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UMFST-UMCH RESEARCH DAY FOR MEDICAL STUDENTS

Targu Mures, Romania
Hamburg, Germany
4 April, 2025

BOOK OF ABSTRACTS

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THE IMPACT OF SOCIAL MEDIA'S BEAUTY IDEALS ON OUR PSYCHE

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Background: **Social media** has become an inseparable part of our life, shaping *self-image, relationships, and social behaviour* . While offering some benefits, excessive use has been linked to negative mental health outcomes, including *lower self-esteem, body dissatisfaction and emotional distress* . Users are often exposed to ideal standards of beauty that inspire social comparisons and self-evaluation against unrealistic, digitally manipulated images. **Objectives:** The **objective aim** of this research is to analyse the extent to which social media usage affects self-esteem, body image, and mental health, focusing on how social comparison, appearance-focused content and usage patterns add to the psychological state of its users. Additionally, demographic differences were examined to determine which groups are most vulnerable. **Material and method:** A cross-sectional survey design was used. The Rosenberg Self-Esteem Scale, questions about their use of social media frequency, engagement, and psychological influences were assessed. Participants were recruited via social media platforms, like Instagram, Facebook and YouTube, and online survey panels. Qualitative and quantitative data were collected through Likert-scale feedback, multiple-choice items, and open-ended responses to include a comprehensive picture of psychological and behavioural impact. Statistical analyses (correlation + regression models) were performed using SPSS to assess the association of exposure to platforms to self-esteem and body image. English and German languages were used to provide wider accessibility. Ethical approval was obtained, and all responses were collected anonymously. **Results:** A total of **259 participants** were included after excluding incomplete responses. The sample consisted of **177 women (68.3%), 75 men (28.9%), and 3 non-binary individuals (1.2%**). The majority (n=189, 73%) were between 18-29 years old. Platform engagement was high, with 57% spending 5-10 hours daily online and 94.1% using social media for over five years. Findings indicate that high social media engagement is *strongly negatively* related to self-esteem. Appearance-related content *exacerbates* body dissatisfaction and comparison. Women and younger participants were found to be more affected, reporting frequent feelings of inadequacy after exposure and claimed to experience increased pressures to conform to beauty models. The *social comparison attitude* served as a strong negotiator between *high platform use and feelings of inadequacy, loneliness and anxiety* . Furthermore, more than one third of the interviewed were forced to make their appearance meet social demands, further contributing to overall worsening of self-image. Participants who actively avoided exposure to idealised material were discovered to have lower levels of social comparison and better emotional health. **Conclusion:** The present research emphasises the harmful pressure of social media on body perception and mental stability, particularly for *vulnerable demographics* . The results highlight the need for *awareness* and *interventions* to promote media literacy and healthier social media habits to engage resilience and self-acceptance. Reducing the exposure to artificial beauty standards and encouraging realistic critical engagement with online content may help users manage the adverse effects of platforms on their well-being and foster acceptance of the self.

Keywords: Social media, self-esteem, body image, social comparison, mental health

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ARTIFICIAL INTELLIGENCE IN THE EARLY DETECTION OF COLORECTAL CANCER

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Background: Colorectal cancer (CRC) is one of the most prevalent cancers worldwide, with early detection playing an important role in reducing mortality. Colonoscopy is the gold standard for CRC screening; however, limitations such as the dependancy on examiners expertise and adenoma miss rates (AMR) lead to the idea of integrating artificial intelligence (AI) in endoscopic examinations. Computer-aided detection (CADe) systems have been integrated to improve adenoma and polyp detection rates, however their effectiveness in clinical practice remains to be validated. **Objectives:** This study aims to evaluate the effect of CADe on adenoma detection rates (ADR) and polyp detection rates (PDR) compared to conventional colonoscopy, assessing its potential benefits and limitations in improving CRC screening accuracy. **Material and method:** A retrospective, single-center study was undertaken, analyzing and comparing conventional colonoscopies and AI assisted colonoscopies. A total of 92 patients (46 per group) received a colonoscopy screening, 46 individuals with AI integration and another 46

without. Patient selection was randomized, and all colonoscopy screenings were performed by an experienced endoscopist. Data collection focused on ADR, PDR, lesion location, and procedure duration. Python program was used for statistical analysis to compare the results of both groups. **Results:** The basic demographic and procedural characteristics of the CADe and Control Group were as follows: mean age, 64,9 and 66,3 years; male sex distribution, 58,7% and 60,9% of participants, respectively. The ADR remained identical in both the CADe and control groups at 32.6%, while the PDR showed a slight increase in the CADe group (58.7% vs. 54.3%). More lesions were detected in the ascending and transverse colon with AI assistance, but overall lesion distribution varied. Examination duration was slightly longer in the CADe group. **Conclusion:** This study was not able to identify an improvement in ADR with CADe, though a moderate increase in PDR suggests potential benefits for polyp detection, especially for diminutive lesions. The integration of AI did not reduce examination time and required examiner expertise to interprete false positive results. Our study has proven that Computer-aided detection is as good as an experienced endoscopist, however, an overall impact of CADe on reducing adenoma miss rates remains inconclusive based on our results. CADe systems may assist less experienced endoscopists and address labor shortages.

Keywords: Colorectal Cancer, Computer Aided Detection (CADe), Adenoma Detection Rate (ADR), Polyp Detection Rate (PDR)

SINGLE CENTER RETROSPECTIVE REVIEW OF PREOPERATIVE CLINICAL CRITERIA AND INDICATIONS FOR CORNEAL CROSSLINKING IN KERATOCONUS: INSIGHTS FROM PATIENT DATA

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Background: Physicians face the challenge to indicate corneal cross-linking (CXL) for keratoconus (KC) in suitable patients, at an appropriate point in time. While the indication for CXL is typically tied to disease progression, there is currently no scientific consensus on specific criteria to define a progression of KC. Furthermore, real-world variables and practical constraints may impede the possibility to precisely verify a progression in every patient. In everyday clinical practice, physicians are able to individualize patien selection and are able to take into account factors that predispose towards KC progression or that may worsen the outcomes of alternative treatments. **Objectives:** This retrospective study aims to provide insight into the preoperative clinical criteria used by ophthalmologists to select KC patients for CXL surgery. **Material and method:** A total of 317 eyes from 233 patients who underwent CXL at NordBlick Eye Hospital Bellevue in Kiel, Germany over a period of five years were included into the study. Patient gender and patient age at time of CXL, the preoperative auto-refraction (AR) and subjective refraction (SR), corrected distance visual acuity (CDVA) for both AR and SR, uncorrected distance visual acuity (UCDVA), best spectacle corrected visual acuity (BSCVA), thinnest corneal pachymetry (TP), maximum keratometry (K_{max}) and preoperative corneal slit-lamp findings were extracted from the medical records and subsequent statistical analysis was performed. **Results:** We observe a male predominance of 79.8%. While mean age at time ofCXL was 28.6 years (SD ± 9.03), males received CXL at a younger age (27.4±8.1) compared to females (33.5 ±11.2). Mean preoperative spherical equivalent for auto-refraction and subjective refraction was -4.65D ±3.99 and -3.43D ±1.85 respectively. Preoperative visual acuity was highest in the SR CDVA group (0.27logMAR ±0.26), followed by BSCVA (0.30logMAR ±0.34) AR CDVA (0.35logMAR ±0.3) and UCDVA (0.49logMAR ±0.37). Mean preoperative K_{max} was +57.2D ±8.7. While mean TP was 453.2µm ±52.5, 13.4% of eyes received CXL with corneas measuring < 400µm in TP. No correlation between patient age and preoperative disease severity was observed acrossour study population. While 26.6% of eyes displayed no pathological findings on slit-lamp biomicroscopy, KC specific findings included Vogt's Striae (33.3% of eyes), conical corneal deformity (28.8%), Fleischer's Ring (10.6%) and corneal scarring (3.5%). **Conclusion:** Our findings on patient demographics reflect epidemiological characteristics of KC and increased rates of disease progression in males. On average, eyes were referred for CXL at an early to moderate stage of disease. While most eyes showed clear evidence of KC in clinical parameters, only a minority displayed signs of advanced disease. However, the absence of a control group and our reliance on single preoperative data points limits our ability to validate CXL indication criteria. Future studies should incorporate longitudinal designs and comparative groups to further validate criteria for patient selection. As advancements in technology and diagnostic software meet increasing scientific efforts towards early detection of KC, we expect preoperative disease severity to decrease in the future.

Keywords: keratoconus, corneal cross-linking, patient selection, indication

SHORT-TERM RESULTS IN PATIENTS WITH PROXIMAL FEMORAL FRACTURE

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Background: Proximal femoral fractures are a common consequence of osteoporosis, especially among the elderly. Their occurrence is strongly associated with increased age, female gender and decreased bone density. As one of the leading reasons for orthopedic hospital admissions and with prevalence expected to rise due to an aging population, these fractures pose a significant public health concern. Additionally, the high rate of comorbidities in the affected population and the need for prompt surgery, ideally within 24 hours of admission, as well as the need for a multidisciplinary team approach, makes management of these fractures challenging. **Objectives:** The study's purpose is to investigate factors that could enhance patient care and improve outcomes, as well as to evaluate the short-term results of patients with femoral neck fractures. It aims to evaluate whether certain factors influence short-term outcomes. **Material and method:** Data collection was achieved from the orthopedic and traumatology department at Klinikum Lüdenscheid and documented with Excel. Parameters such as patient age, time to surgery, surgery duration and procedure, anticoagulation, complications, hospital stay duration and discharge type were collected. A total of 106 patients that were admitted and treated for femoral neck fractures in 2024 were included in this study. Empiric descriptive analysis of the data was conducted with Excel, as well as the Chi-square test to evaluate correlation between certain parameters and complications. **Results:** The median age of the patients was 84 years, the youngest being 28 years old and the oldest 97 years. The age group with the highest prevalence were patients between 85-94 years, accounting for 40.57% of the study population. 76% of the patients were female and 24% were male. 89.92% of the patients underwent surgery within 24 hours and only 3.77% underwent surgery after 48 hours. More than half of the patients (52.83%) were transferred to the geriatric department, followed by 18.87% of patients discharged to the nursing home, highlighting the need for further medical care. 15.09% of patients experienced complications during their hospital stay, which were defined as anemia, pneumonia, cardiac decompensation, luxation of prothesis, dorsiflexor and plantar flexor paresis, and death. The result of statistical analysis for correlation between complications and time to surgery were $p = 0.139$. For correlation between complications and type of surgical procedure the p-value was 0.078 and for complications and age p-value was 0.582. All three values were greater than 0.05, indicating that there was no significant association. **Conclusion:** The findings indicate that age, type of surgical procedure and time to surgery did not influence the complication rates during the patient's hospital stay, suggesting other factors might be more important in the development of complications. Furthermore, it shows the importance of a multidisciplinary team approach as the majority of patients need further medical care.

Keywords: Femur, Neck fracture, Short-term outcomes

EFFECTIVENESS OF INHALED CORTICOSTEROID THERAPY ON SPIROMETRY RESULTS IN ASTHMA PATIENTS

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Background: Asthma is a chronic reversible respiratory disease affecting millions of people worldwide, often leading to a reduced quality of life, frequent hospital visits, and, in severe cases, mortality. The most common symptoms are dyspnea, wheezing, chest tightness and coughing. Despite improvements in asthma management, many patients continue to experience uncontrolled symptoms and exacerbations. General treatment regimens for asthma patients are recommended by the Global initiative of Asthma (GINA). Inhaled corticosteroids (ICS) are frequently combined with long-acting beta-agonists (LABA) to decrease airway inflammation and improve pulmonary function. Previous studies already indicate that ICS therapy improves the pulmonary function tests but, the extent of improvement varies among different patient populations. **Objectives:** The aim of the study was to determine if ICS therapy can lead to an increase of spirometry results including FEV1, FEV1/FVC and PEF of 10% or more over a period of six months and even up to 1.5 years, being assessed by using a body plethysmography.

Demographic factors such as age, sex, asthma severity and comorbidities are analyzed to assess their influence on treatment outcomes. **Material and method:** A retrospective cohort study was conducted, including 47 patients diagnosed with bronchial asthma with different asthma degrees. The data were collected from the Pneumology Department of Klinikum Leer in Germany between July-August 2024. The lung function parameters include FEV1, FEV1/FVC, and PEF, they were measured at three time points at intervals of approximately 6 months. Statistical analysis was performed using Microsoft Excel, the subgroup analyses was based on asthma severity, demographics, and comorbidities. **Results:** Including the study cohort, 53.19% (25 out of 47) patients demonstrated an improvement of ≥10% in at least one pulmonary function value in the comparison of the first spirometry results and the follow-up values.Significant improvements were observed in patients with intermittent, mild and moderate asthma. Respectively, in intermittent asthma all patients (4 out of 4) revealed spirometry result improvements. In mild asthma an improvement was shown in 53.33% (8 out of 15). The moderate asthma degree improved with 50% (9 out of 18). In the severe asthma degree almost half of the patients (4 out of 10) increased their values, suggesting that higher asthma severity correlates with reduced responsiveness to ICS therapy. Taking the gender distribution into consideration, a higher percentage of increased values is demonstrated in male patients (56.25%) compared to female patients (47.06%). Furthermore, better treatment response with ICS therapy was achieved in younger patients and in patients with a BMI < 30. **Conclusion:** The findings support the hypothesis that ICS therapy leads to measurable improvements in pulmonary function parameters among asthma patients, with the best observed response in intermittent and mild asthma cases. However, treatment effectiveness decreases as asthma severity increases, which highlights the need for individualized therapeutic approaches. Demographic factors such as age, sex, and BMI significantly impact also the treatment response. Future research should focus on optimizing treatment strategies for severe asthma patients to optimize clinical outcomes and on evaluating genetic influences on therapeutic responses.

Keywords: Asthma, Inhaled Corticosteroids, Pulmonary Function Test

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COMPARATIVE OUTCOMES OF AUTOLOGOUS TECHNIQUES IN MAMMARY RECONSTRUCTION: A COMPREHENSIVE REVIEW

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Background: Mammary reconstruction plays a vital role in the management of women with breast cancer undergoing mastectomy due to malignant neoplasia. This clinical study aims to compare multiple prominent techniques in autologous mammary reconstruction. Autologous reconstruction involves the use of the patient's own tissue, typically harvested from areas such as the abdomen (deep inferior epigastric vessels) or back (latissimus dorsi muscle), this can also be used in combination with alloplastic reconstruction which utilizes synthetic implants to restore breast shape and volume, this are called hybrid . The objective of this study is to evaluate the clinical outcomes, including complication rates, aesthetic results, and overall health related quality of life, as well as patient satisfaction associated with each technique. By assessing these parameters, our goal is to provide important insights that can guide clinical decision making and improve patient care in breast reconstruction. **Objectives:** The objective of this study is to evaluate the clinical outcomes, including complication rates, aesthetic results, and overall health-related quality of life, as well as patient satisfaction associated with each breast reconstruction technique. By assessing these parameters, our goal is to provide important insights that can guide clinical decision-making and improve patient care in breast reconstruction after mastectomy. **Material and method:** the data was collected from 26 patients using the BREAST-Q Version 2.0 questionnaire encompassing areas such as patient satisfaction, psychosocial, and physical well-being. Statistical analyses were conducted to compare outcomes based on three different types of reconstruction. **Results:** Latissimus Dorsi + Implant reconstruction showed the most significant improvement in BREAST-Q scores and patient satisfaction. DIEP flap, although offering lifelong results, had a lower statistically significant improvement. Latissimus Dorsi without an implant had the least improvement in satisfaction and quality of life. **Conclusion:** Tailored approaches are critical in breast reconstruction patients. Breast reconstruction does indeed favor patient´s quality of life and physical well-being. Both techniques are shown to be effective. If aesthetic satisfaction and faster recovery are the main priorities, the Latissimus Dorsi + Implant technique is the most suitable choice. If the goal is to avoid implants and achieve long-term natural results, the DIEP flap is the better option, despite its higher surgical complexity. Autologous reconstruction techniques, such as DIEP or Latissimus Dorsi without an implant, are preferable for patients who have undergone radiotherapy, as implant-based methods like Latissimus Dorsi + Implant carry a higher risk of

complications in irradiated tissues. These findings can guide clinical decision-making, prioritizing and emphasizing patient-centric care.

Keywords: Breast Reconstruction, Alloplastic technique, Autologous technique, Mastectomy

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THROMBOTIC OBSTRUCTION OF A MITRAL VALVE PROSTHESIS IN ADVANCED PREGNANCY: SAVING THE MOTHER, THE CHILD, OR BOTH ?

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Background: Mechanical heart valves offer long-term durability but carry an increased risk of thrombosis, particularly in cases ofinadequate anticoagulation. Prosthetic valve thrombosis (PVT) is a life-threatening complication that requires urgent intervention to prevent heart failure, pulmonary congestion, and stroke. The incidence of PVT in well-anticoagulated patients ranges from 0.1% to 5.7% in developed countries, with significantly higher rates in developing countries. Pregnancy further increases the risk of thrombosis due to physiological changes, including a hypercoagulable state, increased coagulation factors, elevated blood volume and cardiac output, and altered drug metabolism, which can compromise anticoagulant efficacy. These factors require close monitoring of pregnant patients with mechanical heart valves to prevent severe complications. **Case presentation:** A 24-year-old woman with a BMI of 21.8 kg/m², at 33 weeks of gestation in June 2010, presented to the Emergency Department of the University Hospital of Giessen and Marburg, Germany, with acute chest and abdominal pain, along with clinical signs of severe cardiogenic shock and pulmonary edema. She had undergone mechanical mitral valve replacement in 2004 due to chordae tendineae rupture. During pregnancy, her anticoagulation therapy was changed from phenprocoumon to enoxaparin 0.6 ml once daily.Transesophageal echocardiography revealed severe mitral valve dysfunction with restricted leaflet movement (0.8 cm³), suggesting thrombotic obstruction. Emergency surgery was initiated. Laboratory parameters with altered values included ALP of 107 U/L, LDH of 435 U/L, and urine pH of 5 with elevated ketone bodies.A successful caesarean section was performed, and the patient's mean arterial pressure was stabilized (70-75 mmHg). Sternotomy, atriotomy, and thrombectomy were immediately performed, during which three white thrombi (2.5 × 1.5 × 0.5 cm) were extracted and confirmed histopathologically. Due to the urgency of the situation and the recent caesarean section, valve replacement was not performed.Post-operative blood analysis at discharge showed modified values for INR of 3.38, PTT of 58 seconds, platelet count of 495 Tsd/L, ALP of 138 U/L and LDH of 269 U/L. The patient was discharged on pantoprazole, metoprolol, iron and phenprocoumon. **Case particularities:** This young woman experienced thrombotic obstruction of a mitral valve prosthesis during the last trimester of pregnancy, despite anticoagulant treatment with enoxaparin. **Conclusion:** In this case, inadequate anticoagulation and follow-up almost resulted in maternal and fetal mortality. This highlights the critical need for close monitoring and interdisciplinary coordination in the management of pregnant patients with mechanical heart valves. Early recognition, optimized anticoagulation strategies and timely surgical intervention are essential to prevent life-threatening complications. Improved patient education, regular monitoring and collaboration between cardiology, obstetrics and hematology specialists can significantly improve maternal and fetal outcomes in this high-risk population.

