examines the ways in which gastronomy becomes a symbolic, identity-forming and aesthetic instrument in contemporary Romanian literature, far beyond its role as mere narrative backgroung. Starting from the long literary tradition in which food appears in chronicles, religious texts and early modern writings, the analysis traces the evolution and transformation of alimentary motifs up to postmodernism and literature produced after 1980. In medieval and premodern texts, feasts and culinary abundance reflect social status, communal order and ritualistic or sacred practices. Later, with the rise of modernity, gastronomy acquires moral, cultural and identitary meaning, functioning as a barometer of human character and social mentality.In postmodern and contemporary literature, culinary elements evolve intro a language of memory and nostalgia, becoming a bridge between past and present. Writers such as Ștefan Agopian, Mircea Cărtărescu, Petru Cimpoeșu and Alexandru Vlad transform alimentary gestures into mechanisms for reconstructing identity and reflecting socio-political conditions. In Agopian's work, gastronomy takes on fabulous, ironic and grotesque dimensions, for Dan Lungu, food becomes a vehicle of collective memory during the communist period, capturing survival strategies and nostalgia; in Cărtărescu's prose and poetry, alimentary imagery is elevated to a poetic symbol of corporeality, sensory experience and the labyrinth of memory, intertwining imaginary abundance with the material deprivation of the 1980s.Gastronomy in contemporary Romanian literature functions as a complex narrative code that evokes historical trauma and grants access to the emotional memory of characters. Food emerges as a form of knowledge and means of representing the world, a marker of social transformation and a fertil territory for poetic and aesthetic exploration.

Keywords: gastronomy, identity, Romanian postmodernism, memory, symbolic food

METAPHOR AND ARTISTIC EXPRESSIVITY IN SANDU TUDOR`S AKATHIST HYMN: AN INTERDISCIPLINARY STUDY

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Background: The article analyzes the role of metaphor and artistic expressivity in the Akathist hymn, emphasizing how these mechanisms serve as foundational elements of Orthodox liturgical poetry. The Akathist's structure is grounded in dense poetic imagery, which evokes and transforms theological content through symbolic language. By utilizing parallelisms, repetition and poetic exegesis, the text provides a unique space where tradition intersects with creative expression. Special emphasis is placed on Sandu Tudor's contribution: by enriching liturgical vocabulary and integrating contemporary poetic elements, he revitalized the Romanian hymnographic tradition, providing a distinctive synthesis between faith, interior contemplation and word artistry. Thus, the Akathist hymn attains not only theological, but also literary and cultural significance.

Keywords: Sandu Tudor, metaphor, artistic expressivity, symbolic language, Akathist Hymn

MAGICAL REALISM AND ROMANIAN LITERATURE UNDER COMMUNISM

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Background: This study takes rise from the statement that the Romanian communism was a time of constraint, when the freedom of expression was refused and the people were forced to only believe in the communist ideology and nothing else. Being aware of the great influence that literature had on people, the communists did their utmost to subordinate the literature to their own goals.The study aims to analize how the writers reacted to the communist imposition finding different ways to express themselves through literature. The research methodology is analysis.The findings of the study are that in Romania there were four main forms of literature during the communist era: the opportunist literature, the dissident literature, the subversive literature and the escapist literature.

Keywords: magical realism, Romanian literature, communism, censorship, subversiveness

PHILOLOGY - LITERATURE

WRITING THE UNSPEAKABLE: FEMALE TRAUMA AND THE LIMITS OF TESTIMONY IN POLCZ ALAINE'S ONE WOMAN IN THE WAR

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Background: This paper analyzes some of the narrative strategies utilized by Alaine Polcz to convey the traumatic experience of sexual violence in her memoir One Woman in the War. Examining trauma theory, feminist criticism, and research about testimony, it contends that Polcz's narrative reveals the cultural, psychological, and linguistic limits imposed on women's attempts to describe wartime rape. Her memoir is itself a hybrid between speech and silence, the sort of "unspeakability" that commonly marks the story of sexual trauma. Through a close reading of key passages, the analysis reveals how Polcz's retrospection and ironic tone reflect the disorienting impacts of trauma. The female body becomes the site of violence, the victimized field, as well as an archive of memory, encoding experiences that frequently transcend verbal lexicon. Polcz's act of writing is a form of resistance to historical erasure and cultural shame. The memoir is not just a testimony to the suffering of the individual, but it also subverts social norms that have long silenced women's accounts of sexual violence in wartime. For instance, as it delineates what testimony is unable to encompass, the paper focuses on the paradox inherent in narrating trauma: the need to speak, but the impossibility of fully rendering the lived experience. The study makes the case for Polcz Alainé as a vital contribution to the archive of women's wartime narratives — and to current debates about gendered trauma.

Keywords: gendered trauma, sexual violence, female body

SCIENCE AND TECHNOLOGY

INTELLECTUAL DISSENT AND CULTURAL MARGINALITY: PAUL ZARIFOPOL. THE PARADOX OF RECOGNITION

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Background: A distinguished thinker and refined intellectual, Paul Zarifopol stands as one of the most radical voices in Romanian essayism. Gifted with exceptional talent, he produced pages of vibrant, ironic and enduring writings. The intellectual playfulness of his ideas, the unexpected imagery, the subtle irony and originality transform his works into a genuine spectacle of thought and an inexhaustible source of intellectual delight. Yet, despite these qualities, one of the most persistent questions concerns Zarifopol's notoriety, a brilliant European spirit overshadowed by the limitations of literary criticism. Few have written about him and his ideas were often overlooked, being perceived as an outsider within the broader context of Romanian literature. Although recent efforts seek to rediscover his work, he continues to stand as one of the most intriguing and controversial figures, still awaiting full recognition.

Keywords: Paul Zarifopol, legacy, literary criticism, limitations, cultural periphery

INTEGRATING ERGONOMICS INTO THE DESIGN OF ELECTROSTATIC POWDER PAINTING BOOTHS

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Background: Context, materials and method: Electrostatic painting is part of the metal surface treatment, coating and decoration industry and is carried out by paint application operations in paint booths equipped with automated paint guns or manually by painting operators. Knowledge of the relationship between human physiology/psychology and painting techniques/equipment is important for the development of painting systems and installations designed. The present study reviews the theoretical and practical criteria for the application of ergonomics techniques and human factors engineering in electrostatic powder painting. The data collected are from the analysis of measurements and direct observations on the movements made by painting operators during the painting process in the paint booths, the RULA and NIOSH analysis for the studied cases, respectively the ergonomic audit performed. **Results:** The results highlight the benefits obtained by integrating ergonomic principles in the design of the painting process and the paint booth, reducing the risk of musculoskeletal disorders of painting operators by implementing methods and solutions to improve the painting process. At the level of the painting booth operator staff, productivity, mental and physical well-being increase. At the management level, the positive influence is found in the reduction of the number of non-conformities, the decrease in project completion times, respectively the increase in labor productivity. **Conclusions** To ensure a stable and cost-effective electrostatic painting process, the integration of ergonomics and human factors engineering is essential, their implementation in the work process and the creation of the necessary conditions to ensure the physical and cognitive needs of operators. The management of companies in the field must include ergonomics in the company's objectives through the potential to generate well-being and ensure the health of employees and the creation of added value by increasing labor productivity.

Keywords: Ergonomics, Ergonomic audit, RULA, NIOSH analyses, Paint booth, Electrostatic painting

THREE TEACHERS FROM FĂGĂRAȘ IN COMMUNIST PRISONS

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Background: Three teachers from Făgăraș in communist prisonsMuch has been written about the concentration camp regime in Romania and this subject will probably continue to be researched extensively over time. In this article, I will discuss the fate of three teachers from Făgăraș, whose destinies were intertwined to a certain extent. The three teachers known in the Făgăraș school environment are: Valeriu (Valer) Literat, Romulus (Romul) Ursu and Corneliu Ursu. The bond between them was strong, the first two being colleagues at Radu Negru High School and forming a beautiful friendship even outside of work, while Romulus and Corneliu were father and son, part of a family that had suffered greatly during the communist era. The three teachers served the Făgăraș education system with passion, teaching entire generations of students throughout their careers. Valeriu Literat was a priest in his native village of Luța until 1916, then in 1919 he began his teaching career at the Radu Negru High School. Romulus Ursu also began his teaching career during the same period while Corneliu Ursu was a medical student until his arrest, attending after his release the Faculty of Letters and becoming a teacher himself.