Keywords: thrombosis, valve prosthesis, pregnancy, anticoagulant therapy, thrombectomy

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MASSIVE PROSTATES, MAJOR CHALLENGES: THE ONGOING SURGICAL DILEMMA IN BPH MANAGEMENT

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Background: Benign prostatic hyperplasia (BPH), also known as prostate adenoma, is a common non-cancerous enlargement of the prostate gland affecting men worldwide. In 2019, there were approximately 11.26 million new cases of BPH globally.This condition predominantly affects older men, with prevalence increasing significantly with age. The incidence of BPH is increasing after 40 years of age, reaching around 60% at the age of 90. **Case presentation:**

A 78-year-old male presented to the emergency department with chronic urinary retention and clinical features consistent with a Proteus-associated urinary tract infection. The infection was treated with ciprofloxacin, and further imaging revealed prostatic enlargement measuring 65 × 57 × 75 mm. The patient's medical history includes grade 2 hypertension, bronchial asthma, trivascular coronary artery disease, heart failure classified as NYHA grade II, and a history of multiple cervical and lumbar disc herniation surgeries. Additionally, he has a right arm paresis, further complicating his overall clinical status. Our patient had a prostate volume of 135 mL. Given his circumstances, the chosen treatment approach was open transvesical prostatectomy. His operative and anesthetic risk was classified as ASA 3. The procedure performed was an open simple transvesical prostatectomy (adenomectomy). There were no intraoperative or postoperative complications, aside from the expected blood loss associated with this procedure, which was approximately 300 mL. The patient's postoperative recovery was favorable, with drainage tubes removed on postoperative day 3, and the urethrovesical catheter removed after 10 days. The patient was discharged in stable condition with spontaneous voiding and no post-void residual urine. **Case particularities:** The case presents an uncommon surgical approach, as open transvesical prostatectomy was performed instead of minimally invasive techniques due to the large prostate volume exceeding 80 mL. **Conclusion:** According to the European Association of Urology (EAU) guidelines, the selection of a surgical approach for benign prostatic hyperplasia (BPH) is based on prostate size, patient-specific factors, and associated risks. Transurethral resection of the prostate (TURP) is the standard treatment for prostates measuring 30 to 80 mL, providing effective symptom relief through endoscopic resection of obstructive prostatic tissue. However, TURP carries risks such as bleeding, transurethral resection (TUR) syndrome, infection, and transient urinary incontinence. Minimally invasive techniques, including Holmium Laser Enucleation of the Prostate (HoLEP) and Prostatic Urethral Lift (UroLift), offer alternatives with shorter recovery times and reduced bleeding risk. Despite these advantages, these procedures may be less effective for significantly enlarged prostates and could necessitate reintervention in certain cases. Robotic-assisted prostatectomy provides benefits such as shorter hospitalization, faster recovery, and a lower risk of blood loss, but it is considerably more costly due to the high expenses associated with robotic technology and disposable instruments. Moreover, it requires specialized surgical expertise and is not widely available across all medical institutions. For prostates larger than 80 mL, open prostatectomy is recommended, as it allows for the complete removal through an abdominal incision. While this procedure is generally more cost-effective, it is associated with a higher risk of intraoperative bleeding, prolonged catheterization, postoperative wound infection, and extended hospitalization.

Keywords: Benign Prostatic Hyperplasia (BPH), Open Prostatectomy, Transurethral Resection of the Prostate (TURP), Minimally Invasive Techniques, Surgical Outcomes and Risks

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THE VOLAR GALEAZZI FRACTURE – TWO RARE PRESENTATIONS WITH CONTRASTING TREATMENT APPROACHES

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Background: A Galeazzi fracture is a complex radial shaft fracture with a dislocation or subluxation of the distal radioulnar joint (DRUJ).The ulnar head dislocation is usually dorsal and very exceptionally volar when it is caused by an axial loading of forearm in supination, which is why this pattern is rarely discussed in the literature and studies. The causes of this fracture are traumatological events, but as they are associated with additional injuries, require a multidisciplinary team and depend on many medical and anatomical factors. A standardized protocol treatment approach is impossible as this is illustrated by the following two case studies. **Case presentation:** Patient A: Male patient 29-year-old, presented to the Emergency Department after a motorbike accident. The patient has suffered an open volar Galeazzi fracture type II after Gustilo Anderson classification. The distance between the fracture line of the radius and the lunate facet was >7.5cm. Upon surgical debridement and examination, it was found that the ulnar nerve was contused which led to a claw-like deformity of the hand and the ulnar artery was ruptured requiring vascular repair. The treatment was a multidisciplinary involving both plastic and orthopedic surgeons. Patient B: Female patient 90-year-old has presented to the Orthopedics outpatient room after a fall from same height with a similar injury. The distance between the fracture line of the radius and the lunate facet was less than < 7.5cm. The treatment was carried out conservatively by reducing the fracture and immobilizing the hand in a plaster cast. The skin defect was sutured under local anesthesia. **Case particularities:** Patient A developed a nerve contusion and vascular damage which is uncommon type II open fractures, making surgical treatment unavoidable. In contrast in patient B, since neither nerve nor vascular damage was found

although it presented the same type of open injury, it was considered that due to the patient's advanced age and comorbidities, conservative treatment is the more appropriate option. One possible factor for determining DRUJ stability is the measurement of the distance from the lunate facet to the fracture. If this is less than 7.5 cm, an unstable dislocation can be assumed, and vice versa if it is more than 7.5 cm. This measurement can support the treatment decision but is not a key factor, as the two case studies have confirmed. **Conclusion:** The volar Galeazzi fracture is underrepresented in literature, little being known of the potential associated injury patterns. Although guidelines can support the treatment decision, the anatomical and patient-specific factors are of crucial importance. The two case studies have emphasized that both surgical and non-surgical treatment options are possible in selected cases, adapted to the individual patient and his conditions.

Keywords: Galeazzi fracture, Distal radioulnar joint dislocation, Ulnar Neurovascular Bundle, Open fracture, Apex volar

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FROM NEPHROTIC SYNDROME TO HODGKIN LYMPHOMA – UN UNFORTUNATE COMBINATION OF RISK FACTORS AND PROTECTIVE FACTORS

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Background: Hodgkin lymphoma (HL) is a cancer of the lymphoid tissue, whose etiology has not yet been clarified, but risk factors (prolonged use of glucocorticoids) and protective factors (breastfeeding) have been identified. Nephrotic syndrome (NS) is the most diffuse glomerular pathology in the pediatric population. Researchers often classify it as an immune-mediated disease, which, just like any other pathology of this kind may carry a risk for the development of malignant lymphoma. **Case presentation:** An 8-year-old female patient, with no history of significant pathologies, presented at the hospital complaining of generalized painful edema. The abdominal US showed anasarca, and the laboratory tests revealed hypoalbuminemia, proteinuria, and dyslipidemia. Thereafter, the diagnosis of NS was made and the child received pulse therapy with methylprednisolone. Initially, there was a partial response to treatment, but afterward, the NS proved to be cortico-resistant and the treatment was switched to Cyclosporine. The NS remission was achieved and she received it for 2 years. Under this therapy, she presented itching, with an initial response to topic treatment. In evolution, itching was more persistent, and she started presenting fever, modified general state and loss of appetite. A malignancy was suspected (fever, pruritus, weight loss, high CRP, anemia) but the skin biopsy was suggestive of IgA vasculitis. As the abdominal US showed latero-aortic and inter-aorto-caval lymphadenopathies an abdominal laparoscopy was performed and histopathological exam was negative. The evolution was worse and one month later, the US showed more lymph nodes involved, and the abdominal laparotomy established the diagnosis of stage IIB Hodgkin lymphoma. The child underwent chemotherapy according to the OEPA protocol and is now in complete remission. **Case particularities:** The patient discussed in this case was a healthy individual before the onset of the glomerular disorder; an idiopathic NS. Often, this pathology is regarded as an immune-mediated disease.For a long time, prolonged (>2 months) corticotherapy has been considered a risk factor for lymphoma development; however, at least in this particular case, it is not possible to establish whether there was an underlying immune condition that promoted the appearance of the malignancy or whether the glucocorticoids should be the ones held responsible.The association of NS and HL is uncommon in children, this being common in adults as paraneoplastic syndrome. This report wants to highlight the possible link between HL and NS in pediatric patients, the final diagnosis being a real challenge. **Conclusion:** In some situations, the prolonged use of glucocorticoids can't be avoided. In such cases, it is essential to keep in mind the patient or family history of previously diagnosed autoimmune disorders to avoid any delay in the diagnosis of a malignant lymphoma. Protective factors against malignancies exist but do not eliminate the risk of diseases like lymphoma, so doctors should not underestimate cancer potential. By contrast, any known risk factor should immediately ring a bell and guide physicians towards a prompt diagnosis so that therapy can be started immediately and better chance of disease-free survival and quality of life can be assured to the patient.

Keywords: #NephroticSyndrome, #HodgkinLymphoma, #Breastfeeding, #Corticotherapy

TECHNIQUES AND OUTCOME IN LIP RECONSTRUCTION POST-MALIGNANT TUMOR RESECTION

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Background: Lip malignancies present a special challenge in reconstructive surgery due to the functional and aesthetic importance of the lips. Surgical management involves tumor excision in addition to oncologic safety margins as the primary goal, followed by reconstruction to restore oral communication, -mobility, and -symmetry. Various techniques, including local, regional, and microsurgical flaps, offer patient specific solutions based on the defects size, location, and patient-specific factors. The selection of an individual reconstructive strategy must balance functional restoration, cosmetic outcomes, and donor site oportunity. **Case presentation:** This case-based study peaks into different approaches to lip reconstruction following tumor resection. The cases picture a range of defect sizes and locations, requiring personalized surgical planning. In some instances, smaller defects were treated using primary closure, whereas extended defects where handled by rotation flap surgery, Nasogenic flap reconstruction, corssed triangular local flaps, etc. These local tissue rearrangement techniques, keeping native lip function with minimal donor site morbidity. Moderate defects demand more complex reconstructive strategies, including regional flaps to maintain dynamic lip movement and symmetry. For extensive defects involving a majority of the lip, microsurgical reconstruction provides well-vascularized soft tissue, while ensuring long-term functional viability.Each case adds importance to considering multiple factors, including defect characteristics, patient-specific needs, and potential functional downsides. The decision-making process also accounts for the availability of reconstructive options, the need for additional oncologic treatments, and long-term rehabilitation strategies. **Case particularities:** The individualized approach to lip reconstruction highlights the complexity of balancing oncologic safety with aesthetic and functional rehabilitation. While local flaps offer a save solutions for smaller defects, larger defects often require advanced techniques torestore mobility and mastery. Patient factors such as age, comorbidities, and aesthetic expectations further influence surgical planning and Outcome. Postoperative rehabilitation, including speech therapy and functional training, plays a cardinal role in optimizing long-term outcomes.Additionally, the impact of adjuvant therapies, such as radiation, may affect tissue healing and functional recovery, requiring customized postoperative management. The cases also reflect ongoing challenges in achieving both symmetry and dynamic movement, highlighting the need for multidisciplinary collaboration in reconstructive planning. **Conclusion:** Lip reconstruction after malignancy excision remains a complex surgical challenge requiring a patient-specific approach. The selection of an optimal technique depends on defect characteristics, functional demands, and aesthetic considerations. While various reconstructive methods offer promising outcomes, long-term follow-up is important to appraise functional recovery, complication rates, and patient satisfaction. Future case studies and ongoing research will further emend reconstructive algorithms and improve outcomes in lip reconstruction.

Keywords: lip reconstruction, malignancy, local flaps, microsurgery, functional outcome

THE PRESENCE OF A DIALYSIS CVC AT THE TIME OF RADIOCEPHALIC ARTERIOVENOUS FISTULA CREATION IS ASSOCIATED WITH LONG-TERM VASCULAR ACCESS FAILURE

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Background: According to the European Society of Vascular Surgery guidelines for dialysis access, the first option is the radio-cephalic arteriovenous fistula (RC-AVF) in the non-dominant upper limb. However, both mid-term and long-term permeability of the RC-AVF remains suboptimal. Contributing factors to this challenge include diabetes mellitus, substandard vessel quality, and female gender. **Objectives:** The primary objective of this study is to evaluate the influence of a central venous dialysis catheter on the long-term failure of rRC-AVFs. Additionally, we examined the risk factors correlated with long-term vascular access failure. **Material and method:** This retrospective observational study enrolled 154 patients with end-stage kidney disease who were admitted to the

Vascular Surgery Department and underwent the creation of an RC-AVF from January 2019 to December 2024. From the hospital electronic database, we documented the type of hospital admission, whether out-patient or in-patient, along with the preoperative laboratory data. Additionally, each patient underwent vascular mapping before the procedure, during which we noted the diameters of the radial artery and the cephalic vein. Patients were divided into two categories based on RC-AVF outcomes during follow-up: "Functional AVF" and "AVF Failure". Their progress was monitored through reviewing medical records, conducting telephone interviews, or making direct patient contact. After surgery, we observed patients for an average duration of 1.65±1.40 years. This research was funded by George Emil Palade, UMFST of Targu Mureș, Romania, grant number 171/2/09.01.2024.
Results: Patients experiencing AVF failure show a higher incidence of CVC (p=0.003) and diabetes mellitus (p=0.044). Additionally, they present elevated levels of neutrophils (p=0.041) and platelets (p=0.035) while having lower blood urea nitrogen levels (p=0.042). Furthermore, Kaplan-Meier survival curve analysis revealed a higher rate of AVF failure among those with CVC at the time of RC-AVF creation (p=0.003). Cox regression analysis indicates that the presence of CVC is linked to long-term AVF failure (HR: 2.42, p=0.004). These findings were validated after adjusting for demographic data (age and sex) (HR: 2.51, p=0.003), as well as for demographic data and cardiovascular risk factors (HR: 2.40, p=0.006). **Conclusion:** The presence of a dialysis CVC during the creation of an AVF negatively influences the long-term primary patency of the RC-AVF, independent of demographic data and usually cardiovascular risk factors.

Keywords: Arteriovenous fistula, AVF failure, Central venous catheter, Vascular access, Vascular surgery

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AVCI AND DVT: TWO VERY RARE ASSOCIATED PEDIATRIC PATHOLOGIES PRESENTING AS FAMILIAL CASES

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Background: Agenesis of the inferior cava vein (AVCI) is a very rare condition affecting 0,0005-1% of the world population and according to some researches, its etiology may be linked to intrauterine events.AVCI is often correlated to the onset of deep vein thrombosis (DVT) during childhood.DVT is the formation of a blood clot inside a vein. It has always been considered an uncommon event in the pediatric population, but it is no longer regarded as a solely adult pathology. In reality, its incidence has raised among children due to the advances in healthcare that have promoted the use of central venous catheters (CVC). In fact, most of the DVTs in the pediatric ward are CVC-related, but this is not the case. **Case presentation:** Three sisters presented at the hospital in different years, at different ages, and with different manifestations and personal histories; however, in the end, they were all diagnosed with the same pathologies.The eldest sister arrived to the hospital in 2017, at the age of 16, following an abortion. An angio-CT revealed acute pulmonary thromboembolism and a few days later a thoraco-abdomino-pelvic CT highlighted a deep vein thrombosis of chronic appearance in the right common iliac vein.The middle sister was first admitted in 2019, when she was 14, due to pain and edema of the left lower limb. A series of paraclinical investigations revealed inferior vena cava agenesis and deep vein thrombosis of the right external and common iliac veins, the left internal iliac vein, and the right superficial and deep femoral veins.The youngest sister, 17 years old, presented in 2025, with severe pain in the left iliac fossa with irradiation to the left lower limb. The angio-CT highlighted agenesis of the inferior vena cava and deep vein thrombosis at the level of the hypogastric plexus and left ilio-femoral vein.Moreover, all three girls were diagnosed with hereditary thrombophilia due to antithrombin III deficiency. **Case particularities:** Due to the extremely low pediatric incidence of AVCI and DVT, the fact that three young sisters all present both pathologies is simply astounding. Most cases of AVCI with DVT appear sporadically. Because these three patients are sisters, with VCI anomaly and AT III deficiency there must be an underlying genetic basis. This is the first report of a familial case series with these two main DVT risk factors. The parents, however, deny any consanguinity, so it remains yet to be elucidated what exactly this genetic component may be. **Conclusion:** Thrombophilia may point towards a recessively inherited genetic disorder, which the lack of consanguinity makes unlikely, but it is not sufficient to exclude it. We might consider unrecognized or distant consanguinity – especially because the family of interest is part of a population whose genetic pool has remained historically isolated –, some environmental factors to which the mother might have been exposed during all three pregnancies, or even polymorphisms as possible explanations. But it remains a mystery that maybe only extensive genetic testing and family screenings could be able to unveil.

Keywords: #AVCI, #DVT, #Thrombophilia, #Familiarity

PROGNOSTIC SIGNIFICANCE OF SEIZURE AUTOMATISMS IN MESIAL SCLEROSIS EPILEPSY

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Background: Automatisms,described amidst debate as stereotypical repetiitive non-purposeful movements often with no recall and loss of consciousness,have been reprted in frontal lobe,neocortex,prolonged abscence epilepsies but mostly documented in Mesial Temporal Lobe Epilepsy with Hippocampal Sclerosis as a cardinal feature in Focal Impaired Awareness Seizures.However,common in the latter,a section of patients present no such manifestations which raised a question of whether there exist any epileptic condition severity difference between the two patient categories.This had not been addressed by any studies as per this study's literature review. **Objectives:** To find imaging,electroencephalography features,other patient characteristics that would align condition outcome differences between patients presenting versus those without occurrence of seizure automatisms. **Material and method:** This retrospective study was conducted at Neurology Clinic 1 of the Emergency County Hospital of Targu Mures. 500 discharge papers of patients diagnosed with epilepsy bewteen 2024-2016 were evaluated for Magnetic Resonance Imaging,Electroencephalography,age,onset age of epilepsy,epilepsy duration,frequency of the seizures,seizure type,treatment response,gender,and psychaitric history.Inclusion criteria was based on age,imaging and brain ryhthm recordings.Cross tabulations of the above with occurrence of automatisms was done using SPSS version 26 with P value of significance set at 0.05 **Results:** 20 patients with mesial sclerosis epilepsy were finally evaluated. 6 patients had seizure automatisms in their histories.Mean age was 41.70 years.Most common were the oral alimentary automatisms among a significant number of complex ones.60% of the patients had anxious depressive affectivity and 50% of patients were resistant to treatment from time of diagnosis.The onset age of epilepsy was satistically significant with occurrence of automatisms.(p=0.006) **Conclusion:** Prevalence of mesial sclerosis epilepsy is low in patients admitted under an acute setting as reflected by the study sample size.The observed positive correlation of onset age of epilepsy with occurrence of seizure automatisms pointed out that there exist patient clinical features which could explain the difference in manifestation as well as in prognostic attributes.The same observation depicted that if the study of electroencephalography,imaging,plus all the other patient variables were to be conducted in larger volume epilepsy centers,more significant findings would be found.

Keywords: automatisms, Mesial temporal lobe Epilepsy, Hippocampal Sclerosis, seizures, electroencephalography

THE TRUTH BENEATH THE ASHES: CHALLENGES OF FORENSIC AUTOPSY IN CHARRED BODIES - CASE PRESENTATION

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Background: Burn injuries represent a significant public health concern. In Europe the incidence peryear of severe burns accounts for 0.2 to 2.9 cases over 10.000 inhabitants. Almost 50% of patients were younger than 16 years. Intentional burns- included self inflicted and assault- represent a smaller percentage of these cases: 4% approximately counted in Europe. Forensic autopsies of charred bodies pose challenges, as thermal damage obscures keyfeatures and complicates the analysis of the cause of death. Indicators such ascarboxyhemoglobin levels, soot inhalation, and heat-induced fractures are extremelyimportant in differentiating fire-related fatalities from homicidal concealment attempts. **Case presentation:** We present the case of a 4-year-old girl, whose body was found charred after a fire thatbroke out in a hay barn. According to the legislation, a forensic autopsy was requested.The examination of the brain revealed a subdural hematoma, as well as intraventricularand intracerebral hemorrhage. Soot was found in the airways, the toxicology reportindicated a carboxyhemoglobin concentration of 30-32%, and microscopic examination ofthe skin showed vital reaction associated to the burns, all suggesting that the victim wasalive when the fire broke out. A correlation of the investigative data with the firefighters'report was necessary to rule out the criminal nature of the brain injuries found at theautopsy. **Case particularities:**

Distinguishing antemortem injuries from postmortem thermal effects becomes crucial inestablishing whether the fire was the primary cause of death or an attempt to occultevidences. Toxicological and histopathological analysis of burned bodies requiresspecialized expertise.Typically, charred bodies suffer from organ shrinkage and blood coagulation due to heat.However, in this case, the victim's brain blood lacked these characteristics, suggesting apre-existing head trauma. Further forensic investigation confirmed this suspicion, revealingthe victim sustained the injury before the fire. **Conclusion:** The role of scene investigation and collaboration with fire and law enforcement experts inreconstructing the circumstances of death is crucial in forensic practice.A thorough forensic examination is essential to uncover hidden details that can alter theinterpretation of cause of death, ensuring the correct conclusion.

Keywords: Charred Bodies, Forensic Autopsy, Trauma, Lab Tests

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FECAL CALPROTECTIN LEVELS PREDICT RESPONSE TO BIOLOGICAL THERAPY IN ULCERATIVE COLITIS

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Background: Ulcerative colitis (UC) is a chronic inflammatory bowel disease characterized by recurrent or persistent inflammation of the large intestine, causing physical discomfort and a reduced quality of life. Escalation to biological therapeutics, such as Vedolizumab (anti-integrin antibody) and Infliximab (anti-TNF-α antibody), which interfere with the inflammatory response, for example, of neutrophils, is often necessary. The absence of noninvasive UC-specific laboratory tests complicates the prediction of treatment efficacy and long-term clinical outcomes. During periods of intestinal inflammation, the release of fecal calprotectin is observed as a consequence of neutrophil extracellular trap (NET) formation. **Objectives:** This study aims to evaluate whether early reduction in NET formation marker fecal calprotectin decreases during treatment with the biologics Vedolizumab and Infliximab and may thus serve as a noninvasive biomarker to assess clinical response and long-term remission. **Material and method:** This retrospective study included 39 UC patients undergoing biological therapy (Vedolizumab: n = 25, Infliximab: n = 14) in the Gastroenterology practice at St. Barbara-Klinik Hamm-Heessen. Fecal calprotectin levels were measured at baseline, 3 months, and 12 months. The study was reviewed and approved by the Scientific Research Ethics Committee (Comisiei de Etica Cercetării a UMFST Târgu Mureș) (approval no. 3382). Statistical analyses included the Wilcoxon signed-rank test and p values ≤ 0.05 were considered to be statistically significant. **Results:** Fecal calprotectin levels were stable at 3 months after initiation of biological therapy. Importantly, after 12 months, there was a significant decrease in fecal calprotectin levels for both biologics (Vedolizumab: p = 0.004; Infliximab: p = 0.011). Infliximab reduced FC levels faster, while Vedolizumab had a comparable long-term effect. **Conclusion:** Vedolizumab and Infliximab do not lead to an early decrease in the NET formation marker fecal calprotectin within 3 months of biological treatment. However, both biologics achieve a reduction in fecal calprotectin levels over time, with Infliximab showing a more rapid decrease. Therefore, fecal calprotectin may serve as a suitable indicator of long-term responses. Future prospective studies will need to correlate fecal calprotectin levels during biological treatment to clinical characteristics of the ongoing inflammation, such as endoscopic assessment or indices of quality of life.

Keywords: Ulcerative Colitis, Vedolizumab, Infliximab, Fecal Calprotectin

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ACHIEVING NEGATIVE SURGICAL MARGINS FOR RENAL CANCER: ROBOTIC-ASSISTED VERSUS LAPAROSCOPIC NEPHRON-SPARING SURGERY

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Background: Nephron-sparing surgery is the gold standard for cT1 renal masses, negative resection margins (R0) being a critical indicator of surgical success. Robotic-assisted laparoscopic partial nephrectomy (RALPN) has gained popularity due to its precision and minimally invasive nature, but its superiority over laparoscopic partial nephrectomy (LPN) in achieving R0 margins remains debated. This study compares RALPN and LPN in terms of R0 rates, operative outcomes, and postoperative renal function. **Objectives:** The primary objective was to

compare the rate of negative resection margins between RALPN and LPN. Secondary objectives included comparing WHO/ISUP grades, length of hospital stay, and postoperative renal function (eGFR) between the two techniques. **Material and method:** This retrospective study analyzed data from 50 RALPN patients at a private hospital and 47 LPN patients at a public hospital from 2020 to 2024. Data included patient demographics, tumor characteristics (histology, WHO/ISUP grade), surgical outcomes (postoperative renal function, length of stay), and histopathological outcomes (margin status). The primary outcome was the rate of R0 margins. Secondary outcomes included hospital stay and postoperative eGFR. Statistical analyses included chi-square tests for categorical variables (R0 rates) and independent t-tests for continuous variables (eGFR). A p-value < 0.05 was considered statistically significant. **Results:** The RALPN group had a significantly higher rate of R0 margins compared to the LPN group (100% in RALPN vs. 76.59% in LPN, p-value is < 0.001). The mean length of hospital stay was significantly shorter in the RALPN group (3.04 ± 1.12 days) compared to the LPN group (6,32 ± 2,47 days) (t = 8,32 df = 95, p < 0.001). This result suggests that RALPN is associated with a shorter hospital stay compared to LPN, which could have important implications for patient recovery and hospital resource utilization. The corrected analysis confirms that there is no significant difference in postoperative renal function (eGFR) between the LPN and RALPN groups (p = 0.74). This suggests that both surgical techniques have similar effects on preserving renal function after surgery. Tumor histology and grade were comparable between the groups (p > 0.05), suggesting that differences in R0 rates were not due to tumor biology. **Conclusion:** RALPN demonstrates superior oncological outcomes with a 100% R0 margin rate and significantly shorter hospital stays compared to LPN, while preserving renal function is not considered correlated to the surgical technique. These findings highlight RALPN's precision and efficiency, supporting its preference for localized renal cancer, as shorter hospital stays reduce healthcare costs and improve patient quality of life, while higher R0 rates minimize the risk of cancer recurrence. However, further studies are needed to confirm these results and evaluate long-term survival outcomes, as well as consider factors such as surgeon experience, training, and financial burden.

Keywords: partial nephrectomy, laparoscopy, robot-assisted

ASSESSMENT OF HEPATITIS B IMMUNITY STATUS AMONG HEALTHCARE EMPLOYEES WHO SUFFERED NEEDLESTICK INJURIES IN A GERMAN TERTIARY CARE HOSPITAL: A RETROSPECTIVE ANALYSIS

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Background: Healthcare workers are at an increased risk of needlestick and sharps injuries (NSI). Inadequate vaccination coverage against hepatitis B poses a risk to affected employees. **Objectives:** Evaluation of hepatitis B immunization status among employees following occupational exposure to infectious material due to injuries. Analysis of the temporal distribution and professional contexts of these incidents to derive specific protective measures and prevention-oriented recommendations for different occupational groups. **Material and method:** A retrospective analysis of 161 occupational health reports from Klinikum Lüdenscheid was conducted, focusing on employees who sustained an NSI between 03.01.2023, and 30.06.2024. The analysis includes the calculation of descriptive statistics **Results:** During the study period, 21.74% of employees evaluated in the occupational health reporting system (company doctor procedure) following an NSI had an anti-HBs titer of less than 10 IU/L. Furthermore, 21.74% of cases exhibited a borderline protective level between 10 – 99 IU/L. The gender distribution in both groups was 25.7% male and 74.3% female. Consequently, 56.52% of injured employees had sufficient immunization coverage. The analysis of occupational groups revealed that affected individuals included: nursing staff (56%), physicians (34%), midwives (2%), cleaning staff (1%), and 7% from other professions. The immunity level among nursing staff was particularly noteworthy: 30% were found to be unprotected (i.e. with titres < 10 IU/L), 24.44% exhibited borderline titres (10–99 IU/L), and a mere 45.56% demonstrated adequate immunological protection. The most prevalent occupational context in which injuries among nursing staff occurred was insulin administration, accounting for 15.53% of reported cases. Notably, it was observed that 88.2% of reported incidents were submitted to the designated occupational health physician within a six-hour timeframe. **Conclusion:** The findings emphasise the necessity of regular training sessions on handling sharp medical instruments, with a particular emphasis on self-protection measures to prevent occupational hepatitis B infections and their potential professional consequences. It is imperative that every hospital implements a Standard Operating Procedure (SOP) that regulates the handling of NSI´s, including the immediate reporting of such incidents as occupational accidents to the designated occupational health physician and the implementation of the appropriate measures in cases

where an anti-HBs titer is < 100 IU/L. Additionally, during occupational medical pre-assessment, employees with a low level of immune protection should subsequently adhere to an additional vaccination strategy to ensure the best possible protection.

Keywords: Healthcare workers, occupational exposure, needlestick injury, Anti-HBs, preventive measures

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ANGLE DEVIATIONS IN THE LUMBAR SPINE - A RETROSPECTIVE CROSS-SECTIONAL STUDY OF LUMBAR SPINE MRIS IN PATIENTS WITH LOW BACK PAIN DUE TO DISC PATHOLOGIES

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Background: Low back pain is a symptom which affects millions of people worldwide. Besides being a threat to health, it poses a large socioeconomic burden. A classification for low back pain can be made according to the cause, which can be specific or non-specific. Specific low back pain accounts for ~ 10% of all cases and among these, intervertebral disc pathologies play a major role. A defined relationship between the severity of low back pain and the underlying pathology has yet to be established. **Objectives:** The objective of this study was to assess if anatomical variations may contribute to pain severity in patients with intervertebral disc pathologies. **Material and method:** The study enrolled 119 patients who underwent lumbar MRI scan at the Kernspinzentrum Hamburg GbR, between December 2024 and February 2025. Pre-imaging questionnaires and reports of the lumbar MRI scan were assessed for age, gender, pain severity and diagnosis. Pain was assessed using the Numerical Rating Scale. In addition, the Cobb angle was measured for each patient from the lumbar MRI images. The relationship between Cobb angle deviations from the mean value observed in a study of healthy participants and pain severity was then investigated. **Results:** Disc bulging exhibited the highest prevalence with 54 cases (45.4%), followed by disc protrusion with 47 cases (39. 5%), and disc herniation with 18 cases (15.1%). The age of patients ranged from 20-87 years, with a mean age of 44.9 years (SD 14.9) and the sample comprised of 70 males (58.8%) and 49 females (41.2%). Patients reported pain ranging from 1/10 to 10/10, with a mean of 6.3 (SD 2). The lowest Cobb angle value measured in this population was 10 degrees, and the highest 79 degrees, with an average deviation of 23 degrees (SD 10.4) from the reference value. There was no statistically significant association found between Cobb angle deviations and pain severity ($r = 0.1$, $p = 0.329$). **Conclusion:** Through this study pain severity in disc pathologies cannot be linked to an anatomical variation in Cobb angle. It is noticeable that the average deviation of Cobb angle from the reference value was substantial which suggests a potential link between Cobb angle deviations and disc pathologies. Therefore, further studies in this field are warranted.

Keywords: Pain severity, Cobb angle, Intervertebral disc pathology, Low back pain

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THE UTILITY OF MOLECULAR TESTS IN ALLERGY DIAGNOSIS

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Background: The spectrum of allergic diseases is a growing heath issue with increasing prevalence in Europe during the last decades. Known as a condition of developed countries, allergy is usually diagnosted by skin prick tests (SPT) and intradermal testing (IDT), although they have limitations in detecting molecular sensitization. Mollecular allergy testing (MAT) provides precise identification for allergen proteic components, improving diagnosis and patient management. Pollen-food allergy syndrome (PFAS) is a distinct phenomenon frequently encountered, involving cross-reactivity marked by the presence of panallergens: Profilin,PR10 (pathogenesis-related proteins) and LTP(lipid-transfer protein). **Objectives:** The aim of this study is to evaluate the profile of allergic sensitization using MAT in patients with complex pathology which cannot be elucidated through standard in vitro and in vivo methodologies. In addition, the study investigated the characteristics of sensitizations in patients form Mureș County over the course of one year of evaluation. **Material and method:** This cross-sectional retrospective study analyzed clinical and laboratory data from patients admitted to Pediatric and Internal Medicine Departments of Targu-Mures Emergency County Hospital between september 2023 and september 2024. A total of 93 patients from which 63 were adults (≥18 years) and 30 children (< 18 years) were included. The patients

exhibited clinical allergic symptoms due to uncertain triggers. In vitro MAT was performed to detect allergen-specific IgE antibodies focusing on PR10, LTP and Profilin. Chi-square tests were perfomed in order to correlate sensitization patterns with panallergens. **Results:** The most significant findings were pollen sensitization , which was more common in adults (41,27%) compared to children(40%), and food sensitization, which was observed more frequently in children (56,67%) than in adults (41,27%). The most prevalent food sensitizations in children were fruits and legumes, whereas sensitization to sea food was more common in adults. Pollen sensitization peaked in patients aged 10-19 and 50-59 years, while food allergies decreased with age. In the group of patients within 0 and 9 years, sensitization to legumes was the most common. However, fish and cereal sensitizations were more evenly distributed. Gender disparities were significant, with males showing a higher prevalence across nearly all allergen categories. Men had increased rates of sensitization to pollen, fruits, legumes and seafood. The strongest correlation was observed in men's sensitization to LTP, which proves they were more likely to develop cross-reactive allergies. Speaking about molecular allergens, PR10 occured most frequently (12,9%), followed by LTP (5,4%) and Profilin (3,2%). Sensitization to PR10 was strongly correlated with pollen allergies, especially tree pollen, while LTP was highly linked to fruit and seafood sensitizations. Although it was found in patients with multiple pollen sensitizations, Profilin had the lowest prevalence. Statistical analysis revealed the strongest correlation between pollen sensitization and fruit ($r=0,528$; $p< 0,0001$). The second most common correlation is between pollen and seeds ($r=0,445$; $p< 0,0001$). The weakest correlation is between pollen and vegetables sensitizations ($r=0,246$; $p< 0,0001$) .All correlations were statistically significant. **Conclusion:** Molecular allergy testing (MAT) is a valuable diagnostic instrument for identifying cross-reactive panallergens in patients with complex allergic profiles. Further prospective studies should refine alternative diagnostic algorithms and targeted therapies.

Keywords: Mollecular allergy testing, Pollen-food allergy syndrome, Cross-reactivity

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CHALLENGES IN MANAGING A NEWBORN WITH TRANSPOSITION OF THE GREAT ARTERIES AND SARS-COV2 INFECTION IN THE NEONATAL INTENSIVE CARE UNIT.

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Background: Since late 2019, SARS-CoV-2, a novel coronavirus, triggered a global pandemic, significantly affecting public health. COVID-19, the disease associated with this virus, manifests through a broad spectrum of clinical symptoms with varying degrees of severity. Despite its low incidence, the impact of SARS-CoV-2 infection and the management of this condition in high-risk newborns, particularly those with critical congenital heartdefects, remains under investigation. **Case presentation:** We present the case of a full-term male patient,delivered by cesarean section to a second-parous mother and hospitalized in 2020 at Targu Mures EmergencyClinical County Hospital Maternity, a tertiary hospital. Prenatally diagnosed with dextro-Transposition of greatarteries (d-TGA) through fetal echocardiography, at birth the patient weighed 5060 grams. The Apgar score at birthwas 8 at 1 minute and 8 at 5 minutes. Early postnatal adaptation was marked by generalized cyanosis, withoxygen saturation levels of 60% in ambient air, necessitating the administration of free-flow oxygen. He wasadmitted in the NICU with an affected general condition and placed in a preheated crib. Following standardprocedures, including the placement of an umbilical venous catheter (UVC), the patient was closely monitored andwas initiated on Prostaglandin E1 at a dose of 0.02 µg/kg/min after cardiologic consultation. During week 2, a slightincrease in inflammatory markers and epidemiological context of SARS-COV outbreak, suggested an infectionwhich was later confirmed by a positive RT-PCR at 18 days of life. At week 4, after clinical deterioration withfrequent episodes of tachycardia and fever unresponsive to antipyretics together with worsening of respiratorydistress associated with decompensated respiratory acidosis and increased oxygen requirement, orotrachealintubation and mechanical ventilation was required. After several weeks the patient was transferred for surgicalrepair. **Case particularities:** The infection with SARS-COV-2 prolonged the hospital stay and increased themeasures taken to prevent and control the additional complications related to the exacerbated inflammatoryresponse, the respiratory/oxygenation implications, and the prolonged administration of vasodilators that these twoconditions have in common when associated. **Conclusion:** This case showcases the complexity of the TGAnewborns management itself as well as in an infection context (SARS-COV-2). It highlights the necessity ofindividualized preoperative care and strategies and a multidisciplinary approach to optimize outcomes.Moreover, itemphasizes the high impact of COVID19 pandemics on the mortality and morbidity of the at-risk neonatalpopulation.

Keywords: Cyanotic Congenital Heart Disease (CCHD), Transposition of the Great Arteries (TGA), SARS-COV-2, Neonatal Intensive Care Unit (NICU), Prostaglandin E1 (PGE1)

APPLICABILITY OF THE EUROPEAN SOCIETY OF CARDIOLOGY (ESC) GUIDELINES FOR PHARMACOLOGICAL TREATMENT OF HEART FAILURE IN CLINICAL PRACTICE – AN OBSERVATIONAL STUDY

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Background: Heart failure (HF) is a complex clinical syndrome, characterized by cardinal symptoms, such as dyspnea, fatigue and fluid retention. With an aging global population which puts a major strain on the healthcare system, a comprehensive evidence-based therapy guidline is now more necessary than ever. Right now, the most commonly used guidelines in the treatment of HF are published by the ESC. This study aims to examine the real world applicability of the ESC guidelines and assess how well they can be implemented and what barriers might exist. **Objectives:** This study is focused on examining the applicability of the ESC guidlines in clinical practice, specifically in the Werra-Meißner hospital in Germany. Futhermore, it examines the impact of comorbidities, age and gender on prescription practices. Lastly it discusses whether patients with a higher NYHA classification became more class 1 medications prescribed. **Material and method:** The data was collected in the period of 16.12.2023 - 16.01.2024 from 40 patients who were admitted to the hospital with the main diagnosis of HF. Patients who had HF as side diagnosis were excluded. Patients were selected randomly and further information regarding their age, gender, smoking status, cause of HF and comorbidities were collected. **Results:** 23 (57,5%) of the 40 patients had HF with reduced ejection fraction (HFrEF), 5 patients had HF with mildly reduced ejection fraction (HFmrEF) (12,5%) and 12 (30%) had HF with preserved ejection fraction (HFpEF). Beta-blockers (BB) were the most commonly prescribed medication (70%). The most common etiology for heart failure was hypertension with 29 patients (21,8%) and coronary artery disease in 23 patients (17,3%). We found a statistically significant positive correlation between prescribing class 1 medications like Angiotensin-converting-enzyme inhibitors/Angiotensin-neprilysin inhibitors (ACEi/ARNi), BB and mineralocorticoid receptor antagonists (MRA) and higher NYHA classes in HFrEF patients. **Conclusion:** During this study it was established that the guidelines were

properly implemented in the Werra-Meißner hospital in Eschwege when taking into account the age, comorbidities and contraindications of the patients. It also was able to establish that HFrEF patients with higher NYHA classes become a higher proportion of class 1 medications prescribed.

Keywords: Heart Failure, European Society of Cardiology, Pharmacological treatment

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CT ASSESSMENT OF THE PULMONARY TRUNK IN RELATION TO OTHER CARDIAC VESSELS

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Background: Tetralogy of Fallot (ToF) is the most common congenital cyanotic heart disease. It is evaluated by radiographic imaging, with CT being a tool for assessing the structural changes in associated cardiac vessels. Accurate assessment of the main pulmonary artery (MPA) dimensions is essential in managing ToF, influencing surgical strategies and clinical outcomes. Right ventricular outflow tract obstruction (RVOTO) in ToF has an impact on the size of the MPA, as it limits the blood flow. The aortic sinus as well as the left and right pulmonary arteries (LPA, RPA) are also affected in size and should be measured prior repair. **Objectives:** This study aimed to evaluate whether multilinear regression could reliably predict pulmonary artery dimensions based on easily measurable patient characteristics and other anatomical structures. It described the relationship of the MPA and LPA, RPA, as well as the aortic sinus diameter, in patients with ToF. A retrospective cohort study was performed. **Material and method:** Measurements were manually obtained from contrast-enhanced GE Revolution CT scans. The dataset included all patients who underwent CT imaging for ToF from April 2015 to November 2024. A total of 201 patients were included in the study, 90 (45%) female and 111 (55%) males. The data were analyzed using Microsoft Excel, and a multiple linear regression model was performed to observe the results. **Results:** The regression statistic calculated from multiple linear regression model showed multiple R=0.85 and R^2 =0.71. The ANOVA F-statistics was 166.34 with a significance F < 0.0001. Individual predicted regression analysis showed the following results: RPA (coefficient= 0.045, p=0.017), LPA (coefficient=0.38, p< 0.0001) and aortic sinus (coefficient=0.45, p< 0.0001). **Conclusion:** The R^2 and significance F results demonstrated the strong prediction power of the model. The regression model revealed a significant association between the dimensions of MPA and the LPA and aortic sinus (p< 0.0001), while presenting a statistically weaker association with the RPA (p=0.017). The coefficients of the assessed vessels demonstrate the influence on the MPA diameter (LPA=0.38, aortic sinus=0.45). This study of TOF may be useful for future monitoring of the patients and to improve the understanding of the vascular diameter in cyanotic congenital heart disease.