Keywords: teachers, prison, communism, Făgăraș

SMART NANOSTRUCTURED SURFACES ON □-TI ALLOYS FOR FUTURE DRUG-RELEASING IMPLANTS

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Background: Background: □-type titanium alloys such as Ti-Nb-Zr-Ta and Ti-Nb-Zr-Fe have attracted considerable interest for biomedical applications due to their mechanical compatibility and corrosion resistance. Beyond their structural role, implant surfaces are increasingly being engineered to act as localized drug reservoirs. Creating nanostructured oxide layers through anodization offers a pathway to combine mechanical stability with therapeutic functionality. Incorporating silver into the anodization process further introduces antimicrobial properties and enhances drug retention**. Materials and Methods:** Selected □-Ti alloys were anodized under optimized electrochemical conditions using a silver-containing electrolyte. Subsequent surface treatments were applied to improve drug adsorption. Morphological and ompositional features of the oxide layers were examined by scanning electron microscopy (SEM) and energy-dispersive spectroscopy (EDS). Drug release profiles were then evaluated under simulated physiological conditions to assess loading efficiency and release kinetics. **Results:** The anodized surfaces exhibited well-defined pore architectures and distinct chemical signatures influenced by silver incorporation. These features were found to play a decisive role in drug adsorption capacity and release behavior. Silver ions not only contributed to antimicrobial potential but also modulated the kinetics of drug release, enabling more controlled therapeutic delivery. **Conclusions:** The study demonstrates that nanostructured □-Ti alloy surfaces can be tailored to integrate mechanical compatibility with pharmacological functionality. Silver-enhanced anodization provides dual benefits of antimicrobial activity and improved drug release control. These findings establish a foundation for multifunctional implants, with in vivo validation planned to confirm their clinical relevance.

Keywords: □-Ti alloys, electrochemical anodization, silver-based electrolyte, drug delivery surfaces, nanostructured oxide layers

CONCEPTUAL METAPHOR IN STEPHEN HAWKING'S THEORIES

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Background: This paper investigates the conceptual metaphor in Stephen Hawking's texts, with a focus on the volume "The Universe in a Nutshell". Starting from the theory of conceptual metaphor formulated by George Lakoff and Mark Johnson, we investigate how structured conceptual metaphors (e.g., "the universe in a nutshell / as a miniature space," "time as form," "curvatures of the space□time," "black holes as gates") make complex theoretical concepts accessible to the general audience. The study identifies and classifies recurrent metaphors in the text, maps them to conceptual frames (container, path, mechanism, entity), and examines their discursive functions: conceptual modelling, establishment of epistemic analogies, reduction of abstraction, and rhetorical persuasion. The analysis combines qualitative methods of discourse analysis with tools from cognitive linguistics to show how metaphors not only illustrate science but to contribute to the formation of the reader's mental representation of cosmological theory. The conclusion highlights the productive tension between scientific fidelity and communicative efficiency of metaphor, proposing criteria for the responsible use of metaphoricity in science communication and suggestions for further research on the pragmatics of metaphor in popular science texts.

Keywords: conceptual metaphor, Stephen Hawking, Lakoff & Johnson, scientific communication, cognitive linguistics.

FUNCTIONALLY GRADED AL–MG ALLOY SYSTEMS

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Background: Functionally graded materials (FGMs) represent a class of advanced materials characterized by spatially controlled variations in composition or microstructure, which enable the integration of complementary properties and functions within a single solid. FGM systems based on Al-Mg alloys present a particular interest for applications requiring low density components where ductile regions can be combined with zones that provide higher stiffness and improved thermal stability. The present study synthesizes the available literature regarding the development and characterization of these material systems. The preliminary analysis of Al-Mg FGMs highlights their potential use for automotive applications where the high castability of these alloys facilitates the production of components through centrifugal or gravity casting with controlled solidification. However, diffusion control at the interface is critical because intermetallic phases such as Al_3Mg_2 and $Al_{12}Mg_{17}$ may form, segregate and act as mechanically weak regions. Interface stabilization can be achieved through the addition of elements such as Zn, Ag, Cu, Zr, Pb or Ni which mitigate the formation of brittle intermetallic compounds. When Al alloys containing Si are employed, the reaction of Mg can be preferentially directed toward Si, leading to the formation of Mg_2Si, a beneficial strengthening phase associated with finer, more rounded particles and improved toughness. Local heat-treatments such as solutionizing or aging may be applied to optimize properties in the graded region, allowing differential control of Mg_2Si precipitation and residual stress without affecting the entire volume of material. Al-Mg based FGMs exhibit significant potential for lightweight components subjected to variable loading, yet the field remains insufficiently developed. The control of interfacial intermetallic formation and the stability of the compositional gradient require additional experimental data, outlining clear directions for future research.

Keywords: functionally graded materials, Al–Mg alloy, Mg_2Si precipitation, diffusion-controlled solidification, lightweight materials

RESEARCH ON PREDICTIVE MAINTENANCE AND PARAMETER OPTIMIZATION IN THE INDUSTRIAL ENVIRONMENT

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Background: RESEARCH ON PREDICTIVE MAINTENANCE AND PARAMETER OPTIMIZATION IN THE INDUSTRIAL ENVIRONMENTMarian POP, Petruta BLAGA Department of Industrial Engineering and Management, UMFST G.E. Palade Targu Mures Background:The increasing complexity of industrial systems and the need to minimize unplanned downtime have driven the evolution of maintenance strategies from corrective and preventive approaches toward predictive maintenance (PdM). This research explores predictive maintenance and parameter optimization in industrial systems using Artificial Intelligence and data-driven models. The proposed approach integrates sensor data, machine learning algorithms, and real-time monitoring to predict equipment failures and optimize maintenance operations. The study aims to increase reliability, reduce downtime, and support the digital transformation toward Industry 4.0 in Targu Mures, through intelligent maintenance solutions. Keywords: Maintenance, Predictive maintenance, Parameter optimization, Industry 4.0

Keywords: Maintenance, Parameter optimization, Industry 4.0, Predictive maintenance

OVERCOMING THE LIMITATIONS OF CLASSICAL OUTLIER DETECTION WITH A COMPOSITE, REPRESENTATION-LEARNING FRAMEWORK

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Background: Outlier detection is the process of identifying data points that exhibit unusual behavior, characterized by significant deviation from most observations, an assumed statistical distribution, or a cluster's structure. This task is particularly challenging in highly imbalanced datasets, where outliers constitute a rare class. Classical univariate statistical methods include the Z-score, which measures deviation in units of standard deviation from the mean. Grubbs' test, a hypothesis-based method for detecting a single outlier using the G statistic and a significance level and Tukey's fences, a nonparametric method that identifies outliers using interquartile range-based thresholds. The multivariate parametric technique as Mahalanobis Distance (MD) measures distance based on the data's covariance structure. Z-score and Grubbs' test, are non-robust, assume approximate normality, are sensitive to sample size, and suffer from masking and swamping effects. In contrast, Tukey's method is more robust as it uses median and quartiles, its effectiveness decreases with strongly skewed or multimodal distributions. The MD becomes unreliable when the covariance matrix is ill-conditioned and performs poorly with non-Gaussian or multimodal data. Although extensions exist, these core techniques often remain unsuitable for complex, heterogeneous multivariate datasets. To overcome these limitations, a promising path is to structure a composite framework that leverages the strengths of these core techniques. The goal is to tackle the multivariate outlier detection problem by creating a more robust and insightful process. Such an approach would involve combining global, data-driven statistical information from various techniques to enrich the data's representation. Instead of relying on conventional sampling, this strategy would focus on feature engineering and representation learning thus effectively extending the set of analyzed variables to more precisely uncover the data's intrinsic structure. This enriched view is estimated that will be able to provide a powerful foundation for state-of-the-art anomaly detection techniques to identify outlier candidates

Keywords: outlier detection, statistical methods, multivariate analysis, representation learning, composite framework

INTERPRETABLE MACHINE LEARNING FOR IMBALANCED MEDICAL DATASETS USING ADAPTIVE KERNEL TECHNIQUES

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Background: The study focuses on the use of Machine Learning models that are known for their explainability andinterpretability, applied to diverse medical datasets, which include several diagnostic features. To improve the models' ability to learn from minority classes, oversampling techniques were used, which work effectively on imbalanced data. The kernel-based feature weighting boosts features and provides more informative inputs in healthcare prediction. This study uses predefined medical thresholds and statistical characteristics. The preliminary results showed that the adaptive kernel approaches correctly identified the positive cases and threshold adjustment helped the models become more sensitive to important feature values related to risk.

Keywords: machine learning, feature weighting, medical treshold

FEMALE TYPOLOGIES IN ION AGÂRBICEANU'S PROSE

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Background: This study examines the diversity and depth of feminine representations in Ion Agârbiceanu's prose, highlighting the role of female characters as mirrors of the moral and spiritual landscape of Transylvanian society. Agârbiceanu constructs a broad typology of women—ranging from traditional figures rooted in rural values to modern, educated characters who show early forms of social and intellectual self-affirmation—whose identities reflect tensions between tradition and modernity and the interplay of the sacred and the profane. The research applies close reading and thematic comparison to selected works, including *Strigoiul*, *Jandarmul*, *Stana*, *Dura lex* and *Fefeleaga*, examining characters through symbolic, moral, and socio-cultural lenses within the historical context of early 20th-century Transylvania. The analysis first highlights *the traditional woman* as a symbol of rural balance and family unity, illustrated by *the diligent peasant woman*, *the wise grandmother*, and *the innocent shepherdess*—figures that embody the moral and spiritual core of the Transylvanian village. Equally relevant is *the village "storyteller"* or *gossip woman*, exemplified by Chiva Dinului, who becomes the community's voice and guardian of collective memory. In contrast, characters such as Sora Corbu, Veronica Roșu, and Stana, *the conflicted women*, reveal the inner struggles of women caught between duty and personal desire, reflecting the identity tensions brought by social change. Through characters like the teacher Veronica Varga, Agârbiceanu suggests early forms of *female social and intellectual self-affirmation*. At the opposite end, protagonists from *Dura lex* and *Fefeleaga* embody the archetype of *the sacrificial woman*, marked by suffering, resilience, and moral purity. Therefore, the study shows that femininity holds a central place in Agârbiceanu's literary universe. Through multiple typologies, women emerge not only as social figures but also as ethical and spiritual archetypes. Positioned between tradition and modernity, they mirror the cultural changes of their time while preserving the enduring moral values of Transylvanian society.

Keywords: female typologies, Ion Agârbiceanu, Transylvanian literature, feminine identity, literary realism

THERMAL COMFORT AND IAQ EFFECTS ON OVERALL EQUIPMENT EFFECTIVENESS IN AUTOMOTIVE INDUSTRY

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Background: Overall Equipment Effectiveness (OEE) is a key performance indicator in automotive manufacturing, integrating availability, performance, and quality. Although OEE is traditionally evaluated from a technical perspective, indoor environmental conditions and thermal comfort may influence operator efficiency, reaction time, and micro-stoppage frequency. IAQ parameters, together with PMV and PPD indices, can reveal discomfort conditions that indirectly affect operational performance. IAQ was monitored in an automotive production facility using a Testo device measuring temperature, humidity, CO_2 concentration, and air flow. PMV and PPD were calculated based on measured thermal variables and standard metabolic rates for assembly operators. OEE data corresponding to the same production zone were analyzed in parallel. An employee questionnaire assessed perceived comfort and air quality. Statistical and correlation analyses were applied to identify links between IAQ/PMV-PPD fluctuations and short-term OEE variations. PMV values ranged from +0.5 to +1.5, corresponding to PPD levels of 15-35%. Periods with elevated CO_2 and warmer PMV values were associated with reductions in the performance component of OEE and with increased micro-stoppages. The quality component remained stable. IAQ and thermal comfort significantly influence operator performance and can generate short-term variability in OEE. Integrating IAQ-PMV-PPD monitoring into continuous improvement strategies may help optimize working conditions and stabilize operational performance in automotive production environments.

Keywords: OEE, IAQ, PMV/PPD

EUPHEMISM AS A STRATEGY OF POLITICAL DISCOURSE IN ROMANCE LANGUAGES

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Background: The phenomenon of euphemisms has long been studied by scholars, with evidence of its earliest uses dating back to Greco-Roman antiquity. Originally, the motivations underlying this complex phenomenon were primarily religious, but as society evolved, euphemisms developed into essential linguistic mechanisms across diverse domains. This research aims to investigate euphemism as a strategy of linguistic mitigation and concealment, analyzing how it functions within political discourse. The study is based on the premise that euphemism is more than a linguistic method for avoiding direct expression, it is also a complex manifestation of cultural mentalities and normative frameworks. The study further explores the functions of euphemisms and examines how they contribute to shaping political discourse and managing public image. We intend to conduct a comparative analysis of three Romance languages - Romanian, Italian, and Spanish. The research investigates the similarities and differences among these languages by analyzing euphemisms in political discourse and explores how they reflect cognitive and social processes, pragmatic and psycholinguistic dimensions, discursive-communicative norms and constraints, as well as their impact on the reception and effectiveness in political communication.

Keywords: euphemism, political discourse, Romance languages, linguistic mitigation

THE DYNAMICS OF DETERMINOLOGIZATION IN CONTEMPORARY ROMANIAN PHILOSOPHICAL LEXICON

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Background: This study examines the process of determinologization in the Romanian philosophical lexicon, understood as the phenomenon through which specialized terms abandon their technical status and enter general language, undergoing semantic shifts, extensions, or deviations in meaning. The analysis is based on a mixed corpus: philosophical texts published in *Revista de filosofie* (2021-2024), which establish the conceptual baseline of the terms, and a media corpus (2020-2025) that captures their use in everyday language. The comparative analysis indicates that determinologization primarily affects terms with a lower degree of specialization. Items such as *cauză* ('cause'), *formă* ('form'), *categorie* ('category'), *fenomen* ('phenomenon'), *cinic* ('cynic'), *deducție* ('deduction'), *coerență* ('coherence'), *finalitate* ('finality'), *hazard* ('hazard/chance'), *haos* ('chaos'), *abstract* ('abstract') display marked semantic mobility: while maintaining a technical, rigorous meaning in philosophical discourse, they appear in the press in persuasive-axiological, metaphorical or affective contexts ('editorial phenomenon', 'logical deduction', 'political coherence', 'the hazards of life', 'the finality of reforms'). Determinologization does not affect equally the 'hard core' of the philosophical lexicon, composed of highly technical, abstract, and often opaque terms of Greco-Latin origin (*apodictic, a priori, assertoric, ataraxia, syllogism, transcendent* etc.) or stable philosophical phrases (*prime/secondary substances, Platonic forms, pure reason, absolute time*), which remain largely impermeable to discursive migration. The phenomenon is therefore selective: only certain terms are likely to be transferred into media and everyday usage. The general conclusion is that determinologization functions as an indicator of cognitive circulation between specialized philosophical discourse and general language, reflecting the ways in which concepts adapt to the communicative needs of contemporary society.

Keywords: Romanian Philosophical Lexicon, determinologization, semantic mobility, general language

THE TERMINOLOGISATION IN BOTANY

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Background: The general objective of this study is to illustrate a productive mechanism for term formation in the field of botany—namely, the terminologisation. The terminologisation is a semantic process that involves the extension of meaning through the modification and addition of new conceptual features to words originating from the general lexicon. For that purpose, wordsare drawn from everyday language to denote a specialized concept. The specialization is based on a similarity between the reality designated by the word and the newly discovered element. The methodological approach consists in comparing the primary meanings of the wordswith their second-degree specialized meanings in order to emphasise the denotative values of the terms. Thus, the word becomes semantically enriched, acquires the status of a specialized term within a technical terminology, and comes to designate a concept. Within scientific discourse, it acquires the status of a term, whereas in the common language it becomes a polysemantic word. The conclusion that can be derived is that the role of terminologisation is to address the deficit of terms by avoiding the use of some hermetic, scholarly terms that are difficult to understand and use.

Keywords: term, botany, terminologisation, semantic, concept

THE PERCEPTION OF NINA`S CASSIAN POETRY IN COMMUNISM ERA (RECEPTAREA POEZIEI NINEI CASSIAN ÎN PERIOADA COMUNISTĂ)

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Background: THE PERCEPTION OF NINA`S CASSIAN POETRY IN COMMUNISM ERA

Popa Dragoș-Bogdan PhD student, University of Târgu Mureș Abstract: This abstract represents a summary of the essay called `*The Perception of Nina`s Cassian Poetry in Communism Era`,* wich is going to be presented at PhD and Young PhD students at The University of Târgu Mureș, in the Field of Philology.