Keywords: Tetralogy of Fallot, CT assessment, linear regression model

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MORPHOLOGICAL ASSESSMENT OF PATENT DUCTUS ARTERIOSUS BASED ON THE KRICHENKO CLASSIFICATION IN PATIENTS WITH COARCTATION OF THE AORTA

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Background: Patent ductus arteriosus (PDA) is a common cardiac congenital anomaly that persists after birth in infants. This cardiac malformation can be associated with other congenital cardiac malformations, coarctation of the aorta (CoA) being one of the most commonly present with PDA. PDA is mostly classified using the Krichenko classification, where type A represents a conical funnel shape, type B is of window formation, type C is tubular, type D is a complex longer tube with constrictions and type E is elongated PDA. CoA is a congenital narrowed part of the aorta. Due to the narrowing of the coarctation the PDA is essential for blood circulation, as it helps supply blood to the lower limbs of the infant. **Objectives:** A retrospective cohort study was performed to identify the relationship between the presence of an aortic coarctation and the morphological appearance of a PDA. **Material and method:** The database included 149 patients until the age 75 days old starting from two days old and all of them presenting on the CT scans a PDA from January 2018 until October 2024, from which 54 patients presented coarctation of the Aorta. All the measurements were manually assessed with the images from the GE Revolution CT using radiocontrast. Statistical analyses were performed using Microsoft Excel and GraphPad. **Results:** In the

analysis, 54 infant patients were included, 26 female (48%) and 28 male (52%). The patients presented different types of the Krichenko classification: 11 of them presenting type A (20%), 0 type B (0%), 20 type C (37%), 19 type D (35%) and 4 type E (5%). The median values for the parameters of PDA arterial end diameter, pulmonary end diameter, middle diameter and length were calculated with the values of 5.15 mm, 6.25 mm, 4.5 mm and 10.0 mm, respectively. The average of PDA diameter measurements was determined with the results of 5.28 mm, 5.77 mm, 4.18 mm and 11.14 mm, respectively. Regarding gender the PDA type distribution showed a similar pattern between male (A: 21%, B: 0%, C: 39%, D: 36%, E: 4%) and female (A: 19%, B: 0%, C: 35%, D: 35%, E: 12%). For the correlation between gender and the PDA type a p-value of 0.736 and a chi-square value of 1.27 was observed.
Conclusion: In our study the most common PDA type in patients with CoA is C and D, while type B was not observed in this patient group. The median and average PDA diameters explain the type of distribution, as the measurements represent a tubular formation and a median length of 10.00 mm. In addition, there was no significant statistical correlation present between patient gender and PDA type (p> 0.05).

Keywords: Patent Ductus Arteriosus, Coarctation of the Aorta, Krichenko classification

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DIAGNOSTIC ACCURACY OF BI-RADS ULTRASOUND SCORING IN PREDICTING MALIGNANCY

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Background: Breast cancer is one of the leading causes of cancer-related deaths among women globally, with early detection being critical for improving survival rates. In Romania, breast cancer represents the most common cause of cancer-related deaths among women, highlighting the importance of well-structured national screening programs. Ultrasound, associated with the Breast Imaging Reporting and Data System (BI-RADS), plays a significant role in identifying the nature of breast lesions and guiding the clinical approach. **Objectives:** This study aimed to evaluate the diagnostic accuracy of BI-RADS in predicting malignancy, with a focus on its performance in a Romanian clinical setting. Specifically, the study examined the success rate of presumptive cancer diagnoses based on BI-RADS V. Additionally, it assessed the correlation between BI-RADS scores and histopathological outcomes to determine its overall predictive value. **Material and method:** A retrospective analysis was conducted on 129 patients who underwent breast ultrasound and subsequent biopsy in 2023 at a private clinic in Târgu Mureș. A single general surgeon performed all ultrasounds and assigned BI-RADS scores to ensure consistency. Some scores were assigned in relation to previously conducted MRIs or mammograms. Patients were categorized into BI-RADS II-V based on ultrasound findings, and biopsy results were classified as benign or malignant. Statistical analyses included calculating sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) for BI-RADS V. A chi-square goodness-of-fit test was used to compare observed malignancy rates with BI-RADS expected ranges to evaluate overall diagnostic performance. **Results:** The study revealed that BI-RADS V demonstrated high diagnostic accuracy for malignancy, with a sensitivity of 69.6%, specificity of 93.2%, PPV of 88.6%, and NPV of 80.0%. The observed malignancy rates for each BI-RADS category closely aligned with expected ranges: BI-RADS V (88.6%), BI-RADS IV C (63.2%), BI-RADS IV B (14.3%), BI-RADS IV A (6.5%), BI-RADS III (0%), and BI-RADS II (0%). The chi-square goodness-of-fit test showed no significant difference between observed and expected malignancy rates (χ^2=1.63, $p > 0.05$), confirming the reliability of BI-RADS. **Conclusion:** This study demonstrates that BI-RADS is a reliable and accurate tool for predicting malignancy in breast lesions, particularly in higher-risk categories such as BI-RADS V. The strong correlation between BI-RADS scores and biopsy results underscores its utility as a predictive factor in clinical practice. However, clinician experience and training remain critical factors in score attribution. These findings support the continued use of BI-RADS in routine breast imaging and highlight its importance in improving breast cancer outcomes.

Keywords: breast cancer, BI-RADS, histopathology

CASE SERIES ANALYSIS OF COPD PATIENTS UNDERGOING MECHANICAL VENTILATION IN THE ICU

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Background: Chronic Obstructive Pulmonary Disease (COPD) is composed of two clinical presentations: chronic bronchitis and emphysema. Both have in common the presence of airflow limitation. It is the third most common cause of death worldwide. Mechanical ventilation is broadly used in the intensive care unit (ICU) to support life, especially of those patients whose airways are compromised. Determined by what the patients need, they will be placed on invasive (IMV) or noninvasive mechanical ventilation (NIV). **Objectives:** The objective of this case series is to examine clinical cases, management strategies, and outcomes of critically ill patients admitted for exacerbations of COPD. **Material and method:** This research is a case series of 10 adult patients, part of a prospective observational cohort study. The clinical data was collected from patients admitted to the ICU in the Emergency County Hospital of Târgu Mureș. The collected data included the following parameters: demographics and anthropometrics, scores to assess the severity of illness in critically ill patients and to predict outcomes, type of ventilation, arterial blood gas (ABG) values including pCO2, pO2, and pH, ventilator settings and patient outcomes. The parameters were collected at admission and 24 hours later, respectively the outcome was obtained from the electronic files after 14 days since the admission in the ICU. **Results:** In a cohort of 10 critically ill patients admitted for COPD exacerbation, 7 required IMV and 3 received oxygen therapy through a facial mask, during the hospitalization. Mortality score based on lab results and clinical data, identified patients at risk of negative outcome. Of the patients receiving IMV, two continued to be hospitalized in the ICU, and the remaining three were discharged to other departments. Among the three patients who were administered oxygen via facial masks, one patient died during their stay in the ICU, one remained in the ICU after 14 days, and one was transferred to the internal medicine department. **Conclusion:** In conclusion, the analysis of the 10 critically ill patients admitted to the ICU for exacerbations of COPD highlight the importance of carefully considering the mode of respiratory support in COPD exacerbations, as the choice between invasive and noninvasive strategies can significantly influence patient outcomes in critically ill populations. Further research is warranted to explore potential interventions and management protocols that could enhance the prognosis for patients with severe COPD exacerbations.

Keywords: COPD, ICU, Invasive mechanical ventilation, Noninvasive mechanical ventilation

"B-ADRENERGIC BLOCKADE IN SEPSIS AND SEPTIC SHOCK THERAPY: A CURRENT OVERVIEW"

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Background: Since the 1960s, extensive efforts have been made to develop novel drugs for the treatment of sepsis. However, even after 60 years, anti-infectives remain the only approved causal therapy with a clear benefit in survival. Despite significant advancements in the pathophysiological understanding and supportive care, the need for new causal treatments remains due to the persistently high mortality rates and sepsis accounting for 20% of all deaths worldwide. **Objectives:** This review aims to shed light on current research regarding β-blockade, with a particular focus on esmolol, an ultra-short-acting β-blocker, in the context of mitigating sepsis and septic shock. Our objective was to develop a comprehensive overview of previous studies, identify existing knowledge and research gaps, and highlight recent advancements in the field. Furthermore, we seek to assess the potential of β-blockers as a viable treatment option for sepsis. **Methods:** To address our research objectives, we performed a state-of-the-art review from the following medical databases: PubMed, Google Scholar and Cochrane Library. Keywords for the literature search were: sepsis, septic shock, β-blockade, esmolol and landiolol. Our overview primarily encompasses studies published since 2013, as this marks the start of research regarding β -blockade in sepsis, with the first major study by Morelli et al. laying the foundation for subsequent studies. **Results:** β-adrenergic blockade influences key pathophysiological pathways in sepsis mitigation. A well-characterized effect is cardioprotection via heart rate reduction, improving coronary perfusion, diastolic filling, and reducing myocardial

oxygen demand. Esmolol counteracts catecholamine-induced cardiotoxicity by attenuating β1-receptor overstimulation, preventing myocardial dysfunction and hibernation, and potentially lowering myocardial TNF-α levels to protect against septic cardiomyopathy. Preclinical murine studies suggest β-blockers stabilize hemodynamics by increasing stroke volume index, reducing ventriculo-arterial uncoupling, and enhancing catecholamine responsiveness. They also exert immunomodulatory effects, including normalization of the Th2/Th1 ratio, reduced T-lymphocyte apoptosis, and lower pro-inflammatory cytokine levels (TNF-α, IL-1, IL-4, IL-6). Clinically, β-blockade has been linked to improved lactate clearance, reversal of hypoxic cytopathy, shorter mechanical ventilation duration, and mitigation of sepsis-associated cognitive decline. Importantly, esmolol and long-acting β-blockers significantly reduce 28-day and 90-day mortality in tachycardic septic patients post-volume resuscitation and decrease sepsis-induced tachyarrhythmias. Notably, short-acting β-blockers, such as esmolol, have demonstrated a favorable safety profile in sepsis and septic shock. **Conclusion:** Since Morelli et al.'s (2013) study on ultra-short-acting β-blockers in sepsis, research has yielded mixed results. While some studies report reduced mortality and increased stroke volume index (SVI), others do not, and inconsistencies extend to most proposed benefits. Many studies have methodological limitations. A significant portion was conducted in China, limiting generalizability. The lack of subphenotype classification and subgroup analyses prevents determining whether esmolol has a stronger effect in specific patient subtypes. Further research is needed to identify patient subgroups that benefit most, optimize esmolol dosing and timing, and assess the role of long-acting β-blockers in sepsis therapy. Currently there are multiple international studies ongoing to investigate the use of beta-blocker therapy in sepsis.

Keywords: sepsis, septic shock, β-blockade, esmolol, landiolol

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ACCIDENTAL INTOXICATION WITH TRICYCLIC ANTIDEPRESSANTS: A SERIES OF CASES

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Background: Tryciclic antidepressant belong to the first-type of antidepressants developed. These are medications used for treatment of symptoms of major depressive disorder.They exert their action by acting on neurotransmitter system of the brain, in particular on serotonin and norepinephrine. By doing so, they confere an antidepressant, ansiolytic and analgesic effect, but they are not free of side effects. **Case presentation:** We present two cases of two male twin brothers who have both been admitted in Intensive care unit (ICU) following the accidental ingestion of tryclic antidepressant in undefined quantity, which was high enough to severely alter conciousness.The patients were admitted to the ICU department with drowsiness, obnubilation, ataxia and dysarthria, a Glasgow Coma Scale (GCS) of 9 and abnormal paraclinical findings revealing leukocytosis with eosinophilia and respiratory acidosis. The urine exams confirmed positivity to Tryciclic Antidepressant testing. They were then transferred to Paediatric ward after hemodynamic stabilization. **Case particularities:** Tryciclic antidepressant are nowadays more largely used in the clinical practice they present less side effects, and thus have gained more popularity in the medical field. In case of toxicity, the most common side effects involve the neurological system, cardiovascular system and general body regulation (through an anticholinergic effect).Management must be prompt and based on initial resuscitation, cardiac and central nervous system support, followed by constant monitoring. Besides from the complicated clinical picture we want to emphasize the clinical history of the patients being alredy known for recurrent intoxication by Tryciclic Antidepressant. **Conclusion:** This case series highlight the severe toxicity risk of Tryciclic Antidepressant in children and emphasizes the importance of appropriate medication storage, out of children's reach. The case further demonstrates the rapid onset of life-threatening symptoms requiring prompt recognition, aggressive management and careful follow up. The importance of preventive strategies including careful prescriptions, storage of drugs and involvement of social services has never to be underestimated. Pediatric toxicity remains a serious medical emergency and raising awareness about it is crucial to avoid and reduce further incidents.

Keywords: Drug Intoxication, Pediatric Patients, Tryclic Antidepressant, Side Effects

ELECTROCARDIOGRAM PARAMETERS WITH PROGNOSTIC ROLE IN THE OUTCOME OF ATRIAL FIBRILLATION ELECTRICAL CARDIOVERSION

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Background: Atrial fibrillation represents the most common supraventricular tachyarrhythmia. Its prevalence is increasing annually, therefore becoming a serious public health issue. In order to obtain sinus rhythm, electrical cardioversion can be performed in emergency situations or elective patients. **Objectives:** The aim of this study is to investigate electrocardiogram (ECG) patterns that could have a prognostic role for patients undergoing electrical cardioversion for atrial fibrillation. **Material and method:** We obtained data by analyzing patients' charts and electrocardiograms who underwent elective electrical cardioversion for atrial fibrillation between 2020 and 2023 at the Emergency Institute for Cardiovascular Disease and Heart Transplant of Târgu Mureș. From a total of 95 patients, 3 were excluded for having complete left bundle branch block, 5 for complete right bundle branch block and 9 for having a pacemaker induced rhythm. The associations between ECG parameters and immediate/discharge outcomes were determined by logistic regression, with a significant threshold of 0.05. **Results:** We identified that out of 78 patients, 17 (21.8%) had low voltage QRS on the pre-procedural ECG. The immediate failure of cardioversion was 11.5% (9 out of 78 patients), with the rate of failure at discharge of 19.2% (15 out of 78 patients). Regarding immediate post-procedural outcome, 4 (23.5%) patients with low-voltage QRS did not obtain sinus rhythm compared to 5 (8.2%) from the normal QRS voltage subjects. In addition, at the time of discharge, the number of relapses of atrial fibrillation arose to 6 (35.5%) in low QRS-voltage group compared to 9 (14.8%) in normal QRS voltage. Low QRS voltage was significantly associated with the immediate failure of electrical cardioversion (OR=4.92, 95%CI: 1.04 - 23.32; p=0.044), but not at discharge (OR: 3.47, 95% CI: 0.95 - 12.75; p=0.061). **Conclusion:** Low QRS-voltage identified on the pre-cardioversion ECG represents a risk factor for the immediate failure of the procedure. Further prospective studies are needed for drastic conclusions.

Keywords: atrial fibrillation, electrical cardioversion, electrocardiogram, low-voltage QRS

ARTIFICIAL INTELLIGENCE IN THE DETECTION OF PULMONARY CANCER ON CHEST RADIOGRAPHS: A STUDY ON DIAGNOSTIC ACCURACY AND EFFICIENCY

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Background: Lung cancer remains the leading cause of cancer-related mortality worldwide. Its treatment options and survival rates often remain limited by its diagnosis at an already advanced stage. Thus, early detection displays an essential role in patients' outcomes. However, the diagnostic process is time consuming, dependent on human intervention free of errors and represents a massive part of the radiologist's workload. Artificial Intelligence (AI) has demonstrated promising implementation in radiology in the past, particularly in the evaluation of chest X-rays. The purpose of this study is the evaluation of the accuracy and efficiency of an AI tool, Qure.ai's qXR, in the detection of pulmonary nodules and masses with the goal to evaluate AIs potential to assist the radiologist of the future. **Objectives:** The objective of this study is the evaluation of the diagnostic accuracy and efficiency of AI in the detection of pulmonary nodules and masses on chest X-rays, specifically the tool qXR provided by Qure.ai. The hypothesis of this study is, that the AI's diagnostic performance will be comparable to that of experienced radiologists, which would form the base of its routine implementation and thus not only mean a major relief in the clinician's workload, but also the earlier detection and potential improvement of patients' outcome. **Material and method:** This retrospective diagnostic validation study utilized images of chest X-rays that were provided by the NIH Clinical Center dataset, which includes over 100.000 anonymized images from over 30.000 patients. In total, two hundred images are individually analyzed by the AI, of which one hundred are part of the study group, meaning they contain evidence of pulmonary nodules or masses. The other half of the images are part of the control group, either displaying no pulmonary pathologies at all or ones that differ from the study group, such as pleural effusions or pulmonary atelectasis. The results of the analysis were listed and analyzed using Microsoft Office Excel, focusing on the accuracy rate the tool provided. **Results:** The process of the study is still ongoing,

hence the results presented are preliminary. The current status of the results estimates the AIs diagnostic accuracy at detecting pulmonary nodules and masses at approximately 89%, indicating a high concordance with the diagnoses established by experienced radiologists. Thus, the AI this far was able to successfully detect most cases of pulmonary masses that were previously unknown. **Conclusion:** The results that were raised thus far during the study support the initial hypothesis of the AIs promising efficiency. It shows great potential in assisting the early detection of lung cancer by providing a reliable analysis of chest X-rays and could enhance radiologic workflows, leading to a valuable improvement in patient outcomes. The results of this study stand to be validated by future studies to establish AIs applicability into the diverse clinical routine work and its potential in categorizing the masses into malignancy risk groups.

Keywords: Artificial Intelligence, Lung Cancer, Chest X-rays, Diagnostic Accuracy

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LIVER HYDATYD CYST AND POSTOPERATIVE COMPLICATIONS

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Background: Hydatid disease is a significant pathogenic, parasitic infection caused by a larval stage of Echinococcus species. This zoonotic disease is endemic worldwide, especially where livestock farming is habitual, embracing sections of Africa and China, the Mediterranean, the Middle East, South America, and Central Asia. Echinococcosis is transmitted through the fecal-oral pathway, concerning an elaborate life cycle between definitive and intermediate hosts. **Case presentation:** A 37-year-old male patient was admitted to the general surgery department for a *giant hydatid cyst in the left hepatic lobe, with compression on the stomach, pancreas, transverse colon, and celiac trunk.* In December 2012, a left lobe resection with cyst evacuation and insertion of the drainage tube in the cystic cavity was performed. Two months after surgery, in February 2013, he was hospitalized for diffuse abdominal discomfort that started with insidious onset a month prior when, while he was performing a follow-up US, a *residual liver hydatid cyst* was detected and treated with echo-guided puncture, evacuation (about 500 ml of biliou-appearance liquid), and percutaneous drainage. In May 2013, the patient was re-hospitalized due to asthenia, fatigue, and right hypocondrial pain. At admission time, he presented with percutaneous pig-tail drainage, externally fixed to the integument, which externalized a purulent, greenish liquid that was collected and cultured. Blood analysis revealed eosinophilia and hepatocytolysis syndrome. CT scan showed a 66/69/30 mm subdiaphragmatic collection immediately to the left liver side, with a dense, inhomogeneous, and imprecise delimitation, with inferior extensions to the lesser gastric curvature. ERCP highlighted the IHBD amputated peripherally and clear visualization of the pig-tail stent. An endoscopic sphincterotomy (14 mm) with abundant biliary drainage was executed; he was treated with antisecretory drugs, analgesics, and antibiotics (Metronidazole 500 mg 2fl.c/day and Ampicillin 2x1 g/day, and after the antibiogram result, the patient underwent 2 days with Ciprinol 2x200 mg/day). Once again, in April 2024, he performed a CT scan that demonstrated a *biliary fistula in segment IVb and peritoneal adhesions* , which concluded the relapse picture of the hydatid disease. An exploratory laparotomy, partial cysto-pericystectomy (Mabitt-Lagrot), and adhesiolysis were conducted. Followed by the administration of analgesics, gastric protectors, and antibiotics.
Case particularities: The case is notable for more than one aspect: the unusual cyst's size; the complex biliary involvement, which reflects a challenging post-hydatid surgical complication; the implication of liver segment (IVb), which is an atypical site; the necessity of multidisciplinary approaches, due to the multimodal management required; and the long-term recurrence despite the treatment (2021-2024), recurrences usually happen between the first 5 years after treatment; in this patient transpire after 10 years, indicating a latent parasitic reactivation or incomplete eradication of cyst remnants. **Conclusion:** This case illustrates the complexity and recurrent nature of hepatic hydatid disease, especially when biliary communication and secondary infections are involved. Even with multiple interventions, the patient had ongoing complications for more than a decade. It emphasizes how crucial customized, long-term care techniques are to prevent recurrence and enhance patient outcomes.

Keywords: liverhydatidcyst, longtermfollowup, recurrentcomplications, biliaryfistula, multidisciplinarymanagement

RISK FACTORS INVOLVED IN THE ETIOLOGY OF CONGENITAL HEART DEFECTS,

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Background: Congenital heart defects are the number one cause of infant mortality and are also the most common form of major congenital anomaly. They range from minor defects, which may be asymptomatic, to severe defects, which require early complex surgical intervention. **Objectives:** The aim of this study is to analyze the risk factors involved in the pathogenesis of these malformations, based on a clinical sample of affected patients. **Material and method:** I performed a retrospective clinical observational study on 59 patients (29 girls and 30 boys) diagnosed with congenital heart defects, with the age < 3 years old, who were hospitalized in the Pediatric Cardiology Department between 01.01.2024 and 31.12.2024. The database includes variables such as sex, gestational age (GA), prematurity, maternal age (< 15 or >35 years), paternal age >35 years, exposure to smoking (both parents or mother/father only), toxic substance exposure during pregnancy, rural vs. urban origin and if the pregnancy was considered pathological. Descriptive statistics were calculated, and categorical distributions were analyzed. **Results:** Among the 59 patients included in the study: 49.15% of the patients were girls and 50.84% boys. At the time of hospitalization, 64.4% of the patients were under 1 year old, 20.33% were under 2 years old, and 15.25% were under 3 years old. 11.86% of the patients were premature, and no postmature births were recorded. 20.33% had a low birth weight, while 3.38% had a high birth weight. 93.22% of the mothers were monitored during pregnancy. In 20.33% of the cases, the mother was over 35 years old at the time of birth, and in 33.89% the father was over 35 years old. Both parents were smoking in 20.33% of the cases; only the mother smoked in 10.16%, and only the father smoked in 8.46% of the cases. 47.45% of the families lived in urban areas, while 52.54% were from rural areas. In 16.94% of the cases, the pregnancy was considered pathological. Gestational age: mean: 38.31 weeks, standard deviation: 2.39 weeks, minimum: 27 weeks, maximum: 41 weeks. Within the study group the most frequently identified congenital heart defect was atrial septal defect (ASD), present in 36.97% of the cases, followed by ventricular septal defect (VSD) in 17.65%, and coarctation of the aorta in 9.24%. Tetralogy of Fallot was observed in 4.2% of cases, while other types of malformations accounted for 30.25% of the diagnoses. Further statistical analysis is ongoing to evaluate the significance of these risk factors in the development of congenital heart defects. **Conclusion:** According to the analysis of this clinical cohort, several risk factors—such as advanced parental age, parental smoking, prematurity, and low birth weight—were frequently observed among patients with congenital heart defects. Atrial septal defect (ASD) was the most common malformation, followed by ventricular septal defect (VSD). These findings emphasize the importance of prenatal monitoring and early identification of high-risk pregnancies.

Keywords: congenital heart defects, risk factors, parental age, parental smoking

ADVANCED HEART FAILURE TREATMENT- FROM LEFT VENTRICULAR ASSIST DEVICE TO CARDIAC TRANSPLANTATION

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Background: One of the treatment options for patients with advanced heart failure (ADHF) include Left Ventricular Assist Devices (LVADs). With modern pumps this field is experiencing increasingly higher survival rates, but selecting patient for this type of therapy is challenging, as success depends on strategic implantation timing and a proper determination of the risk-benefit ratio. Bridge to Transplant, represents one of the guideline indications for LVAD implantation, considered for patients on the transplant list that need to stay alive while awaiting for a donor organ. **Case presentation:** A 46-year-old male patient, with a 10-year history of post-myocarditis dilated cardiomyopathy and multiple hospitalizations for acute heart failure (NYHA IV), was referred on the 15.02.2023 to the Emergency Institute for Cardiovascular Diseases and Transplantation (IUBCVT) after spending more than a month on the cardiology ward, he was on continuous intravenous infusion with Dobutamine and Furosemide. In November 2018 he had an ICD implantation for primary prophylaxis of sudden cardiac death, and he suffers from type II diabetes mellitus. On admission the patient was hypotensive and tachycardic, transthoracic

echocardiography showed dilation of both atria and ventricles with reduced systolic functions and pulmonary hypertension. After a progressive decline he was admitted to the ICU and by day 8, he was sedated, intubated on CPAP, on multiple inotropes, vasopressors and renal replacement therapy. The patient underwent a 3-hour LVAD implantation. Post-op, heart rate was controlled with Ivabradine and beta-blockers, while blood pressure remained stable with moderate to high doses of inotropes and vasopressors. Diuresis was maintained with low doses of furosemide. With a set flow of 3,5 L/min and speed of 4800 RPM echocardiography showed a dilated LV (EF 20-25%), dilated RV with severely impaired EF, tricuspid regurgitation and a rightward shifted IVS. Over the next days, the pump speed was reduced, with good echocardiographic outcomes with a leftward-shifted IVS and mitral regurgitation, noradrenaline and furosemide were discontinued. On day 22, EF worsened, and severe irreducible RV dysfunction persisted. On day 25, non-sustained ventricular tachycardia and a BP drop led to noradrenaline reintroduction. After a month from implantation, a donor heart became available, and the patient was transplanted. Post-transplant, recovery was smooth, with extubation on day 3 and inotropes stopped by day 4. Echocardiography showed an EF of 50-55%, and the patient was discharged after 44 days. After 4 months it was necessary to adjust the immunosuppressive therapy because of adverse effects, afterwards progression was favorable. **Case particularities:** Given the severity of the cardiomyopathy, the only mean to save the patient life was the heart transplant, being a good candidate, he was put on the transplant list, but a donor organ was not immediately available. The LVAD in this case had been exerted as Bridge to Transplantation to sustain the patient's life until transplantation. **Conclusion:** LVADs are used to improve quality of life and survival in ADHF patients unable to wait or ineligible for transplant, reducing central congestion and improving peripheral perfusion. New generation devices present low adverse event rates, making them suitable for a vaster array of heart failure patients.

Keywords: Advanced Heart Failure, LVAD, Bridge to transplant, Heart Transplant

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EVALUATION OF THE PROCESS QUALITY OF THE TWO-BITE TECHNIQUE DURING ESOPHAGOGASTRODUODENOSCOPY (EGD) WITH SPECIAL CONSIDERATION OF CURRENT RECOMMENDATIONS FOR SPRUE AND GASTRITIS DIAGNOSTICS

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Background: The 'two-bite' technique in esophagogastroduodenoscopy (EGD), where two biopsies are taken with a single insertion of the forceps, is considered time-efficient, particularly in patients with gastritis and celiacdisease. There is a risk that the first sample may be lost when the second biopsy is taken. In fact, daily experiencesuggests a discrepancy between the number of samples intended and taken on the one hand and the number ofsamples received and finally analyzed in the pathology department on the other. Such a discrepancy couldcompromise the compliance with guideline-based standards and thus negatively impact the quality of care. Studieson bigger collectives that specifically represent routine clinical practice, however, have not yet been conducted. **Objectives:** The intention of this study is therefore to compare the intended with the actual number of samplesanalyzed by the pathologist, to assess the frequency of compliance with the guidelines and to identify potential riskfactors for sample loss. **Material and method:** Patients who had undergone EGD between 2023 and 2024 wereincluded in a retrospective cohort study. Based on the endoscopy protocols and pathology findings, the averagenumber of biopsies taken per site and the adherence to the guidelines per biopsy site were analyzed. The datawere tested for normal distribution using the Kolmogorov-Smirnov test, and interference statistics were additionallyperformed using the McNemars test and Chi² test. **Results:** 181 endoscopies were included. In the duodenum, 5.9 (accounting for 98.8% of the intended samples) biopsies were documented by the endoscopist, but only 4.0 (67%) were analyzed by pathology ($p < 0.001$). A similar discrepancy was observed in the antrum and corpus (2.2 vs. 1.8 [89.5%] and 2.0 vs. 1.7 [86.5%], respectively, both $p < 0.001$). The standard was intended in the duodenum in 91.7% but only achieved in 13.6% ($p < 0.001$). There was a comparable deviation for the antrum and corpus (99.4% vs. 62.8% and 64.3% respectively; $p < 0.001$). An even higher discrepancy was found when considering both stomach sections in terms of a rule-compliant gastritis diagnosis (99.4% vs. 52.0%; $p < 0.001$). **Conclusion:** With the "two-bite" technique, samples are lost to a considerable extent during esophagogastroduodenoscopy. In the diagnosis of gastritis, the guideline standard is only achieved in half of the cases, despite the intention, and in less than 20% of cases of sprue diagnosis. The "two-bite" technique in its current form is therefore inadequate and either requires measures for substantial improvement or must be discarded in favor of simple sampling ("one-bite" technique).

Keywords: Two-bite technique, Esophagogastroduodenoscopy (EGD), Biopsy sample loss, Guideline adherence

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THE ASSESSMENT OF ALACTIC BASE EXCESS IN SEPTIC SHOCK PATIENTS IN THE ICU – PRELIMINARY RESULTS

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Background: Septic shock is a major international health burden that is associated with poor survival rates.Alactic base excess (aBE) is a new biomarker calculated as the sum of lactate and standard base excess (SBE). **Objectives:** This study aims to investigate aBE in septic shock patients. The present study hypothesizes that a negative aBE is an independent predictor of mortality in septic shock patients and is associated with a higher fatality outcome. **Material and method:** In this prospective cohort study, clinical data was gathered from patients admitted to the intensive care unit (ICU) in the Târgu Mureș Emergency County Hospital. Exclusion criteria were age under 18 years old and patients without a diagnosis of septic shock. The data was collected from the patient's bedside files, which are methodically updated. The parameters were collected upon admission of the patient, after 24 hours and after 48 hours. The outcome (in-hospital mortality or discharged) was taken from the patient's electronic files at the end of their ICU stay. The data gathered were as follows: mortality scoring systems (SOFA and APACHE II), hemodynamic parameters, arterial blood gas analysis results (pH, base excess, lactate, HCO_3^-, PCO_2). Posteriorly, SBE and aBE were calculated. Patients were then divided into 3 groups according to theaBE value: Negative (< -3mmol/L), Neutral (≥ -3 to 4 mmol/L), Positive (≥ 4mmol/L). **Results:** The analysis oflaboratory results demonstrated changes in the values of BE, lactate, and aBE among the included patients whencomparing measurements taken upon admission, 24 hours, and 48 hours post-admission. In terms of mortality,main results indicated that of the total 18 septic shock patients included, 1/3 were discharged or remained currentlyhospitalized in the ICU and 2/3 presented negative outcome. Out of the 12 deceased patients, 6 presented aNegative aBE, 3 a Neutral aBE, and the remaining 3 a Positive aBE. **Conclusion:** Alongside with the changes inBE and lactate levels in critically ill patients admitted for septic shock, the analysis of aBE reinforces theimportance of monitoring these parameters as they may serve as critical indicators of recovery in septic shockpatients and in their outcome.

Keywords: Septic shock, Alactic base excess, Critically ill patient

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THE PREVALENCE OF ELECTROLYTE AND GLUCOSE IMBALANCES IN A GROUP OF PEDIATRIC PATIENTS WITH NON-FEBRILE CONVULSIONS

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Background: Non-febrile convulsions in children can have multiple underlying causes, including metabolic imbalances, genetic predispositions and structural or functional brain abnormalities. Among these factors, electrolyte disturbances should be identified as potential contributors that may trigger or exacerbate seizures. Furthermore, variations in glucose levels can play a significant role in the onset and progression of seizures in pediatric patients. **Objectives:** This study aims to assess the prevalence and types of electrolyte and glucose disturbances in children presenting with non-febrile seizures. Understanding these imbalances may have an importance in management and outcome of convulsive episodes. **Material and method:** A retrospective analysis of 73 pediatric patients hospitalized for non-febrile convulsions was conducted. Laboratory investigations include serum glucose, sodium, potassium, calcium and magnesium levels. **Results:** Electrolyte and glucose imbalances were identified in 53.4% of patients (39/73). The most frequent disturbances were glucose abnormalities 32% (hyperglycaemia 20.7%, hypoglycaemia 11.3%), sodium imbalances 12.91% (hypernatremia 1.8%, hyponatremia 11.11%), potassium imbalances with 30.1% presenting hyperkalemia and no cases of hypokalemia, calcium disturbances 42.8% (hypercalcemia 31.4%, hypocalcemia 11.4%). Magnesium disturbances were noted in 45.45% of tested patients, all presenting with hypermagnesemia, while no cases of hypomagnesemia were detected. Multiple imbalances were observed in 10.95% of patients (2 or more abnormalities). Biochemical disturbances were present across all age groups, with infants exhibiting the highest prevalence of imbalances and the greatest proportion of multiple abnormalities. However, electrolyte alterations did not show any statistically significant association with demographic factors such as sex, age or length of hospitalization, indicating that these disturbances may develop independently of these factors. **Conclusion:** Glucose and electrolyte imbalances are frequent in pediatric patients with non-febrile convulsions, with calcium and magnesium disturbances being the most prevalent. The high occurrence of hypermagnesemia requires further investigation. These findings highlight the importance of routine electrolyte and glucose screening tests in children with non-febrile convulsions, emphasizing the role of early detection in optimizing management and improving outcome.

Keywords: Non-febrile convulsions, Electrolyte impalances, Glucose, Pediatric patients

PATIENT-PROSTHESIS MISMATCH PREVENTION IN AORTIC VALVE REPLACEMENT

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Background: Aortic valve replacement is a surgical procedure used for the treatment of aortic valve pathology like stenosis and regurgitation. Its main purpose is to restabilish the blood flow from the heart to the entire body which is impaired in case of aortic valve diseases and it consists in the replacement of the native valve with a prosthesis. One of the most important preventable complication in aortic valve replacement is Patient-Prosthesis Mismatch (PPM). PPM is a condition that occurs when the size of a prosthetic valve is too small for the patient's body surface area, leading to increased trans-prosthetic pressure gradient and persistent ventricular overload. PPM is then associated with a worse prognosis, an increased risk of heart failure, atrial fibrillation and long-time mortality. **Case presentation:** This case include a 73 years old female patient with severe aortic stenosis, moderate mitral stenosis and regurgitation, tricuspid regurgitation, atrial fibrillation, essential hypertension and mixed dyslipidemia. At hospital admission (21/02/2025) the patient also presented with exertional dyspnea, fatigue, paroxysmal nocturnal dyspnea and palpitation. Preoperative echocardiography showed a very narrow aortic valve opening (with transvalvular pressure gradient of 143/86 mmHg) and left vetricular hypertrophy with preserved ejection fraction (50-55%). Intraoperative transesophageal echocardiography confirmed a severely calcified aortic valve with reduced mobility and a 19 mm aortic annulus, suggesting a high risk of post-operative PPM. On 25/02/2025 the patient underwent an aortic valve replacement with a "Perceval Plus" size M biological prosthesis in extracorporeal circulation. At discharge (03/03/2025), echocardiography confirmed the correct placement of the prosthetic aortic valve with a tran-valvular pressure gradient of 33/19 mmHg. The left ventricle was hypertrophic and efficient, with a maximum gradient in left ventricular ejection fraction of 30 mmHg, with no evidence of pathological pericardial effusion. Clinically, the patient presented in a haemodynamically stable condition, with a blood pressure of 130/71 mmHg and a ventricular rate of 80 beats per minute. There were no fever or post-operative infectious complications. **Case particularities:** Elevated risk of PPM because of the presence of a very small aortic annulus (19 mm) , severe aortic stenosis as major lesion and left ventricle hypertrophy which are all predisposing factors.The use of a prosthesis self-expanding without suture (sutureless bioprosthesis) that allow a better correspondence between prosthesis diameter and aortic annulus, reducing residual trans-valvular pressure gradient. **Conclusion:** Prevention of patient-prosthesis mismatch in aortic valve replacement requires careful pre-operative evaluation, appropriate prosthesis selection, and the adoption of advanced surgical techniques. Identification of patients with high risk of PPM, as in my case, is essential for better post-operative results. The use of self-expanding sutureless or supra-annular prostheses is useful for reducing the trans-prosthetic gradient and improving haemodynamic performance,and intraoperative transesophageal echocardiography is helpful to confirm proper function of the prosthesis and detect early signs of PPM. A personalized approach, that include modern technologies and patient specific characteristics, reduces the risk of PPM, improves cardiac function and increases the quality of life.

Keywords: Patient-Prosthesis Mismatch, Aortic valve replacement, Prevention, sutureless bioprosthesis, trans-valvular gradient

COMPARING TWO DIFFERENT CLASSES OF ANTIDEPRESSANTS: WHAT ARE THE SIDE EFFECTS AND WHICH CLASS IS MORE EFFECTIVE

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Background: Depression is a big burden now a days and the number people with mental health issues increases. Rising awareness and seeking for help is very important. There are several therapies ranging from psychotherapy to pharmaceutical options. One of the most frequent prescribed medications are antidepressants. Although antidepressants do help, there are also a wide range of side effects that could appear in the process of the therapy. Risks and benefits need to be taken into account. The side effects are different depending on the type of antidepressant. The class of antidepressant might also have an impact on how effective it will be, since this

changes from person to person and also depends on the type and severity of the depression. **Objectives:** Comparing the side effects and effectiveness of two different classes of antidepressants. **Material and method:** We crated our own questionnaire wich included a range of side effects that could appear following the consumption of antidepressants. The questionnaire also included questions on how they are feeling on a psychological level. All questions asked if they had specific symptoms and feelings before and after taking the antidepressant. To look for the severity each answer also contained a scale from 1 to 10. **Results:** We compared the side effects and effectiveness between Selective Serotonine Reuptake Inhibitors (SSRIs) and Ticyclic antidepressants (TCAs). More people reported gaining weight and having an increased appetite under an SSRI. Both SSRI an TCA induced dry mouth, but more in SSRIs. Palpitations did increase on an SSRI, no significant changes where seen in the TCA group. Both increased dizziness and excessive sweating, but there are more reports in the SSRI group in terms of sweating, especially during the night. People under a Ticyclic antidepressants felt an improvement in the sleeping pattern, while on Selective serotonine reuptake inhibitors no changes can be seen. Both improved anxiety, restlessness, being able to enjoy life, the level of sadness and irritability. The amount of suicidal thoughts also decreased in both groups. A slightly more amount of people felt an improvement in the SSRI group. But the level of improvement from a scale from 1 to 10 seems to be higher in people taking a tricyclic antidepressant. **Conclusion:** Both antidepressants show to have a range of side effects, some of them being more prominent in one group than in the other. SSRIs where responsible for more weight gain, dry mouth and sweating compared do TCAs. Tricyclic antidepressants did barely induce weight gain. Regarding the effectiveness, both showed an improvement of symptoms, TCAs being more helpful for the treatment of sleeping disturbances.