This essay presents my dissertation about the writer Nina Cassian, whose poetical work is analysed in the paper `*Nina Cassian.The Creating Paradox*`. The title of my paper underlines that my research and contribution is only about the poetry published during the communist era in Romania, including the poetess` diary. The gist is to reconfigure and rediscover a vey special literary destiny based on a critical analysis of all the writer`s work published during 1947-1985 (until she left for America) Furthermore, starting from some official and authoritative critical positions I have outlined some clear directions so that Nina Cassian` the poetical work to be correctly and fully understood. Keywords: communism, poetry, femininity, retrieving, expressivity

Keywords: communism, poetry, femininity, retrieving, expressivity

THE NARRATIVE OF TRAUMA – CHARACTERISTICS OF TRAUMATIC NARRATIVE DISCOURSES

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Background: The main objective of this literary research is to define the concept of trauma and its modes of appearance and manifestation, while also attempting to detail all the characteristics that can be found in a narrative in which the narrator conveys traumatic experiences and events. It is important and essential to define and illustrate the characteristics of this type of narrative, as it appears as a basic concept in several areas of research, such as the analysis of memoirs, autobiographies, and diaries, which recount stories of suffering under totalitarian systems such as Romanian communism. Trauma appears and can appear in many different ways in literature, as it permeates not only the theme of the work, but also its narrative style, text composition, and language use. In order to be able to discuss a literary work belonging to a similar field in a meaningful way, and possibly draw definite scientific conclusions, it is essential to consider trauma not only as a theme, but as an integral part of the entire work.

Keywords: Trauma, trauma narratives, discours characteristics

ETHICAL IMPLICATIONS AND DILEMMAS OF ALTERNATIVE FUNDRAISING CHANNELS FOR NGOS

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Background: The rapid diversification of fundraising channels for non-governmental organizations (NGOs) - from crowdfunding and micro-donations to influencer partnerships, digital philanthropy, and cryptocurrency-based giving - has transformed the landscape of contemporary civil society. While these alternative mechanisms expand public engagement and financial sustainability, they also introduce complex ethical dilemmas. This article examines the tension between technological innovation and the preservation of core nonprofit values such as transparency, integrity, and accountability. Drawing on current literature and recent case studies, the analysis identifies critical ethical vulnerabilities, including opaque fund traceability, risks to donor privacy, manipulative or emotionally exploitative communication strategies, and the ambiguous provenance of anonymous or crypto-based contributions. The study further explores the societal and organizational impacts of ethical decision-making, emphasizing how adherence to robust ethical standards strengthens public trust and organizational legitimacy. Finally, it proposes a structured framework for ethical fundraising - integrating internal codes of conduct, blockchain-based transparency tools, independent ethical committees, and public financial reporting - as a path toward responsible and sustainable NGO development. By situating emerging fundraising practices within a broader ethical and regulatory context, the article highlights the need for a renewed ethical culture capable of supporting the evolving dynamics of digital-era philanthropy.

Keywords: alternative fundraising channels, ethical fundraising, crowdfunding transparency, digital philanthropy, blockchain accountability

PRODUCT SUSTAINABILITY COMPLIANCE & RESPONSIBILITY (PSCR – PRODUCT SUSTAINABILITY COMPLIANCE & RESPONSIBILITY) AND ESG (ENVIRONMENTAL, SOCIAL AND GOVERNANCE) INTEGRATION IN THE AUTOMOTIVE INDUSTRY: AREVIEW-BASED PERSPECTIVE ON WIRING HARNESS SUSTAINABILITY

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Background: The automotive sector is undergoing transformation driven by digitalization and evolving regulatory frameworks. Product compliance, traditionally linked to technical validation, has expanded into a strategic pillar of corporate responsibility. Within this context, Product Sustainability Compliance & Responsibility (PSCR - Product Sustainability Compliance & Responsibility) emerges as an integrative concept connecting regulatory conformity with environmental performance and social accountability across the product life cycle. European developments show linkages between REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals), RoHS (Restriction of Hazardous Substances), ELV (End-of-Life Vehicles), CSRD (Corporate Sustainability Reporting Directive), and the Circular Economy Action Plan, reinforcing compliance as a measurable sustainability indicator. However, industry practice still lacks a coherent framework that aligns PSCR processes with ESG (Environmental, Social and Governance) governance, particularly for complex components such as automotive wiring harnesses. This research is based on an analytical review of regulations, standards, and scientific literature published between 2015 and 2025. The investigated corpus includes REACH, RoHS, ELV, CSRD, CSDDD (Corporate Sustainability Due Diligence Directive), ISO 14001, ISO 26000, ISO 21434, VDA 6.3, and IATF 16949, complemented by studies on compliance and circularity. The methodology combines normative synthesis, conceptual mapping between compliance requirements and ESG indicators, and component-level assessment focused on chemical conformity, recyclability, and traceability. This approach positions PSCR as an operational enabler for ESG reporting. The results identify three trends: reliance on digital conformity systems such as International Material Data System, Substances of Concern In Products, and the Digital Product Passport; partial integration of ESG metricsinto conformity workflows; and the suitability of wiring harnesses for piloting PSCR-ESG integration. Findings confirm that PSCR supports reporting frameworks including Global Reporting Initiative, Sustainability Accounting Standards Board, European Sustainability Reporting Standards. The study concludes that PSCR can evolve into a driver of sustainable innovation and provides foundations for SSCC, FMEA-ESG, and PSCR-ESG gates.

Keywords: PSCR, ESG, Automotive Wiring Harnesses, Compliance and Sustainability

A SYSTEMATIC LITERATURE REVIEW ON ECOTOURISM: CONCEPTUALFOUNDATIONS, SUSTAINABILITY CHALLENGES, AND TECHNOLOGICAL INNOVATIONS

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Background: Sustainable development has seen the emergence of ecotourism as a groundbreaking approach, seeking to balance human desires for exploration with the need for environmental preservation. This article critiques the theoretical underpinnings of ecotourism using ontological, epistemological, and axiological perspectives, placing it within the context of larger discussions on sustainability and environmental morality. The analysis uses global case studies and systematic reviews to demonstrate the dualeffect of ecotourism, which can both safeguard biodiversity and result in ecological deterioration if inadequately managed. Thisstudy highlights the importance of community-based strategies, coordinating stakeholders, and governance frameworks in reducingsocio-economic disparities and environmental hazards. In addition, it examines modern developments, encompassing theincorporation of intelligent technologies and artificial intelligence (AI), which can improve resource management and visitorexperience while minimizing ecological footprints. The research results suggest that adaptive management, the development ofrobust policies, and participatory methods are necessary to ensure that ecotourism achieves its full potential as a driver ofconservation and socio-economic resilience. Future research directions will focus on conducting longitudinal impact assessments,developing technology-enabled sustainability models, and aligning with global sustainability agendas such as the SustainableDevelopment Goals (SDGs).

Keywords: Ecotourism, Artificial Intelligence in ecotourism, Comunity-Based Tourism, Literature review

A HYBRID DEEP LEARNING ARCHITECTURE FOR EFFICIENT AND ACCURATE MEDICAL IMAGE SEGMENTATION

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Background: Accurate lung tumor segmentation in computed tomography scans remains a significant challenge, particularly regarding fine boundary delineation and the high computational cost of existing state-of-the-art models. This work presents the preliminaries of a novel neural network designed to address these limitations by combining a convolutional encoder with an implicit neural representation decoder. Unlike traditional discrete approaches, this architecture employs spatial encoding and context-aware gating to predict a continuous occupancy function, allowing for precise surface definition. Experimental validation shows that the proposed model significantly outperforms established methods in segmentation accuracy while requiring a significantly reduced number of trainable parameters. These findings highlight the potential of implicit surface representations to deliver high-performance, resource-efficient solutions for complex medical image analysis tasks.