Keywords: antidepressants, mental health disorders, comparison, effectiveness, side effects

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EXAMINING COMPLICATIONS AND TREATMENT IN PAEDIATRIC VIRAL GASTROENTERITIS

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Background: Viral Gastroenteritis is a common viral disease in children. Commonly associated with complications. It is often a self-limiting disease, but especially in young children it can lead to severe complications like electrolyte imbalances leading to dehydration and malnutrition. Most common viral aetiologies are Rotavirus, Adenovirus, Enterovirus and Norovirus. The Gold standard of therapy is oral rehydration treatment also known as ORT. The use of IV hydrations is limited to severe cases. **Case presentation:** A 2-month-old male infant was presented with his mother at the emergency department. The infant was suffering for 4 days of bloody and bad smelling stools with mucus. He had 5-6 stools per days besides these symptoms the baby presented with fever and vomiting. The cutaneous turgor was diminished, O2 saturation 99%, rhythmic cardiac sounds and symmetric respiration. At the ICU a stool sample was taken which was positive for Rotavirus and Astrovirus. Furthermore, a rapid Covid test was taken which turned out negative, the hepatic marker GOT and GPT (680 U/L and 869 U/L) were increased, electrolyte imbalances and transaminase modifications were found. Due to these factors, symptoms, and the low birth weight (1800 grams and prematurity) the patient was admitted to the paediatric department. Considering the symptoms and the lab values the patient was diagnosed with Acute Gastroenteritis caused by Rota- and Astrovirus, Moderate dehydration syndrome and Transaminase modifications. The patient received symptomatic treatment. Arginina Sorbitol IV, IV rehydration hydro electrolytic with Aminovenos, Smecta per os, Probiotics 1x5 drops per os and the infant also received Epitrim per os. With the treatment the evolution was favourable. At the discharge the patient presented with a good general state, afebrile, without vomiting, with semi consistent stools and the patient was eating well. At discharge it was recommended to the patient to continue the treatment with Epitrim for two more days associated with continuation of the probiotics for another 20 days. Furthermore, it was recommended to take liver support. **Case particularities:** The particularity of the case is the infections with both viruses at the same time causing the identical pathology. **Conclusion:** Due to the young age of the patient and the low birth weight the risk of the patient, getting infected with 2 viruses at the same time increased. Because of the coinfection the symptoms and the evolution of the disease were more severe compared with other cases. Young infants are at higher risk of getting coinfected, their immune system is still not developed and they are more vulnerable compared to older infants. Complications like dehydration are more severe because they have a smaller body surface, a higher water content in the body, a smaller fluid reserve and a higher fluid turnover.

Keywords: Acute viral Gastroenteritis, Dehydration, Coinfection

DISTINCT INFLAMMATORY AND LIPID METABOLIC PROFILES OF HUMAN MONOCYTE SUBSETS IN THE FASTING STATE: AN EX VIVO ANALYSIS

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Background: Monocytes are crucial in atherosclerosis, involved in lipid uptake, transendothelial migration, and plaque formation. They are classified into three subsets: classical (CM, CD14++CD16–), intermediate (IM, CD14++CD16+), and non-classical (NCM, CD14+CD16++). While sharing some traits, each subset plays distinct roles in disease and lipid metabolism. **Objectives:** This study aimed to explore differences in lipid metabolism and phenotype across monocyte populations in healthy individuals. **Material and method:** Fasting blood samples of 19 healthy individuals were stained ex vivo for multiple markers and processed for intracellular lipid staining. Flow cytometry analyzed cell morphology (FSC, SSC), class/ activation markers (CD14, CD16, CD11b), and lipid metabolism markers (LDLR, CD36, BODIPY). Fasting serum was analyzed for routine chemistry, including a standard lipid profile. Paired t-tests and Wilcoxon tests assessed median fluorescence intensity (MFI) differences between subsets. Principal component analysis (PCA) was employed in order to reduce data dimensionality and identify relevant clusters. **Results:** Flow cytometry revealed distinct phenotypes among monocyte populations in the fasting state, summarized as a hierarchy of median MFI: FSC (CM< IM=NCM, $p< 0.05$), SSC (NCM< CM=IM, $p< 0.0003$), CD14 (NCM< CM=IM, $p< 0.0001$), CD16 (CM< IM< NCM, $p< 0.0001$), CD11b (NCM< CM< IM, $p< 0.001$), LDLR (CM=NCM< IM, $p< 0.0004$), CD36 (NCM< CM=IM, $p< 0.0001$), and BODIPY (CM< NCM, $p=0.035$). PCA of CM and IM identified four clusters explaining 83% of variance. Two clusters were shared by both CM and IM: one consisting of FSC(+), SSC(+), and CD14(–); and another cluster consisting of CD14(+), CD11b(+), LDLR(+), and CD36(+). Additional individual clusters, linking cell phenotypes with plasma lipid parameters, were identified for each population based on their established roles. These findings align with existing literature, as CM are known to cross the endothelium and contribute to plaque formation, while IM are elevated in cardiovascular disease, showing a highly proinflammatory phenotype. Also, NCM are complex cells with both pro- and anti-inflammatory potential, playing roles in endothelial patrolling, debris clearance, and vascular homeostasis. This study offers novel insights by specifically analyzing and describing the relative expressions of LDLR and lipid content in human monocyte subsets under fasting, steady-state conditions, providing a valuable foundation for interpreting results from subsequent *in vitro* studies. **Conclusion:** Based on surface marker expression, both classical monocytes and especially intermediate monocytes exhibit a proinflammatory phenotype, while non-classical monocytes seem to be the least inflammatory. Moreover, all populations are involved in lipid uptake, but relative surface marker expression and principal component analysis suggests they process lipids differently.

Keywords: Fasting State, Inflammatory Profile, Lipid Metabolism, Monocyte Subset

ADHD, PMS & THE ROLE OF ADHD MEDICATION AND CONTRACEPTIVES IN THE PREMENSTRUAL PHASE

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Background: ADHD (Attention-deficit Hyperactivity Disorder) affects around 3.1 % of adults worldwide (1). It is triggered by an imbalance in neurotransmitters, which in turn are influenced by various hormones such as progesterone and oestrogen. PMS (Premenstrual Syndrome) occurs in the days leading to menstruation where these hormones decrease rapidly. For years, women were underrepresented in ADHD research, as this disorder was considered to affect only children and males. The data on female hormones, their influence on ADHD and the significance for diagnosis and treatment is still insufficient (2,3). **Objectives:** This study aimed to find out if ADHD symptoms change during the premenstrual phase and how women with ADHD are influenced by PMS. Another question was if ADHD medication and/or the contraceptive pill might influence PMS-like symptoms. **Material and method:** The data was collected via an online survey over a period of four months in 2024. It was shared online in various ADHD groups, via email by the German ADHD Association, and through flyers in different psychological

and psychiatric practices. 606 participants fulfilled the following inclusion criteria: an ADHD diagnosis, being at least 18 years old, being female and having a menstrual cycle. **Results:** 84% of participants with ADHD experience an increase in ADHD symptomatology premenstrual. Furthermore, women with ADHD experiencing PMS-like symptoms are more often affected by an increase of ADHD symptoms premenstrual (p-value < 0.006). The statistical analysis revealed no significant difference in the occurrence of increased ADHD symptoms when neither ADHD medication (P-value 0,4) nor contraceptive pill (p-value 0,6) was taken. **Conclusion:** Women with ADHD seem to be influenced in their symptomatology by the menstrual cycle. Significant was that of those women most also experience PMS-like symptoms, woithout ever being diagnosed for PMS. The results are suggestive of an overlap between ADHD and PMS. How ADHD medication and the contraceptive pill may impact these symptomatology remains a field of research, as it remains unclear if and how ADHD medication should be increased during the premenstrual phase. The findings could be a first step in a different approach for medication plans of women with ADHD.

Keywords: ADHD, Premenstrual Syndrome, Menstrual cycle

LAPAROSCOPIC PREPERITONEAL RADICAL PROSTATECTOMY WITH NERVE SPARRING TECHNIQUE: A CASE REPORT

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Background: Prostate cancer is one of the most commonly diagnosed tumors in men, the early detection, a better prognosis and efficient treatment depends on that. The most common treatment for clinically localized prostate cancer remains radical prostatectomy, nowadays this procedure is dominated by laparoscopic radical prostatectomy (LRP), which has a minimally invasive character and is much more superior to open surgery, providing quicker recovery, and fewer complications. Through surgery, the maintenance of the urinary continence can be reached, and this result is especially improved by the use of nerve-sparing procedures. **Case presentation:** We present the case of a 60-year-old patient admitted to the Urology Clinic in Targu Mureș with clinically localized prostate cancer (cT2bN0M0). The patient had a history of cardiovascular disease and mild lower urinary tract symptoms (IPSS = 6). Uroflowmetry showed a Qmax of 17 ml/s with no post-void residual volume. His prostate-specific antigen (PSA) level was 4.7 ng/mL, and digital rectal examination revealed a painless prostate with hard nodules in the left lobe.Pelvic MRI demonstrated a 49 cm^3 prostate with a PIRADS 5 lesion in the left transitional and peripheral area, exhibiting low T2 signal intensity with diffusion restriction, but without extracapsular extension or lymph node involvement and unaffected seminal vesicles. Prostate biopsy confirmed adenocarcinoma in the left lobe (apex and median area) with a Gleason score of 3 + 4 = 7 (Grade Group 2).The patient underwent surgical intervention. The procedure performed was a laparoscopic preperitoneal radical prostatectomy with preservation of neurovascular bundles. **Case particularities:** Through the successful use of laparoscopic preperitoneal approach it was highlighted the effectiveness for radical prostatectomy while preserving neurovascular bundles in patients with clinically localized prostate cancer and a history of cardiovascular disease. The procedure was performed without complications and rapid postoperative recovery, despite the technical challenges presented by the preperitoneal approach. In addition to the benefits of the laparoscopic approach for the treatment of prostate cancer, the 3D technique produces outstanding functional results. As proof of the functional benefits of nerve-sparing techniques, the patient achieved immediate urinary continence after removal of the catheter, further supporting the efficacy of laparoscopic radical prostatectomy as a minimally invasive option for localized prostate cancer. **Conclusion:** The patient's postoperative evolution was favorable. Intraoperative blood loss was minimal, estimated at 50 mL. No intra or postoperative complications were reported. The drain tube was removed on the 3 rd postoperative day, and the bladder catheter was removed on the 5 th postoperative day following a cystography control. The patient demonstrated immediate urinary continence upon catheter removal. Discharge occurred on the 6 th postoperative day.

Keywords: prostate-cancer, prostatectomy, laparoscopy

DOUBLE TROUBLE: IRON DEFICIENCY IN TWINS AND IT'S RISK FACTORS

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Background: Iron deficiency (ID) occurs when the deposit of iron in the body are low but hemoglobin production is not yet compromised. While, iron deficiency anemia (IDA) is the advanced stage of the disease where iron stores are so low that they compromise the production of hemoglobin, compared with the normal expected ranges for gender and age. Risk factors for developing IDA in pre-school age are: prematurity or twinhood, exclusive breastfeeding beyond 6 months without iron supplementation, iron-free diet, iron absorption problems such as gastrointestinal diseases and occult intestinal bleeding. **Case presentation:** We present the case of 2-year-old female twins with history of mild immunoglobulin G deficiency (IgG), past infection with SARS Cov2 confirmed by RT-PCR and recurrent respiratory infections. The patients were delivered prematurely via caesarian section at the age of 36-37 gestational weeks. The twins were breastfed by their mother until they were 4 weeks of age, subsequently fed with powdered milk formula and correctly vitaminized and vaccinated.The two twins were brought to the clinic for clinical and laboratory exams due to abdominal colic followed by weeks of sporadic abdominal pain. Physical examination revealed elastic abdomen with no change in pain during superficial and profound palpation. Present intestinal transit, liver of normal size and spleen within normal limits. Whereas, from laboratory tests IDA emerged, reflected by the low level of hemoglobin, hematocrit and ferritin and the increased transferrin levels. **Case particularities:** The particularity of this case is the incidental discovery of IDA while investigating an abdominal colic. The two patients have different risk factors for IDA, some of them more obvious, as prematurity and twinhood and some indirect ones like IgG deficiency and abdominal pain. Possible links between IgG deficiency and IDA are recurrent infection (especially for respiratory tract and intestinal) which lead to chronic inflammation state that can alter the intestinal absorption of iron. Children born prematurely have also an increased risk for developing IDA due to lower iron stores at birth since the predominance of fetal iron accumulation takes place during the third trimester of pregnancy. Moreover, after birth, a preterm infant needs to grow quickly, therefore iron demand will increase while the stores are already low. **Conclusion:** ID remains a common cause of anemia in infants. It may also adversely affect long-term cognitive and behavioral functions that may be irreversible for the child. So, especially for infants with different risk factors, as in this case, it is important to have a continuous check-up of laboratory exams without waiting for unequivocal evidence of the disease. Controversies remain regarding the timing and the use of iron supplement to prevent both ID and IDA. Nowadays guidelines recommend an iron intake of 7 mg/day for toddlers from 1 to 3 years of age best delivered by eating cereals fortified with iron, red meat and fruits rich in vitamin C.

Keywords: irondeficiency, irondeficiencyanemia, recurrentinfections, twinhood, prematurity

A CLINICOPATHOLOGICAL STUDY ON SQUAMOUS CELL CARCINOMA OF THE LIP

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Background: Being the seventh most common malignant tumor diagnosed worldwide, squamous cell carcinoma (SCC) of the head and neck still represents a public health concern. Regarding SCC of the lips, it more frequently affects men, commonly appears at the level of the lower lip, with a good prognosis if diagnosed in early stages. Its development has been associated with UV light exposure, High-Risk Human Papillomavirus (HR-HRV), smoking, alcoholism, etc. **Objectives:** The aim of this study is to evaluate clinicopathological variations among a series of SCC cases. **Material and method:** This retrospective cohort study is based on the assessment of histopathological reports of 34 consecutive cases diagnosed with SCC of the lip, from the Pathology Department of the County Emergency Hospital in Targu Mures, Romania (2021-2024). The following collected parameters were of interest for this study: patient's gender, age, subtype of SCC, tumor-related characteristics like localization, dimension, stage, lymphovascular and perineural invasion, immunohistochemical (IHC) expression of p16 marker for determination of a potential association with HR-HPV infection and added molecular testing for the inconclusive cases. GraphPad Prism 10.4.1 software was used for statistical analysis of the obtained data. **Results:** According

to the statistical analysis, the mean age of the included patients was 72.7 years (±11.4 SD) and male patients made up the majority (61.76%). In this study, a higher prevalence among dry vermillion tumors (85.29%) was noticed, out of which 73.53% were at the level of the lower lip. The mucosal, wet vermillion lesions (14.71%) were found at the level of the inferior lip as well. Keratinizing SCC was the most common diagnosed type (91.18%), the other ones being nonkeratinizing (2.94 %) and verrucous (5.88 %). Perineural (26.47 %) and lymphovascular invasion (5.88 %) were also observed. While assessing the positivity of HR-HPV in the specimens, it was proven that association with the infection was quite infrequent, 94.12% (n = 32) showed negative results and only 2 patients, both females (p=0.3117), were positive. A worse overall survival (OS) was observed for patients diagnosed in more advanced pT stages (p=0.0214). **Conclusion:** The results of this study outline the prevalence of SCC of the lip among the elderly population and reinforces the worldwide epidemiological concept that lip SCC is more common in men, and it is preponderantly found at the level of the lower lip, with the pT stage as a prognostically relevant parameter and HR-HPV present in only a few cases.

Keywords: squamous cell carcinoma, lip, HPV

QUALITY OF LIFE IN HEART FAILURE PATIENTS: A GENDER-BASED ANALYSIS OF PHYSICAL AND SOCIAL LIMITATIONS USING THE KCCQ-12 IN A SINGLE-CENTRE STUDY

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Background: Heart Failure (HF) is a major public health concern worldwide, currently affecting more than 60 million people. It is characterized by the incapacity of the myocardium to deliver blood properly throughout the body due to underlying pathologies. The various degrees of symptoms and signs manifest debilitating physical and mental distress among the HF patients. Therefore, the quality of life (QoL) is substantially affected. **Objectives:** The aim of this study is to analyse the correlation between the physical and social limitation experienced by the HF patients of the Cardiology Clinic in Targu Mures, Romania, who undergo specialized medical treatment and monitoring. **Material and method:** This is a cross-sectional descriptive analysis that relies on utilizing the Kansas City Cardiomyopathy Questionnaire-12 (KCCQ-12) as the main instrument for investigating the personalized perception on QoL. KCCQ-12 contains twelve questions, which are categorized into four sub-groups, but for this study the Physical Limitation (PL) and Social Limitation Scores (SL) were of main interest. Scores are scaled from 0-100. The higher the score, the better the QoL. A total number of 50 carefully selected patients with HF deliberately participated. Descriptive analysis was performed with the help of Microsoft Office Excel. **Results:** The analysed group of 50 patients consisted of 29 (58%) males and 21 (42%) females. Among the participants 22 were under 65 years old, while 28 were aged 65 or older. The study covered a broad age range from 24 to 84 years, with an average age of 65.5. This data confirms that HF is more prevalent among the elderly. In terms of physical ability, the men declared themselves more active compared to females, scoring better results with a mean of 58.33. The female counterparts declared themselves less content, achieving on average only 41.65. A similar trend was observed regarding the social impact of HF. Males stated that their social life was less affected by HF, with a mean score of 60. However, females indicated a mean of 49. Socially, the women seem to be more prone to isolation and self-consciousness. Overall gender related scores on QoL manifest differences vis-a-vis both measured parameters. **Conclusion:** QoL is an important parameter when it comes to measuring the implications of HF. This study outlines the role of physical and social abilities in the daily life of such patients. Their perspective is reliant on several factors such as age, sex and personal bias. Overall, it was showed that males consider themselves more capable of carrying out daily physical activities and have an improved social life.

Keywords: KCCQ-12, Quality of Life, Heart Failure

THE CLINICAL APPROACH TO THE MANAGEMENT OF AN ACUTE BURN INJURY

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Background: It is important to understand that burn injuries can differ significantly in appearance. This variability requires the development of an individualized treatment plan for each case. After evaluating the wound, the

surgical team must decide on the most appropriate course of treatment, combining local and systemic management. **Case presentation:** A 60-year-old patient was presented to the emergency department with burn injuries sustained from direct contact with an open flame. The patient arrived intubated and under continuous sedation due to the severity of the condition. The affected total body surface was 10%, presenting second-degree type A burns in the facial region, ears bilaterally, partially in the frontal area of the face and the anterior thorax. Additionally, second-degree type B burns were seen on the dorsal face, bilateral hands, and elbow. Further diagnoses include a suspected upper airway injury, contusion wounds and acute tracheitis. During the plastic surgery consultation, a local cleansing with saline solution was performed, followed by the debridement of the devitalized tissue and the application of burn gel and a sterile dressing. The patient presented with indications for transfer to a hospital specialized in the treatment of burns. However, due to a shortage of available beds in the region, the patient was admitted to the intensive care unit. During the follow-up, the burned areas remained in a stationary local evolution. The hands showed bilaterally edema on the dorsal side and macerated tegument on the volar side. After cleansing and tissue debridement, Oximed spray and hydrogel were applied before a sterile dressing. In the course of the admission process, wound secretions were collected for a bacteriological examination. After this, the burn was treated with chloramphenicol ointment. Surgical debridement was performed followed by lavage and suture. The evolution continued to be favorable with no signs of infection or inflammation and the wounds being in the process of epithelialization. The patient could be discharged after 7 days of hospitalization. **Case particularities:** This case was complicated due to the presence of an inhalation injury and the involvement of the face. In such circumstances, it is generally recommended that the patient be transferred to a specialist burn center, which was not possible in this setting. In this situation, it was decided that following a promising evolution of the wounds and the general good condition of the patient, a transfer was no longer necessary. **Conclusion:** The management of burn injuries depends on a number of aspects, including the extent and depth of the injury, external factors, the accessibility of resources and an experienced team, in addition to the patient's personal history. It is therefore essential to correctly assess the severity of an injury in order to decide on treatment and achieve a favorable outcome.

Keywords: burns, burn assessment, inhalation injury

CHRONIC HEPATITIS B AND CHRONIC HEPATITIS C: A PARTICULAR FAMILY CASE

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Background: Hepatitis B virus (HBV) and Hepatitis C virus (HCV) are viral infections of the liver.HBV infection is mainly transmitted with blood and body fluids through horizontal and vertical transmission, instead HCV infection is mainly from parenteral routes with blood and blood products.In HCV infection, direct-acting antiviral medication resolve around 95% of the cases but no vaccine is effective at the moment, on the other hand HBV infection is preventable with vaccinations, and the treatment is focused on oral nucleotides use. **Case presentation:** This case is about a couple, where the husband and wife were both diagnosed with chronic hepatitis, B and C respectively.The husband, a 58-years-old man and his 56-years-old wife were both diagnosed in 2017, with no previous pathological medical history.The wife presented at gastroenterology clinic after GP consultation, since she was found with high level of transaminase (AST and ALT). She was hospitalized and laboratory tests showed positive RNA-HCV viral load. Liver enzymes were confirmed to be highly increased and FibroMax test revealed pathological F4 score on FibroTest and A2 on ActiTest. Due to these tests, she was diagnosed with HCV complicated with cirrhosis and a Child-Pugh score highlighted a classification of grade A.Consequently, the husband who did not complain of any signs and symptoms was tested as well. A low viral load of DNA-HBV was found with slightly elevated AST, ALT and GGT.Serum virological marker HBsAg was found positive. FibroMax test was performed with a pathological result of F4 score.The wife started DAA therapy for 3 months (VIEKIRAX+EXVIERA), while the husband diagnosed with HBV infection began oral nucleotides (ENTECAVIR) and is currently under therapy. **Case particularities:** The case particularity is the controversial infections of the couple, in which despite the wife presented with HCV infection, the husband was not diagnosed with HCV infection as we expected, but instead he was found with HBV infection.Therefore, the non-vaccinated wife against HBV infection was vaccinated in order to prevent HBV infection. **Conclusion:** In our cases we can assess that the couple did not infect each other due to the very low values of viral load. In conclusion, comparing the two cases and analyzing the different evolution, on one side the wife, who currently has cirrhosis, was able to solve the infection with HCV after 3 months of treatment with DAA and prevent further infection from HBV by undergoing

vaccinations against it. On the other one, the husband will be under long term therapy with oral nucleotides to monitor and avoid further complications. Early diagnosis, effective treatment and vaccinations are the most important factors in HBV and HCV infections to prevent severe complications such us cirrhosis and hepatocellular carcinoma.

Keywords: chronic hepatitis B, chronic hepatitis C, AST, ALT, cirrhosis

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THE ASSOCIATION BETWEEN CONGENITAL ANOMALIES OF THE KIDNEY AND URINARY TRACT (CAKUT) AND THE PRESENCE OF URINARY TRACT INFECTIONS (UTI)

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Background: Congenital anomalies of the kidney and urinary tract are malformations that are present at birth as a result of developmental disorders. They are often diagnosed intrauterine during periodic screening using ultrasound, however, some may not be detectable with this screening technique. UTIs are the most common presenting symptom in the presence of CAKUT, thus, further investigation should be considered in every case. Despite the fact that they are the most common bacterial infection among children, ignoring these signs could be the catalyst in the development of irreversible kidney damage and, ultimately, end stage renal disease. **Objectives:** The objectives of this topic are to understand the relationship between UTIs and the presence of a CAKUT in an infant. In understanding this relationship, physicians may be able to deduce whether there is an underlying condition responsible for the UTIs, and therefore be able to provide proper treatment and avoid the consequences of CAKUT. **Material and method:** This is a retrospective study including 117 patients up to the age of 5 presenting to the Targu Mures County Hospital in the period 1st of January 2020 to 31st of December 2023. Patients that were newly or previously diagnosed with a CAKUT and whether or not they had a UTI at time of diagnosis were included in the study. Demographic data, UTI symptoms and the type of congenital anomaly were collected. Statistical analysis was performed using IBM SPSS statistics version 26.0. A p-value of < 0.05 and a confidence interval of 95% were considered statistically significant. **Results:** The most frequent congenital anomalies in our population were vesicoureteral reflux (VUR) (27%), duplicated collecting system (DCS) (20%) and ureteropelvic junction obstruction (UPJO) (17%). 2 of the studied anomalies were significantly associated with the presence of a UTI at diagnosis: VUR (chi2 12.9, $p< 0.01$) and DCS (chi2 8.7, $p=0.03$). Males were 1.6 times more likely to present with a UTI at diagnosis. There was no significant association between age and the presence of a UTI at diagnosis of the congenital anomaly. **Conclusion:** The data found that the anomalies most commonly associated with UTIs at the time of diagnosis were VUR and DCS, more commonly in males. These results therefore prove that there is a statistically significant association between certain CAKUT and the presence of UTIs. Further investigation should be recommended in all infants presenting with a UTI.

Keywords: CAKUT, Urinary Tract Infection, Vesicoureteral Reflux, Duplicated Collecting System, Ureteropelvic Junction Obstruction

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DIFFERENCES IN PAIN INTENSITY IN RELATION TO INSOMNIA STATUS AMONG PATIENTS WITH DIABETIC POLYNEUROPATHY

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Background: Changes in sleeping patterns are commonly observed among patients with chronic conditions, particularly in individuals suffering from nocturnal pain. Diabetic polyneuropathy (DPN) can negatively impact the time it takes to fall asleep, increase nighttime awakenings, causing early morning wakeups and can contribute to daytime sleepiness. Evaluating the different aspects of a patient's life that are affected by diabetes mellitus (DM), along with the impact of DPN, is important for effective treatment and management of these patients. **Objectives:** The study aimed to investigate the relationship between sleeplessness and pain experienced in patients with DM. The null hypothesis stated that there is no association between sleep disturbances and pain intensity. **Material and method:** An observational cross correlational study was performed including 62 patients with DM from a diabetic focused practice in Wolfenbüttel, Germany. The patients were asked about sleeplessness using a closed

question format and the current pain intensity they are experiencing using an adjusted version of the Pain Symptom Inventory (PSI). Additionally, measures of Sociodemographic Data, the Hospital Anxiety and Depression Scale (HADS) and Falls Efficacy Scale (FES) were included as part of the study to explore the psychosomatic aspects of diabetic polyneuropathy. Data analysis was performed using SPSS including the Mann-Whitney U test to examine the differences in pain intensity in patients with sleeplessness and without. **Results:** The patient lot included 30 (48.4%) females and 32 (51.6%) males, with a mean value of 59.34 **±** 13.01 years(min: **25** , max: **85**) and median of 58.5 years. Median duration of diabetes was 4 years. According to the Mann-Whitney U test, there was a significant difference between individuals with and without sleeplessness (Z= -2.50, p= 0.012). The mean rank for participants with sleeplessness was 39.21 vs 28.09 without sleeplessness. **Conclusion:** The findings suggest that there is an association between pain intensity and sleeplessness in patients with diabetic polyneuropathy. The null hypothesis was rejected since participants who reported significantly higher pain intensity experienced sleeplessness in comparison to the patients without sleeplessness.

Keywords: diabetic polyneuropathy, diabetes mellitus, pain symptom inventory, sleep

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IMPACT OF EDGE-TO-EDGE REPAIR ON SYSTOLIC PULMONARY ARTERY PRESSURES IN SEVERE DYNAMIC MITRAL REGURGITATION

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Background: Mitral Regurgitation (MR) is a common valvular heart disease, which describes the loss of the valves physiologic function during systole, leading to retrograde leakage of blood from the left ventricle into the left atrium.In severe MR patients, the extent of regurgitant volume may variate with changes in hemodynamic conditions, differentiating between dynamic and non-dynamic MR. Due to the variability in dynamic MR, it is associated with poorer clinical outcomes with increased morbidity/mortality.Elevated systolic artery pressures (sysPAP), especially under physical exertion, are a known consequence of MR with a more pronounced increase being assessed in dynamic MR.Edge-to-edge repair is a widely used minimally-invasive treatment approach for severe MR, but its impact on sysPAP in relation to MR dynamics has not been sufficiently investigated. **Objectives:** This study aims to retrospectively assess changes in sysPAP values measured before and after edge-to-edge repair by stress-echocardiography in patients with dynamic severe MR compared to patients with non-dynamic MR. The expected outcome is to reveal significant differences in sysPAP response to physical stress, expecting that dynamic MR patients will exhibit a greater reduction in stress-induced sysPAP values post-procedure, indicating a more pronounced benefit in stabilizing pulmonary pressures.By elucidating the interaction between dynamic MR and sysPAP, the study aims to provide new insights into the impacts of edge-to-edge repair on sysPAP, particularly under stress. **Material and method:** A retrospective analysis was conducted on severe MR patients who underwent edge-to-edge repair with the PASCAL-Clip. The data were collected from the University-Hospital-Essen. Patients were categorized into dynamic and non-dynamic (control) MR groups based on echocardiographic assessment. SysPAP values were measured pre- and post-Clip insertion using stress-echocardiography. Statistical analysis was performed to compare changes in sysPAP.. **Results:** In the dynamic group the mean sysPAP at rest was 41.1 mmHg, increasing to 49.2 mmHg during exertion, with an average difference of 8.3 mmHg. No change in sysPAP was seen in 25% of cases. After Clip insertion, the average sysPAP at rest was measured at 37.2 mmHg and 39.2 mmHg at physical exertion. 74% showed no changes.In the control group, sysPAP measured at rest was 44.8 mmHg and 47.9 mmHg during physical exertion. No change was observed in 73% of cases. After the Clip insertion, the sysPAP at rest was 38.8 mmHg and 39.2 mmHg during exertion. 91% showed no difference.Overall, the dynamic group showed a significant increase in sysPAP values pre-Clip insertion, with a reduction post-Clip insertion.The control group demonstrated only small changes in sysPAP values before and after starting physical exertion, with little improvement after Clip insertion. **Conclusion:** The findings support the hypothesis that dynamic MR patients exhibit a greater reduction in stress-induced sysPAP values post-procedure compared to non-dynamic MR patients.These results confirm that edge-to-edge repair effectively reduces elevated sysPAP values in dynamic MR patients, supporting its positive impact on pulmonary hemodynamics. Therefore, edge-to-edge repair should be considered as part of the treatment options for patients with dynamic MR and increased sysPAP values.Future research should focus on optimizing treatment strategies for dynamic MR patients with increased sysPAP values, to optimize clinical outcomes and stabilize pulmonary pressures.

Keywords: Mitral Regurgitation, PASCAL-Clip, Systolic Pulmonary Artery Pressure

PROGNOSIS OF IN-HOSPITAL MORTALITY USING ROUTINE LABORATORY INVESTIGATIONS IN CRITICALLY ILL COVID-19 PATIENTS WITH KIDNEY DYSFUNCTION

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Background: The COVID-19 pandemic initially posed significant healthcare challenges, with limited and sometimes contradictory data. Identifying biomarkers with prognostic value for mortality was crucial. Elevated creatinine, a marker of renal impairment, is widely associated with increased morbidity and mortality across various conditions. Therefore, the presence of kidney dysfunction alongside the underlying disease may affect the predictive accuracy of other mortality biomarkers. **Objectives:** This retrospective cohort study investigated routine laboratory tests as potential mortality biomarkers in critically ill patients with severe SARS-CoV-2 pneumonia and kidney dysfunction. **Material and method:** A retrospective analysis was performed using data from the Clinical Laboratory of the Emergency County Clinical Hospital of Târgu Mureș, covering September 2020 to October 2021. A total of 86 patients were included based on the following criteria: adults (≥18 years old), RT-PCR-confirmed COVID-19 diagnosis, critical illness requiring ICU admission, standard/extended laboratory investigations at admission, and kidney dysfunction (creatinine >1.5 mg/dL). In-hospital mortality was the primary outcome. Statistical analysis involved correlation, regression, and survival methods using MedCalc software, with significance set at $p< 0.05$. **Results:** The cohort included 86 patients, with a median age of 73.5 years (IQR: 65.9–78.6), 65% male, and a recorded mortality rate of 73%. Median creatinine was 2.78 mg/dL (IQR: 1.93–4.56), and median NLR was 16.6 (IQR: 10.1–23.4). In univariate analysis, age and creatinine were not linked to mortality, while WBC, neutrophil count, NLR, and LDH showed the strongest associations ($p< 0.0001$ for all). Multivariate analysis identified several two-parameter predictive models, many including NLR, with AUC values ranging from 0.766 to 0.862. Among three-parameter models, the combination of NLR, AST, and WBC demonstrated the highest predictive accuracy (AUC 0.905, IQR 0.819–0.959, $p< 0.0001$, 85% accuracy), while applicable to the largest patient subset (n=80), ensuring generalizability. To enhance clinical utility, two scoring systems were developed based either on cutoff thresholds (Youden's Index) or tertiles, both demonstrating strong predictive value (AUC values 0.837 and 0.871, respectively). **Conclusion:** Routine laboratory markers, particularly NLR, AST, and WBC, are valuable for early mortality risk assessment in critically ill COVID-19 patients with kidney dysfunction. NLR and WBC reflect systemic inflammation and immune dysregulation, while AST indicates multi-organ dysfunction and metabolic stress. The proposed risk scores, based solely on these markers, offer an objective, accessible tool to complement clinical scoring systems. A stepwise increase in mortality with rising risk scores supports their potential for early risk stratification in critically ill COVID-19 patients with kidney dysfunction.

Keywords: COVID-19, kidney dysfunction, mortality, NLR

INTRAABDOMINAL SCHWANNOMA ADHERING TO THE ASCENDING COLON: A RARE ENTITY

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Background: Schwannomas are tumors that arise from the nerve sheath of peripheral nerves. They are usually solitary tumors located in the intracranial and spinal regions. In rare cases, schwannomas occur in the gastrointestinal tract, which, due to lack of morphological distinct criteria can lead to their misinterpretation as colon carcinoma or GIST (gastrointestinal stroma tumor). **Case presentation:** A 74-year-old female patient presented to the general surgery clinic for evaluation of a ventral hernia repair. Abdominal ultrasound incidentally revealed a paracolic retroperitoneal mass in the right pelvis, prompting further imaging studies, including a contrast enhanced CT scan of the abdomen and pelvis contrast, a non-contrast CT scan of the thorax, an MRI of the Head, and a colonoscopy. Surgery involved a right hemicolectomy with an additional palm-sized resection of the left transverse lumen due to suspicious intraoperative findings. The resected specimen was sent to histopathology for further

evaluation. **Case particularities:** The CT scan of the abdomen and pelvis showed an oval, smoothly demarcated, dorsolateral mass of uncertain dignity measuring 6 x 4 x 3 cm, adjacent to or attached to the ascending colon. The mass lacked surrounding inflammatory reaction and displayed homogeneous contrast with a slight central hypodense area. Isolated lymph nodes up to 1 cm in size were found in the associated mesentery. CT examination of the thorax and MRI of the head were unremarkable. Endoscopy revealed a 5 cm tumor in the proximal colon that was protruding into the abdominal lumen, causing a passable stenosis. Microscopic examination revealed a spindle cell tumor located in the tunica muscularis. Immunohistochemistry (ICH) showed positive staining for S100 and CD34. CD117 and DOG1 were negative. The 13 lymph nodes examined were free of tumor involvement. The findings are consistent with an intra-abdominal schwannoma without signs of malignancy. **Conclusion:** Abdominal schwannomas are rare spindle cell tumors with a low malignancy rate, and only a few case reports, series and small studies exist on this topic. In our case, it was challenging to distinguish between a GIST and a schwannoma. Preoperative and intraoperative findings suggested a GIST, but histopathological and immunohistochemical analysis ultimately confirmed a benign schwannoma. This case highlights the importance of histopathological assessment in differentiating between mesenchymal tumors of the gastrointestinal tract. Additionally, the absence of other schwannomas suggests that an underlying genetic syndrome such as neurofibromatosis or schwannomatosis is unlikely. Long-term follow-up can be considered, but due to the lack of suspicion for a genetic syndrome and the complete removal of the tumor, the recurrence rate is expected to be low.

Keywords: Intraabdominal, Schwannoma, Immunohistochemistry, Gastrointestinal

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RETROPERITONEAL LEIOMYOMA PRESENTING WITH RIGHT SIDED ABDOMINAL PAIN: A CASE REPORT

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Background: Leiomyomas of the retroperitoneum are extremely rare, benign tumors of smooth muscle tissue. A systematic review reported 1001 cases in the English-language literature to date. Histologically, they show macroscopic and microscopic similarities to uterine leiomyomas. Due to their diffuse presentation, a diagnosis can be challenging. Differentiation is crucial, because most of these retroperitoneal tumors are malignant. **Case presentation:** A 54-year-old woman presented as an emergency with right sided abdominal pain radiating to the back. She reported constipation for the past two days. Sonography revealed a hypoechoic mass on the right side in the abdomen. The patient underwent gastroscopy, colonoscopy, and contrast enhanced CT scan of the abdomen and thorax. After presentation to the interdisciplinary tumor conference, a right hemicolectomy with resection of the retroperitoneal tumor and a side to side anastomosis was performed. The surgical specimen was sent for histopathological examination. **Case particularities:** A contrast-enhanced CT scan revealed a 6.5 x 5 x 4.2 cm soft tissue mass with multiple small lobulations and marked inhomogeneous enhancement, as well as isolated hypodense areas in the right retroperitoneal region directly behind the cecum or ascending colon. The tumor extends caudally to below the level of the iliac crest, where it was in contact with the lateral contour of the psoas muscle. A 4 x 3 x 2 mm thickened area with strong contrast enhancement was also visible at the lower tumor margin. The CT scan of the thorax was negative. Endoscopy revealed an 8cm submucosal bulge in the ascending colon. A clip was inserted for localization. Histopathological examination confirmed a retroperitoneal leiomyoma, hormone receptor positive, with central hydropic degeneration but no mitochondrial activity. All 16 removed lymph nodes examined were tumor-free, and no evidence of malignancy was found. **Conclusion:** Leiomyomas are benign smooth muscle tumors that rarely involve the retroperitoneum. They are most observed in the perimenopausal women often associated with a uterine leiomyoma or a history of hysterectomy. However, this patient had no history of uterine leiomyomas. The pathogenesis of the lesion is currently unclear. Interestingly, this patient had MS (Multiple Sclerosis). In an Analysis of actual MS therapy, a single case of leiomyoma was reported, but without statistical significance. A direct association between MS and retroperitoneal leiomyomas is therefore unlikely but cannot be completely excluded. Further scientific studies on this potential connection would be of interest.

Keywords: Leiomyoma, Retroperitoneum, Fibroids, Multiple Sclerosis

SURGICAL APPROACH AND POSTOPERATIVE OUTCOMES IN HIATAL HERNIA REPAIR

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Background: A hiatal hernia is defined as the protrusion of the stomach fundus into the thoracic cavity through the esophageal hiatus. We conducted a study at the County Clinical Hospital analyzing 146 cases of hiatal hernia surgical repair from 2006 to 2024. This condition can be surgically treated using either an open or laparoscopic approach, with various fundoplication techniques being employed. The most common include:●Nissen fundoplication: a 360º posterior wrap.● Toupet fundoplication: a 270º posterior partial wrap.● Dor fundoplication: a 180º anterior partial wrap. **Objectives:** To establish a correlation between the surgical approach (open vs. laparoscopic) and postoperative outcomes, including complication rates and ICU stay. Additionally, we assessed how these factors might be influenced by the patient's body weight. **Material and method:** Whenever feasible, laparoscopic surgery was the preferred approach due to its minimally invasive nature. The Nissen technique was predominantly used to prevent gastroesophageal reflux. Data analysis focused on surgical time, length of ICU stay, and postoperative complications. Notably, more than 60% of the patients in this retrospective observational study were overweight or obese, a factor that could influence both surgical complexity and postoperative recovery. **Results:** Our findings indicate that laparoscopic hiatal hernia repair resulted in significantly shorter ICU stays (0,81 days) compared to open surgery (1,47 days), with the latter requiring nearly twice the number of ICU days on average. Additionally, the mean operative time was lower in laparoscopic procedures. Among the fundoplication techniques, Nissen fundoplication emerged as the standard in these cases, with over 70% of patients undergoing this procedure. **Conclusion:** Laparoscopic hiatal hernia repair is associated with shorter ICU stays and reduced operative time compared to the open approach, reinforcing its role as the preferred technique when feasible. Furthermore, the Nissen fundoplication remains the gold standard, given its widespread adoption and effectiveness in preventing reflux-related complications. The high prevalence of overweight and obese patients in this study highlights the importance of considering body weight as a potential factor in surgical planning and postoperative outcomes.