Keywords: Lung Tumor Segmentation, Hybrid Neural Networks, Implicit Neural Representations, Deep Learning, Computational Efficiency

IMPACT OF MOLECULAR FINGERPRINTS AND DESCRIPTORS ON ADVERSE DRUG REACTIONS PREDICTION USING SUPPORT VECTOR MACHINE, LOGISTICREGRESSION AND ADAPTIVE BOOSTING

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Background: Adverse drug reactions (ADRs) are critical issues in pharmacovigilance, emphasizing the need for predictive tools that can support early identification. This study uses the SIDER database, which provides 28 attributes: SMILES strings describing drug chemical structures and 27 binary indicators representing system organ classes linked to ADRs. Three machine learning algorithms, Support Vector Machine (SVM), Logistic Regression (LR), and Adaptive Boosting (AdaBoost), are applied to predict ADR outcomes from these molecular features. LR is used as an interpretable baseline model, SVM for its strong performance with imbalanced data, and AdaBoost for its adaptive handling of difficult samples.To represent chemical structures, three types of feature sets are generated from the SMILES strings: (1) molecular fingerprints (Morgan, Atom Pair, Torsion, and Pattern), capturing structural, relational, and substructural information; (2) simple molecular descriptors (Molecular Weight and Number of Valence Electrons); and (3) a combined feature set integrating both fingerprints and descriptors. Hyperparameter tuning is performed using Random Search.The models are evaluated using Accuracy, AUC-ROC, and AUC-PR to assess overall performance, discrimination ability, and behavior on imbalanced data. Results show that SVM performs best across most feature sets, with Morgan fingerprints providing the strongest signal, achieving an AUC-PR of 0.75 for the Metabolism and nutrition disorders category. Descriptor-only models result in lower predictive performance, while combining descriptors with fingerprints offers minor improvements in accuracy.

Keywords: adverse drug reactions, support vector machine, adaptive boosting, logistic regression, smiles strings

COMPARATION OF VIRTUAL SAMPLES AND REAL FILAMENTS MADE FROM HDPE COMPOSITES WITH TIO□ INSERTS

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Background: The current study shows the demonstration between reality and virtuality. In this, the distinction between the virtual model and the real one of a newly formed composite made of high-density polyethylene (HDPE) and titanium dioxide (TiO_2) was attempted. In the first instance, it was shown that in the numerical simulator used, Abaqus, a bar of dimensions 500x200x100mm was loaded, on which different loadings were tried. The simulator experiment showed that the bar can withstand tensile forces of up to approximately 1400N, where its breaking limit also appears, if pure HDPE is considered. In the composite, the breaking strength is approximately 1300N, but the force distribution is more uniform. For the practical part of the experiment, a filament was created; making the bar was not possible. However, the strength of the filament was 500-560N, demonstrating that in reality, the strength of a bar made from this material can be much more resistant than the performed simulation, due to differences in thickness. Therefore, the study shows that HDPE modified with TiO_2 has significant potential in the development of the plastics industry, offering new perspectives and improvement of already known elements, through the creation of new materials.

Keywords: Abaqus, filaments, composite, samples, weight resistance

PROSE, AS AN EXTENSION OF THE MACEDONSKIAN POETIC VISION

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Background: "The work of Alexandru Macedonski illustrates all literary genres." Known primarily for his symbolist poetry, he also left a significant mark on his prose, which, although less voluminous than his poetry, stands out for several distinct features, especially in terms of aesthetic dimensions, thematics, narrative style, and literary influences. Regarding the theme of the artist's inner struggle and his relationship with society, *Thalassa* will remain the perfect illustration of it, although his prose concerns will also turn to mythology and symbolism, using narrative as a vehicle to discuss philosophical and aesthetic ideas, as presented in the short prose pieces *The postmaster*, *A night in Sulina*, *Bucharest of tulips and roses*, *The Elm forest* or *August day*. In all his prose work there is not a single piece that is sustained by the sole interest of the story. Even when he narrates, the few facts form bridges thrown across the interval between two pictures", so that his art actually seems that of a painter." Macedonski "knew how to achieve - as few have been able to do - a happy synthesis between tradition and innovation". The balance between the two finds concrete expression with the prose *August Day,* where tradition is classically represented by the village world, with its values of stability, family, faith and work, and innovation is concentrated in the figure of Costică, the young graduate, bearer of modern civilization. Instead of showing contempt for the original universe, the young character assumes a reflexive return to it, a process that does not imply a regression, but rather a conscious reintegration into a moral and communal order, a form of civic reconnection, through which the idea is affirmed that individual and national progress find their basis in the continuity of founding values.

Keywords: prose, struggle, innovation, progress, continuity

EVALUATING CLASSICAL AND GENERATIVE AUGMENTATION FOR CROSS-DATASET GENERALISATION OF PRANET IN COLORECTAL POLYP SEGMENTATION

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Background: Evaluating Classical and Generative Augmentation for Cross-Dataset Generalisation of PraNet in Colorectal Polyp Segmentation Author: Daniela-Maria Cristea The application of Deep Learning to colorectal polyp segmentation remains a demanding task in computer-assisted diagnosis, where generalization across diverse datasets is critical for clinical reliability. This study explores the influence of augmentation strategies, both classical image transformations and generative synthesis, on the stability of the Parallel Reverse Attention Network (PraNet). Seven publicly available were synthetised through a unified normalisation pipeline to reduce variability in resolution and illumination. Two augmentation paradigms were examined: (i) classical operations such as geometric and photometric adjustments that preserve anatomical fidelity, and (ii) generative augmentation via the Polyp-Gen framework, producing synthetic yet realistic polyp imagery. Experimental protocols included single-dataset training, aggregated multi-source training, and independent validation to assess generalisation performance. Results demonstrate that while multi-source aggregation offers the best generalization across unknown data, classical augmentation generally increases segmentation accuracy in smaller datasets. Excessive augmentation during aggregated training, however, marginally lowers external performance, indicating distributional bias. By adding synthetic examples, segmentation consistency improves, demonstrating the complementary role of generative augmentation. All things considered, dataset aggregation creates a strong foundation for generalization, and augmentation, especially generative techniques, can be carefully incorporated to improve model performance in clinical polyp analysis.

Keywords: GenerativeAI, DeepLearning, Colorectal Cancer, Medical Semantic Segmentation, Data Augmentation

EVALUATING REASONING CAPABILITIES IN SMALL AND MEDIUM-SCALE LANGUAGE MODELS

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Background: Evaluating the logical reasoning abilities of large language models is an essential step towards understanding the current progress in artificial intelligence (AI). This study examines how small and medium-sized models handle tasks that require conceptual understanding, logical deduction, and contextual interpretation. The way these models process information and build chains of inference is examined through experiments focused on factual comprehension and multi-step logic problems. Although some models demonstrate coherent reasoning behaviors, their performance varies significantly depending on task complexity and model family, whether LLaMA, Qwen, Phi, Mistral, or DeepSeek. The findings indicate that smaller models may exhibit early forms of reasoning but often struggle with maintaining stable conclusions and consistent deductive patterns. Techniques such as chain-of-thought prompting, while effective in larger models, do not consistently lead to improvements under limited computational capacity.

Keywords: Large Language Models, logical reasoning, chain-of-thought prompting

ANALYSIS OF DIGITAL VERNIER CALIPER VERSUS DIGITAL THICKNESS GAUGE ACCURACY AND USER EXPERIENCE IN MEASURING ARTERIAL WALL THICKNESS: IMPLICATIONS FOR BIOMECHANICAL ASSESSMENT

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Background: Background: Accurate measurement of arterial wall thickness is essential for reliable biomechanical assessment of vascular tissues. However, the precision and reproducibility of different measurement tools remain uncertain.Objective: This study compared the accuracy, consistency, and user experience of a digital vernier caliper versus a digital thickness gauge in determining porcine arterial wall thickness and assessed the impact of these measurements on biomechanical parameters.Methods: Segments of porcine aorta, carotid, and coronary arteries were harvested and sectioned into 12 × 12 mm samples. Three examiners with varying levels of experience measured tissue thickness using two protocols with a digital vernier caliper and one protocol with a Mitutoyo 547-500S digital thickness gauge. Biomechanical testing was conducted using a BioTester 5000 device, and Cauchy stress and Young's modulus were computed from uniaxial tensile tests.Results: Thickness values showed significant inter-user and inter-protocol variability with the vernier caliper, particularly for coronary artery samples and novice users. The thickness gauge demonstrated superior reproducibility and minimal dependence on operator experience. Despite measurement discrepancies, no significant differences were found in calculated Cauchy stress or Young's modulus at 25% or 50% stretch levels.Conclusions: The digital thickness gauge provided the most consistent and user-independent measurements of soft vascular tissues, enhancing data reliability for biomechanical modeling. While standardized multi-point caliper protocols can reduce variability, they cannot match the accuracy of a calibrated thickness gauge. These findings underscore the importance of appropriate measurement tools for precise vascular biomechanics research.

Keywords: arterial wall thickness, digital thickness gauge, biomechanical testing, Cauchy stress, Young’s modulus

APRON SIZE AND RAKE TINE CONFIGURATION INFLUENCE ON POLYMER SAMPLE UNIAXIAL TENSILE ASSESSMENT ACCURACY

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Background: Background: Following existing studies as well as our previous work on "The Role of Specimen Dimensions in Biaxial Mechanical Characterization of Overstretched Porcine Aorta", more extensive inquiry was necessary to draw definitive conclusions on the special case of uniaxial versus biaxial tensile testing, particularly regarding the difference exhibited by biological soft tissues under physiological conditions, largely in the circumferential versus longitudinal axes. As such, using a synthetic isotropic polymer, we investigated the effect of excess ungripped material and rake tine spacing on the accuracy of uniaxial tensile tests, which may provide a better understanding of the initial results. Methods: Following a sizing protocol accommodating rake tine geometries of the CellScale-5000 Biotester, samples of an isotropic hyperelastic incompressible material (casted silicone) have been prepared and uniaxially tested using a previously effective regimen of applied tensile stresses. Stress-strain and Young's modulus data were recorded and analysed, while yield stress has been avoided due to the limitations of the study, which does not intend to account for plasticity and anisotropy of said elastomers. Results: Significant differences in the overestimation of the stresses applied became apparent, proportional but only up to a certain percentage of the apron overhang, thus concluding that the excess material beyond the gripped region does influence the mechanical response of the sample, in the immediate vicinity (up to a certain percentage of the active area under stress). Conclusions: While common tensile test artifacts are still present in any rake/tine configuration, the greater accuracy of the uniaxial setup is a limiting factor on the potential bias when translating results on other types of soft tissue. Apron length, given certain rake tine geometries, is essential for an accurate characterisation of elastic samples, with recommended lengths varying proportionally as percentages of the active area of applied stresses.

Keywords: Biomechanical, Characterisation, Apron

SOCIAL SCIENCES

INFLUENCE OF SOCIAL MEDIA ON BODY IMAGE AND ONLINE COMMUNICATION

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Background: Social media platforms are modern communication tools that offer users the possibility to interact with each other, express their thoughts and emotions and share information on different subjects. While these platforms foster connection and give people the chance to maintain relationships, they also negatively impact their personal lives, especially those who are dealing with disorders like anorexia. Among these platforms, X (formerly known as Twitter) is a popular space where individuals can discuss their struggles and fears, allowing them to share their personal experiences. The primary objective of this study is to conduct a thorough discourse analysis of a series of tweet extracts, examining the metaphors, symbols, narrative structures, and lexical choices employed by individuals with anorexia as they share their emotional conflicts and personal experiences related to the disease. The analysis also aims to uncover the linguistic mechanisms that shape users' language in the online space. Moreover, the purpose of the study is to identify the features that can serve as a framework, helping family members and healthcare professionals understand, recognise, and interpret these linguistic cues to support individuals affected by anorexia.

Keywords: eating disorders, anorexia, discourse analysis, inguistic mechanisms, social media platform

A JOURNEY ON SOCIAL MEDIA BASED BRAND COMMUNITIES AND ITS RELATION WITH CONSUMER-BASED-BRAND-EQUITY

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Background: Brand communities are becoming more and more important and companies have seen the potential of such communities in a social media context. Automotive industry is known for its intense competition and companies are trying to increase the loyalty, the trust and the perception of the customers. The purpose of this paper is to investigate how relationships formed on social media based communities affect customer-based-brand-equity and to analyze if country-of-origin can moderate this relationship. The case of Volvo is analyzed by having a quantitative approach. Findings show that the relationships on such communities can enhance customer-based-brand-equity. Moreover, a detailed analysis reveals that relationship between customers and other customers and between customers and brand on social media communities are the most efficient. The paper contributes to the existing literature by providing insights on a topic that has not been developed by other authors and provides valuable implications for managers in the automotive industry in order to maximize the positive outcomes of such communities.

Keywords: social media based brand communities, customer-based-brand-equity, country of origin

BUSINESS EXCELLENCE: AUTONOMY AND CONTINUING EDUCATION IN THE AUTONOM MODEL

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Background: This study explores the concept of excellence in business, emphasizing the importance of autonomy and continuous education within the Autonom model. The research highlights that true organizational performance extends beyond financial metrics to include a culture of learning and responsibility. By investing in employee training, companies can enhance productivity, as evidenced by the OECD report indicating a 20% productivity increase in firms prioritizing employee development. The case study of Autonom, a Romanian company founded in 2006, illustrates how autonomy in decision-making and a commitment to education can drive sustainable performance. Autonom's success is attributed to its decentralized structure, where local agencies operate independently and share profits, fostering a sense of ownership among employees. The study also discusses the implications of participative leadership and the synergy between education and autonomy, which cultivates innovation and engagement. Furthermore, Autonom's commitment to social responsibility and sustainability initiatives underlines its role as a corporate leader. This research suggests that the integration of autonomy and education is not merely a competitive advantage but a necessary condition for sustainable excellence in business.

Keywords: business excellence, performance, leadership

CONSUMER BEHAVIOUR AND SUSTAINABLE DESTINATION CHOICES: INSIGHTS FROM A VOSVIEWER BIBLIOMETRIC MAPPING

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Background: This study explores how consumer behaviour influences the choice of sustainable tourism destinations by analysing scientific literature indexed in the Web of Science. Using VOSviewer, a bibliometric mapping was generated to identify conceptual links, thematic clusters, and research hotspots relevant to sustainability-oriented travel decisions. The network and density visualizations reveal four major domains: (1) ecological and environmental attributes perceived by tourists (water quality, biodiversity, protected areas); (2) destination characteristics associated with sustainability (locality, species conservation, vulnerability, environmental parameters); (3) socio-economic dimensions related to tourism development; and (4) behavioural drivers shaping destination preferences, including perceived value and risk. The overlay visualization indicates a temporal shift from ecological assessments to integrated sustainable development themes, highlighting the increasing importance of sustainability criteria in consumer choice. The findings underline the interdisciplinary nature of sustainable tourism research and provide a structured view of how environmental and behavioural concepts converge in shaping responsible travel patterns.

Keywords: sustainable destinations, consumer behaviour, VOSviewer, bibliometric analysis, sustainability perception

ECONOMIC DEVELOPMENT STRATEGIES FOR COMPANIES IN FINANCIAL DIFFICULTY/ INSOLVENCY

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Background: This paper analyses economic recovery strategies for companies in financial difficulty / in insolvency, through the integration of management tools and the European regulatory framework. The study starts from the provisions of Law No.85/2014 and Directive (EU) 2019/1023, highlighting their role in supporting proactive business-oriented solutions, and includesan assessment of the impact on business continuity and the development of a strategic model based on prevention, flexibility, and shareholder/partner involvement. The paper highlights that integrated approaches, supported by digitization and diversification of funding sources, can transform insolvency from a crisis into an opportunity for reinvention. Based on these considerations, the article offers recommendations for the early implementation of warning mechanisms, the creation of tailored plans, and the promotion of a "second chance" culture.

Keywords: Business strategy, economic recovery, preventive restructuring, financial management, business continuity

THE RESISTANCE OF NEO-PROTESTANT COMMUNITIES IN THE MUREȘ REGION UNDER THE GHEORGHIU□DEJ REGIME: GROWTH AND COHESION UNDER REPRESSIVE CONDITIONS

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Background: This study examines the evolution of neo-Protestant communities in the Hungarian Autonomous Region (corresponding today to Mureș County) between 1952 and 1959, during the Gheorghiu□Dej regime, focusing on their growth and resilience under conditions of persecution. Despite legislative pressures and strict surveillance by the Securitate, neo-Protestant communities managed to retain their existing members and strengthen internal cohesion, demonstrating significant growth and an expansion of community networks. This paradoxical development can be explained by several complementary factors. First, community resistance and social cohesion enabled members to preserve and transmit religious traditions within families and rural communities. Second, the appeal of the religious message, emphasizing personal faith experiences and missionary activity, facilitated the recruitment and engagement of new adherents. Third, demographic and social factors, such as a large rural population and the lack of spiritual alternatives provided by the state, supported the development of these communities, which were considered marginal by authorities. Finally, informal networks and clandestine continuity—restricted gatherings and household preaching—allowed not only the preservation of existing members but also the expansion of communities. The study highlights the paradox of the Dej era: while the regime exerted constant pressure on neo-Protestant denominations, they were able to develop and consolidate their internal cohesion. This research provides a clear perspective on the mechanisms of religious resistance and the central role of communities and families in maintaining confessional identity.

Keywords: Neo-Protestant communities, Religious resistance, Gheorghiu□Dej regime, Social cohesion, Clandestine networks

LINGUISTIC EXPLORATION OF IDIOMATIC EXPRESSIONS IN ENGLISH

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Background: Idioms provide an intriguing look into culture and mentality of a specific time or group. They are phrases in which the literal meaning is not determined by the words themselves, but rather conveys a figurative sense that is recognized through widespread use. These expressions enhance communication by offering lively and frequently vibrant ways to express thoughts, feelings, and cultural subtleties.Idioms are essential in literature for forming characters and settings. They assist readers in understanding the social and historical backdrop of the story, showing how characters engage, perceive, and talk. For example, idioms can show societal views, class differences, and cultural beliefs, bringing more complexity to conversastions and stories.

Keywords: Idioms, vibrant, frequently

KINDERLAND – IMAGOLOGICAL DIMENSIONS OF PREMATURE MATURATION IN THE CONTEXT OF PARENTAL MIGRATION

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Background: The study examines, from an imagological perspective, the way in which the novel Kinderland (Liliana Corobca, 2013) shapes the identity of children left at home after their parents migrate abroad for work. The analysis starts from the premise that parental migration becomes a factor generating profound transformations in the imaginary of childhood, leading to the emergence of a specific type of "adult child," whose maturation is accelerated by the responsibilities imposed by the adult's absence. The study highlights the fact that the fictional universe constructed by Corobca functions as a space of identity ambivalence: on the one hand, children are compelled to assume roles associated with adulthood—managing the household, caring for their siblings, handling fear and vulnerability; on the other hand, they continue to reclaim fragments of childhood, developing compensatory, playful, or imaginative mechanisms. This structural tension becomes an imagological indicator of the rewriting of childhood under the conditions of transnational economic mobility. The novel thus becomes an imagological mapping of a distorted childhood, in which premature maturation appears both as a direct consequence of parental absence and as a mechanism of identity-based survival.

Keywords: childhood, absence, imagology, migrantion, novel

ETHICAL TRANSPARENCY IN FUNDRAISING: BETWEEN PUBLIC TRUST AND SOCIAL RESPONSIBILITY

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Background: This paper examines the ethical importance of transparency in fundraising for hospitals and neonatal care units. The study shows that transparency is essential for building public trust, attracting donors, and ensuring responsible use of resources in the health sector. When hospitals clearly communicate how donations are used—whether for medical equipment, improved infrastructure, or better patient care—donors feel more confident and more willing to support them. The paper also highlights common ethical challenges, such as protecting patient data, avoiding emotional manipulation in medical campaigns, and ensuring that images of newborns or vulnerable patients are used with dignity and consent. In the digital environment, transparency requires clear communication, honest reporting, and responsible handling of personal information. Overall, the findings show that ethical transparency strengthens the reputation of medical institutions, improves collaboration with donors, and contributes to better and more sustainable healthcare services, especially in sensitive areas such as neonatology.

Keywords: fundraising, donor behaviour, health sector, transparency

A REPUDIATED CORNER OF MARAMURESH: REDISCOVERING THE EASTERN BOUNDARY OF MARAMURESH IN THE MIDDLE AGES

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Background: In the context of the political upheavals in mid-14th-century Maramuresh, the descendants of Voivode Sas, recently granted property in the eastern part of the Knezate of Cuhea, had their domain demarcated. Historiography has accepted that the eastern boundary of this domain also corresponded to that of Maramuresh, the medieval border between Moldavia and Maramuresh being determined to have run along the ridge between the Viseu and Tibau rivers, while Terhouasa, the eastern marker of the domain, was believed to have been Toroiaga Peak. The presentation will revisit the perambulation of the boundaries of the Borsa, Saliste, Moisei, and Sacel estates, as well as the domain of Cuhea, from the 14th to the 16th centuries. It will identify the boundary markers, examine changes in the eastern borders of Maramureş, determine the precise location of the eastern boundaries, address the claims of Moldavian primacy in the Tibau basin, and, above all, analyze their economic implications.

Keywords: boundaries, Maramuresh, middle ages, estates, Moldavia

PRONOUNS AND MESSAGE INTERPRETATION: INSIGHTS FROM PSYCHOLINGUISTICS

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Background: Within contemporary linguistic and psycholinguistic research, pronouns are regarded not only as basic grammatical entities, but also as discourse-pragmatic elements that play a significant role in shaping message interpretation. This paper illustrates how the selection and use of pronouns can function as cues to a speaker's mental states, communicative intentions and epistemic positioning, as well as to the degree of veridicality attributed to the discourse. The analysis examines the pronominal strategies involved in indexing agency, responsibility and interpersonal distance, from explicit self-attribution through first-person forms, to discursive distancing via second or third person pronouns and the impersonalization of content through indefinite forms. In doing so, the paper offers a relevant contribution to understanding the linguistic mechanisms that structure message interpretation in verbal interaction.

Keywords: Pronouns, Psycholinguistics, Discourse Pragmatics, Message interpretation

ON MULTIMODAL ANALYSIS TECHNIQUES

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Background: By focusing on a classic work and its adaptation, the objective of Multimodal Analysis Techniques is to understand how the story is reinterpreted to fit other forms, such as a graphic novel. This analysis reveals changes within the broader alterations to story and plot, character arcs, themes, and style, revealing how meaning changes through storytelling techniques. The importance of investigating adaptations is that it deepens our understanding of the original work and offers fresh interpretations that highlight specific details. Adaptations also work to simplify complex literary texts to make them captivating and accessible to a wider audience, thereby fostering more literacy and critical thinking. The juxtaposition of texts and their adaptations cultivates multimodal literacy because readers learn to decode text and image simultaneously. In addition, the analysis of adaptations deepens appreciation of the creative story construction and showcases the impact of culture, history, and technology on storytelling. It encourages cross-disciplinary inquiry combining the focus of literature, visual art, and media, broadening the scope of academic research as well as pedagogical approaches. Adaptations encourage critical thinking about the balance between fidelity and creativity, supporting reflection by audiences about the rationale behind the modifications.

Keywords: multimodality, adaptations, graphic novels

THE GLOBALIZATION OF THE GIG ECONOMY: HOW DIGITAL PLATFORMS ARE EXPANDING EMPLOYMENT OPPORTUNITIES ACROSS BORDERS

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Background: The emergence of the "gig" economy, spurred by digital platforms, has driven a rapid reconfiguration of the labor market, shifting from the traditional model toward task-based arrangements. Although this model offers flexibility, public and academic perception is dominated by the challenges it raises. At a national level, its incorporation is often problematic and creates an "institutional void." Companies frequently use platforms to reduce operational costs and transfer maximum risk to workers. This is achieved through the ambiguous classification of personnel as "independent contractors," a strategy that eliminates obligations related to minimum wage, medical insurance, or pension contributions. Although governments and regulators attempt to intervene, overseeing these new forms of work remains difficult, necessitating a clearer research agenda to manage the economic and social implications.

Keywords: GIG economy, Freelancer, Digital platforms

RESISTANCE TO CHANGE IN ROMANIA'S DIGITAL PUBLIC SERVICES

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Background: Unlimited access to online public services remains a major challenge in the 21st century. Public institutions worldwide are digitizing their services to streamline processes and improve transparency, yet many intended users exhibit reluctance to embrace digital platforms. This resistance is observed not only among citizens - who may distrust new technologies or lack digital skills - but also within public sector workforces, where employees can be hesitant to change established routines. The push for digital transformation aims to simplify administrative procedures and provide more efficient, user-friendly services, ultimately enhancing accountability and public trust. High-quality performance in public service delivery is therefore crucial for effective governance and improving citizens' quality of life. Indeed, well-functioning public services are often linked to greater citizen satisfaction and trust in government, reinforcing democratic institutions and social well-being. This research investigates how resistance to change and prevailing mindsets affect public perception of public sector performance and service quality. In particular, it examines the relationship between service accessibility on digital platforms versus traditional in-person delivery. The study focuses on the context of Romania's public sector, aligning with European policy ideals that call for accessible, fair, and transparent services. A mixed-methods approach was employed: (i) qualitatively, through questionnaires and structured interviews probing attitudes toward e-services, and (ii) quantitatively, by comparing usage rates of digital services against their traditional counterparts using data from a public institution's service management system. This analysis sheds light on the extent to which cultural and institutional resistance impede the adoption of e-government services, and it underscores the importance of change management and citizen-centric strategies in improving public service performance.

Keywords: resistance to change, public services performance, digital transformation, e-government

BARRIERS & ENABLERS FOR WORKPLACE INCLUSION OF ADULTS WITH DISABILITIES

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Background: Barriers & Enablers for Workplace Inclusion of Adults with Disabilities Introduction / Objectives: Although legislative frameworks promote equal employment opportunities for people with disabilities, their practical inclusion in the labour market remains limited. We have conducted a study with the objective to examine how adults with disabilities perceive access to employment on the labour market and to identify the barriers and enabling factors that shape their integration. Material and Methods: We conducted a qualitative study based on semi-structured interviews carried out between May and July 2025. The dataset includes a group interview carried out in July 2025, which offered detailed insights into productivity expectations, mental health-related challenges, and workplace relations. All interviews were transcribed and analyzed through thematic coding, focusing on recurrent patterns such as discrimination, emotional well-being, adaptability of tasks, and interpersonal support. Results: Findings reveal substantial variation in workplace experiences. Positive accounts include supportive colleagues, patient supervisors, clear routines, and effective mediation in accessing employment. Social interaction emerged as a protective factor, with most participants preferring team environments over isolation, even when interactions involved some risk of judgment. Conclusions: The study confirms a gap between formal inclusion policies and the lived realities of people with disabilities. Sustainable workplace inclusion requires more than legal compliance; it depends on adaptive job design, supportive leadership, empathetic peer relationships. Recognizing disability as a form of human diversity, rather than a deviation from productivity standards, is essential for building organizational cultures that support long-term integration.

Keywords: disability, labour market, inclusion, workplace adaptation, stigma

THE PROBATIVE VALUE OF AUDIO VIDEO RECORDINGS FROM PRIVACY PERSPECTIVE

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Background: Audio/video recordings may constitute items of evidence, regardless of the technical support on which they are stored, the law imposing as a condition of admissibility that they have been obtained in compliance with the law and morality, a condition that will be verified during the admissibility of evidence.The correct interpretation of the legal provisions must be made in strict compliance with domestic and international legal rules on the privacy of the individual. The notion of "private life" encompasses family and conjugal life, daily life at home, the home itself, sentimental life, friendships, leisure, the private aspect of professional work, etc. The right to privacy allows the individual to be the master of a secret, intimate territory, safe from any indiscretion.In order for the court to determine whether the recordings constitute an invasion of privacy, it must analyze the concept of privacy in the meaning of civil law, a concept which must be related to the actual content of the recordings and the conditions under which they were made.

Keywords: audio/video recordings, interpretation of the legal provisions, private life

ARCHAEOLOGISTS AT THE ACCADEMIA DI ROMANIA IN THE INTERWAR PERIOD: A QUANTITATIVE ANALYSIS OF EPHEMERIS DACOROMANA

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Background: This paper represents a section of a broader doctoral thesis dedicated to the archaeologists specialized at the Accademia di Romania in Rome during the interwar period. The study presents a quantitative analysis of one of the institution's yearbooks, in order to determine the proportion of archaeological publications within the volumes of *Ephemeris Dacoromana*. In addition to describing the structure and publication patterns of the yearbook, the study examines possible connections between the institution's directors and the thematic orientation of the works published by the young archaeologists. The preliminary results provide new perspectives on the institution's editorial policies and on the ways in which young scholars selected the fields of specialization that would shape their professional careers throughout the twentieth century.

Keywords: Archeology, Accademia di Romania, Ephemeris Dacoromana, Publications, Interwar period

SUSTAINABLE TOURISM POLICIES AND DIGITAL PROMOTION IN ROMANIA: A COMPARATIVE ANALYSIS OF REGIONAL DEVELOPMENT AND SOCIAL MEDIA STRATEGIES

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Background: This study examines how sustainable tourism policies are being shaped and applied in Romania, focusing inparticular on the Centre Region, and compares these developments with the approaches adopted in countries with similareconomic profiles, such as Hungary. The analysis responds to the growing importance of digital transformation and the expandingrole of social media in how destinations communicate, promote cultural heritage, and interact with visitors.The research follows amixed-methods design. Quantitative data—tourist flows, overnight stays, occupancy rates and levels of digital adoption—arecombined with a qualitative review of national strategies, legislative frameworks and regional governance practices. The study alsoconsiders how social media platforms and influencer-based promotion contribute to the visibility and attractiveness of culturadestinations. The findings show that Romania has strong tourism potential, but the adoption of sustainability principles and digitaltools varies considerably from one region to another. In the Centre Region, progress is visible, supported by EU-funded projects andmore active digital communication, though institutional coordination remains limited. By contrast, Hungary's Balaton regionillustrates a more coherent policy framework, clearer governance and a consistent digital presence, all of which translate into betterdestination performance. Overall, the study highlights the need for stronger regional coordination, more unified digital communication strategies and a clearer integration of sustainability objectives within Romanian tourism developmentintegration of sustainability objectives within Romanian tourism development

Keywords: 1. Sustainable Tourism, 2. Digitalization, 3. Social Media Communication, 3. Social Media Communication, 5. Regional Tourism Policy

THE AFTERMATH OF THE SREBRENICA GENOCIDE: AN ORAL HISTORY APPROACH

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Background: In July 1995, three years after the Bosnian War erupted, the so-called safe area of Srebrenica fell under the control of the Bosnian Serb troops (VRS), led by Ratko Mladić. At the moment, the city was hosting about 50.000 souls. Thousands of people sought refuge at the main UN military base in Potočari, hoping to find protection under the mandate of the United Nations peacekeeping forces. Only a small number were granted access inside the compound. The rest, no less than 15,000 people, attempted to flee through the surrounding forests, towards the city of Tuzla. They were constantly subjected to ambushes, shelling, and gunfire from VRS units. As Nino Čatić warned (the only journalist present in the enclave at that time), Srebrenica was turning into a slaughterhouse. Nino ultimately shared the same tragic fate. Captured, bound, and tortured, more than 8,000 people, mostly men and boys, were brutally executed in less than a week. The scale and cruelty of the killings shocked even the international investigators assigned by the ICTY to determine the full extent of the atrocities committed in Srebrenica. Only ten people survived the mass executions. This study examines the life experiences of two such survivors. Both were captured, tied up, and transported to remote execution sites, where they were shot and left for dead. At the same time, the study highlights the ongoing struggle of the mothers, sisters, and wives of those who were killed: a constant fight for memory, justice, and peace.

Keywords: Srebrenica, Genocide, Bosnian War, Mass executions

COMMUNICATION IN THE FIELD OF DENTISTRY IN ROMANIAN SPECIALIZED JOURNALS

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Background: Communication in the field of Dentistry is a complex process, located at the intersection of science, education and non-specialized communication with the patient. In Romanian specialty journals, this communicative dimension has developed significantly in recent decades, due to access to scientific information, the emergence of digital platforms and alignment with international publishing standards. This paper aims to analyze how scientific communication manifests itself in Romanian dental journals - Revista Română de Stomatologie, Revista Română de Medicină Dentară and Dental Target - with a focus on the language used and the strategies for presenting information. Through a comparative analysis of the content published between 2019 and 2025, the paper provides an overview of the terminology, discursive structures and trends in the modernization of scientific communication in Romanian dentistry.

Keywords: dentistry, non-specialized communication, dental journals, specialized terminology

INDEX OF AUTHORS

INDEX OF AUTHORS

INDEX OF AUTHORS

INDEX OF AUTHORS

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