Keywords: Hiatal hernia, Surgical approach, Nissen, Toupet, Dor

DISCREPANCIES BETWEEN HISTOPATHOLOGICAL CONFIRMATION OF TYPE B GASTRITIS AND H. PYLORI UREASE TEST: A CLOSER LOOK

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Background: Peptic ulcers, gastric cancer, and chronic gastritis are often caused by Helicobacter pylori infection. Chronic type B gastritis is usually diagnosed as "Gold Standard" by histological examination of tissue samples obtained during esophagogastroduodenoscopy. A faster and more cost-effective method is the Helicobacter urease test (HUT). Discrepancies between the two methods often occur, which can make a reliable diagnosis difficult. **Objectives:** The aim of this study is to investigate possible causes of such discrepancies in patients with type B gastritis. The focus is primarily on the influence of antibiotic therapy, the use of proton pump inhibitors (PPIs), and whether the S3 guidelines were followed during biopsy collection and how all of these factors influence the test results. **Material and method:** At the Klinikum Bottrop, a retrospective analysis was made from testing 189 patients who had biopsies taken during esophagogastroduodenoscopy for both histological examination and HUT. Results showed the HUT was positive in 16 of the examined individuals, while 24 patients were histologically diagnosed with type B gastritis. For better understanding of the reasons for these discrepancies, the cases were divided into two groups: • Patients with positive HUT and histologically confirmed type B gastritis (n = 15) • Patients with negative HUT but histologically confirmed type B gastritis (n = 8) In the study the two methods, Chi-square tests and Fisher's exact tests were used to examine the relationship between certain influencing factors like PPIs use, antibiotic use, and adherence to S3 guidelines for biopsy collection. A Logistic regression analysis was also tried to look for reasons for the discrepancies and the extent to which the variables influence the probability of a positive HUT result. **Results:** Of all the 24 patients which were histologically confirmed with type B gastritis, 33.3%

(8 of 24) had a negative Helicobacter pylori urease test (HUT) result although the histopathological findings were clear. In the remaining 66.7% (16 of 24), however, H. pylori was positive detected in the HUT. The results of the statistical analyses showed: Neither the use of proton pump inhibitors (PPIs), the use of antibiotics, nor compliance with S3 guidelines for biopsy collection had a significant contribution to the HUT result outcomes. The Results were confirmed by both the chi-square test and the Fisher exact test (p-values of 1.000 and 0.589 were calculated). The logistic regression analysis also showed no significant influence of these three variables on the probability of a positive HUT result. What was striking, however, was that the regression model did not show stable convergence which means that the tested 24 patients out of the 189 patients was possibly too small. **Conclusion:** This study found no statistical correlation between HUT results and the use of antibiotics, PPIs, or biopsy technique. However, patterns in the data suggest that biopsies may affect test validity. Due to the limited sample size, reliable conclusions remain difficult. Larger studies are needed to better understand these influences. Until then, HUT results should always be interpreted alongside histological findings to minimize false-negative outcomes.

Keywords: Helicobacter pylori, Urease Test, Histopathology, Gastritis Type B

IMPACT OF AGE ON TREATMENT DELAYS IN THROMBECTOMY PATIENTS – A QUALITY CONTROL ANALYSIS IN A NON-NEURORADIOLOGICAL SETTING

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Background: Endovascular thrombectomy (EVT) rapidly became the gold standard for treating patients with acute ischemic stroke (AIS) who present with an anterior circulation large-vessel occlusion (LVO).Efficient time management is crucial for achieving a good functional outcome and the time from hospital arrival to femoral artery puncture, known as door-to-groin time, is a key quality metric for endovascular stroke treatment.The German Society for Neurology (DGN) recommends a door-to-groin time of 75 minutes, while < 90 minutes is set as the standard for stroke unit certification.While workflow optimization has reduced door-to-groin time, delays may still arise due to patient-related factors. **Objectives:** This study evaluates the impact of age on door-to-groin time and other key time intervals in a non-neuroradiological setting. **Material and method:** A retrospective analysis of 98 patients who underwent EVT in Klinikum Lüdenscheid, a tertiary care hospital without a neuroradiology department in North Rhine-Westphalia, between 2020 and 2024 was conducted.Key time intervals assessed included: 1. door-to-imaging time (hospital arrival to imaging), 2. imaging duration (start to end of imaging) and 3. door-to-groin time.Statistical analyses were performed using MedCalc® version 23.0.2 (MedCalc Software Ltd, Ostend, Belgium).Pearson correlation analysis and multiple regression modeling were used to evaluate the relationship between age and treatment delays, adjusting for confounders like the National Institutes of Health Stroke Scale (NIHSS), intravenous thrombolysis administration, imaging modality and anesthesia type. **Results:** No significant correlation was found between age and door-to-imaging time ($r = 0.13$, $p = 0.213$) or imaging duration ($r = 0.12$, $p = 0.254$).A significant correlation was found between age and prolonged door-to-groin time ($r = 0.28$, $p = 0.005$).Multiple regression analysis confirmed that age was the strongest independent predictor of door-to-groin time delays ($\beta = 0.87$ min/ year, $p = 0.0009$), while other clinical factors were not found to be significant contributors. **Conclusion:** In our study population, elderly patients experienced significant treatment delays between the end of imaging and puncture of the femoral artery. These observations indicate possible age-related workflow inefficiencies in time management of EVT in non-neuroradiological environments. More research must be conducted to determine the reasons for delay and implement targeted solutions to prevent them, so more efficient treatment is provided to this patient group.

Keywords: endovascular thrombectomy, acute ischemic stroke, door-to-groin time, age, treatment delay

AN UNCOMMON ACUTE MONOCYTIC LEUKEMIA

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Background: Acute Monocytic Leukemia is a rare subtype of acute myeloid leukemia, specifically AML-M5. It is characterized by an overproduction of monocytes in the bone marrow causing many health complications. Representing 5-15% of all AML cases **Case presentation:** A 61-year-old female patient presented to emergency in July 2024 presenting fatigue, loss of appetite and persistent fever for four days. The patient had a pneumonia that evolved over seven days of hospitalization. Laboratory test at emergency showed leukocytosis (40,240/mm³) with monocytosis (27.01/mm³) and moderate thrombocytopenia (78,000/mm³), after this the patient was admitted to Hematology Service for further investigations. Bone marrow biopsy showed myeloblastic cells with signs of monocytic differentiation. On 20/7/2024, induction chemotherapy was initiated with Cytarabine, combined with Daunorubicin. Additionally, Mylotarg was administered, along with thrombocyte transfusion and erythrocyte mass. Throughout treatment, the patient developed febrile neutropenia, which was managed with Cefort, followed by carbapenem and antifungal therapy. On 12/8/2024 a response revealed to treatment with no detectable blasts. However, the patient continued to experience anemia and severe thrombocytopenia. Four days later patient was discharge after correcting Neutropenia. On 22/8/2024, Consolidation chemotherapy was administered with Mylotarg, Daunorubicin, and Meropenem for febrile episodes. Antiplatelet therapy was suspended due to thrombocytopenia. On 4/10/2024 the patient went another cycle of chemotherapy and responded to treatment. During the third cycle of chemotherapy, anemia worsened, requiring transfusions. Blood tests showed continued leukopenia, requiring further granulocyte growth factor administration. The patient experienced multiple side effects, including paleness, lack of appetite, and weight loss. After completing it, the patient showed signs of improvement despite mild nausea. Treatment was continued with Onureg and supportive therapy. We need to mention that our patient was analyzed for FLT3 ITD mutation (negative) and NPM1 mutation (positive) that gives us a favorable response to chemotherapy. To finish, our patient was tested for anti-HLA antibodies, awaiting for evaluation at the Transplant Clinic. **Case particularities:** AML-M5 is uncommon but possible, generally poor prognosis unless favorable genetic mutation or the patient is eligible for transplantation, with a remission rate of 40-50% in older patients. **Conclusion:** In this case with mutation of NPM1 and with anti-HLA antibodies if she maintains remission and cannot get a transplant, she has a moderate prognosis (~2-3 years median survival), with a chance of longer survival if MRD-negative and on maintenance therapy. If a transplant becomes possible, 5-year survival could reach 40-50%.

Keywords: Acute Monocytic Leukemia, Anemia, NPM! mutation, anti-HLA antibodies

CHEMO-PORT MISPLACEMENT WITH SUBCLAVIAN AND INTERNAL JUGULAR VEIN THROMBOSIS

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Background: Chemo-ports are widely used in oncologic patients to ensure safe and efficient chemotherapy administration. Their insertion is generally considered a minor procedure; however, it is not without risks. Several complications have been reported in association with chemo-port placement, some of which may pose serious or even life-threatening consequences. Among these, catheter misplacement and venous thrombosis are notable complications that can significantly impact patient management and treatment outcomes. **Case presentation:** A 47-year-old female patient with a diagnosis of breast cancer underwent the insertion of a chemo-port via the right subclavian vein for preoperative chemotherapy administration. The initial phases of chemotherapy were well tolerated, with no significant adverse effects reported. However, a computed tomography (CT) scan performed after two cycles of chemotherapy incidentally revealed that the catheter tip was malpositioned in the right internal jugular vein. Additionally, thrombosis of both the right subclavian and internal jugular veins was identified.Given these findings, the patient was promptly initiated on anticoagulation therapy with low-molecular-weight heparin (LMWH). Subsequently, surgical removal of the chemo-port, including both the reservoir and the catheter, was

performed under local anesthesia without complications. Bacteriological cultures obtained from the chemo-port components (including the reservoir and catheter tip) yielded negative results, ruling out an infectious etiology. During follow-up, the patient remained asymptomatic, with no clinical signs of venous flow obstruction. She successfully completed her planned oncologic and surgical treatment without further complications. **Case particularities:** Misplacement of central venous catheters is not an uncommon occurrence. However, in most cases, it remains clinically insignificant and does not necessitate immediate intervention. This case is particularly noteworthy due to the combination of chemo-port malposition and the subsequent development of thrombosis in both the subclavian and internal jugular veins. The presence of thrombosis in two major venous structures highlights the potential complications associated with improper catheter placement.Several mechanisms may explain the thrombotic event in this patient. The mispositioning of the catheter tip could have led to endothelial irritation, turbulence in blood flow, and vessel wall damage, all of which are well-established risk factors for thrombosis. Additionally, the patient's underlying malignancy and chemotherapy itself are known to contribute to a hypercoagulable state, further predisposing her to thrombotic complications. **Conclusion:** This case underscores a rare but clinically significant complication associated with chemo-port insertion for central venous access. The findings suggest that catheter misplacement played a crucial role in the development of thrombosis, emphasizing the importance of meticulous placement techniques and post-procedural imaging verification. Early recognition and prompt management of such complications are essential to prevent further morbidity and to ensure the safe continuation of oncologic treatment.

Keywords: Chemo-port displacement, venous thrombosis, Catheter complications

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DENIAL OF THE DISEASE DOES NOT MAKE IT DISAPPEAR. A RARE CASE OF GANGLIOSIDOSIS TYPE I LEADING TO SEVERE MALNUTRITION

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Background: Malnutrition is defined as a nutritional imbalance resulting from improper intake or use of nutrients. It may be secondary to socioeconomic and environmental conditions but also physical or mental disorders and can lead to important repercussions on the state of health of the patient. Gangliosidosis type one is a rare lysosomal storage disorder leading to developmental delay, hepatosplenomegaly, skeletal abnormalities, seizures, and it has a life expectancy of 1-2 years. **Case presentation:** A 1 year and 8-month-old girl was admitted to the Department of Paediatrics following a clinical evaluation in the emergency ward where she was taken by her mother with evident signs of apnoeic crisis with perioral cyanosis. The objective examination showed: facies with coarse features, macrocephaly, frontal bossing, hypertelorism, depressed nasal bridge, macroglossia, severe malnutrition with third degree dystrophy, severe hypotonia, peripheral oedema, respiratory distress, bradycardia, hepatomegaly, severe psychomotor retardation (no response to verbal stimuli, no head control, unable to sit unassisted). **Case particularities:** Given the clinical presentation and paraclinical investigations, a suspicion of a storage disorder was raised, and a medical genetics consultation was requested. Following this consultation, we were informed that the patient was already registered in the genetics department with a diagnosis of GM1 gangliosidosis. The disease was diagnosed five months after birth, a detail that was not mentioned by the mother despite being specifically inquired during the anamnesis. We were also informed that the mother had another child who passed away at the age of 10 months, without a detailed diagnosis but with a clinical presentation like that of his sister. The family was skeptical about the genetic diagnosis, feared medical professionals, and consequently did not bring the child to regular follow-up visits despite the child's precarious development. **Conclusion:** The primary cause of the child's malnutrition can be attributed to the underlying genetic disorder. GM1 gangliosidosis is a rare genetic condition for which there is currently no cure. Additionally, the socioeconomic environment in which the child was born and raised played a significant role. The parents' lack of education and understanding regarding the severity of the diagnosis adversely impacted the child's prognosis. Regrettably, due to numerous complications, the child passed away after two weeks of hospitalization.

Keywords: #Malnutrition, #Distrophy, #GangliosidosistypeI, #Socioeconomicimpact

OPTIMIZING NERVE PROTECTION IN THYROID SURGERY - COMPARATIVE STUDY OF CONTINUOUS AND INTERMITTENT INTRAOPERATIVE NEUROMONITORING

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Background: Thyroid surgery, a crucial intervention for several thyroid pathologies, presents a notable risk to the recurrent laryngeal nerve (RLN), with possible outcomes including vocal cord paralysis and impaired voice quality. To address the risks, intraoperative neuromonitoring (IONM) has become a significant importance of modern surgical practice, with the goal of improving the detection and protection of the recurrent laryngeal nerve. While both intermittent and continuous IONM aim to protect nerve function during surgery, they differ in their approach. Intermittent IONM checks nerve function at certain points, while continuous IONM offers constant feedback. **Objectives:** The objective of the present study is to evaluate the effectiveness of continuous (c-IONM) and intermittent (i-IONM) intraoperative neuromonitoring in reducing the incidence of recurrent laryngeal nerve paresis and nerve injury during a partial resection of a parathyroid and hemi- or thyroidectomy. The study is of particular significance in the context of ongoing debates surrounding the relative merits of these monitoring techniques, given their clinical importance in preserving nerve function and enhancing postoperative outcomes. While both methods have gained widespread acceptance, ongoing discourse persists regarding their respective advantages and limitations. **Material and method:** The study is a retrospective, cohort study analyzing 80 patients who underwent a thyroid surgery with either c-IONM or i-IONM. The patients were categorized in two groups: 1. Patients with c-IONM (n= 42) 2. Patients with i-IONM (n=38) Clinical characteristics such as age of patients, gender, ASA classification, surgical procedure, cutting/stitch time, RLN (yes/no) were analyzed. Statistical analyses were performed using descriptive statistics and statistical tests to assess differences between the groups. **Results:** A total of 11 RLN paresis cases were observed (7 in the i-IONM group, 4 in the c-IONM group). The Mann–Whitney test showed no significant difference between the two groups ($p = 0.127$). The Welch test revealed no association between operating time and paresis ($p = 0.479$), but a significant age difference between patients with and without RLN paresis ($p < 0.001$). Chi-squared tests showed no significant correlations for gender ($p = 0.620$), operation procedure ($p = 0.695$), or ASA classification ($p = 0.505$). The logistic regression model (including age, stitch time, IONM method, and procedure) did not significantly predict RLN paresis ($p = 0.885$). **Conclusion:** Continuous intraoperative neuromonitoring showed a lower rate of recurrent laryngeal nerve paresis compared to intermittent monitoring, but the difference was not statistically significant. Intermittent neuromonitoring should not be considered ineffective. The observed difference may be attributable to chance. Further studies with larger sample sizes are needed to better evaluate the potential clinical advantage of c-IONM.

Keywords: Continuous intraoperative neuromonitoring (c-IONM), Intermittent intraoperative neuromonitoring (i-ION, Recurrent laryngeal nerve paresis, Injury rate

THE EYE AS A WINDOW TO THE BRAIN: THE ROLE OF AUTOMATED RETINAL MICROVASCULATURE ANALYSIS IN THALAMIC ISCHEMIA

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Background: Oculomics explores the eye as a reflection of systemic diseases. The retinal microvasculature, assessable non-invasively, mirrors cerebrovascular health. The thalamus shares functional and embryological links with the retina, and retinal vascular changes have been associated with ischemic stroke. **Objectives:** This study investigates retinal vascular changes in thalamic ischemia using AutoMorph, a fully automated deep learning tool. We aim to identify specific retinal markers correlated with ischemic area size in the thalamus (from MRI) and enhance AutoMorph's usability in Oculomics. **Material and method:** In our retrospective study with 42 patients with thalamic ischemia and arterial hypertension, a total of 84 digital fundus photographs, including disk centred and macular centred images, both left and right eye, were examined by running AutoMorph to analyse retinal microvasculature morphology. Consequently, a total of 32 fundus photographs, passed all modules in the

AutoMorph software and received data on vessel measurements. From the previous step of our study, quantitative measurements of thalamic ischemic area were obtained by using ImageJ. Statistical analysis data visualization was conducted in R and a p value of < 0.05 was considered significant. Multiple linear regression models adjusted for age and sex were run to assess the relationship between outcome variables (retinal vascular parameters) and exposure (ischemic area size). **Results:** The cohort's mean age was 70 years (SD=4,83; range: 63-79) and the percentage of females 43% and males 56%. The linear regression analysis revealed a lower arteriolar vessel density, arteriolar width, fractal dimension, central retinal arteriolar equivalent (CRAE) and an increase in arteriolar tortuosity and central retinal venular equivalent (CRVE) in both zone B and C that was associated to increased ischemic area size in the thalamus. However, apart from the CRAE, none of the outcome variables demonstrated statistically significant association with the exposure (p>0.05). In case of CRAE a one pixel increase of ischemic area size in the thalamus resulted in more than two pixel decrease in CRAE in zone C (Beta: -2.1273, p= 0.02890) and male gender was associated with a higher CRAE in Zone C than female gender (Beta: 24.283, p= 0.0170). **Conclusion:** Retinal imaging combined with AI-based automated analysis has the potential to serve as a surrogate marker for cerebral changes in ischemic stroke patients, offering a fast, non-invasive, well-tolerated, and widely accessible diagnostic tool. However, these findings require validation in larger cohorts and longitudinal studies to establish temporality.

Keywords: Oculomics, retinal microvasculature, AutoMorph

SERUM IRON DYNAMICS IN HEART FAILURE PATIENTS

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Background: According to the European Society of Cardiology, iron deficiency is both a common and significant comorbidity in patients with chronic heart failure (CHF). It contributes to ventricular dysfunction, clinically manifested by fatigue and dyspnea, and thereby worsens patients' quality of life. Moreover, iron deficiency impairs ATP production in the myocardium and disrupts oxygen transport, further exacerbating disease progression. **Objectives:** The primary objective of this study is to compare serum iron levels in patients with CHF, considering their gender, HF phenotype, and New York Heart Association functional class (NYHA-FC). A secondary aim was to evaluate whether serum iron levels correlate with NT-proBNP values. **Material and method:** This retrospective observational study enrolled 223 patients with a primary diagnosis of CHF, admitted between January 2022 and July 2024. Participants were classified according to their left ventricular ejection fraction (LVEF) into HF with reduced EF (HFrEF, LVEF ≤ 40%), HF with mildly-reduced EF (HFmrEF, LVEF 41–49%), and HF with preserved EF (HFpEF, LVEF ≥ 50%). Patients were further stratified by gender (male vs. female). The initial serum iron value was recorded at admission and analyzed for each subject. The Kolmogorov–Smirnov test was used to determine the normality of the data distribution. **Results:** Males accounted for the majority of the cohort (n = 130, 58.30%), with 60 (47.15%) in HFrEF, 37 (28.46%) in HFmrEF, and 33 (25.38%) in HFpEF. Among females (n = 93), 29 (31.18%) were in HFrEF, 21 (22.58%) in HFmrEF, and 43 (46.24%) in HFpEF. The median age for males was 66 years (IQR: 57–72.5), while females were older with a median of 72 years (IQR: 67–76), observed by the Mann–Whitney U test (p < 0.001). NT-proBNP had a median of 1763.95 pg/mL (IQR: 88.15–6305) in the male cohort and 1770 pg/mL (IQR: 515–3921) in the female cohort, without significant differences among the two groups (p = 0.382). Mean serum iron levels were 14.08 ± 7.94 pg/L in males and 10.63 ± 6.35 pg/L in females, with higher values in males (p < 0.001, independent t-test). No significant differences in serum iron levels were found within each gender group when comparing HF phenotypes (p = 0.943 for males, p = 0.103 for females) or NYHA-FC (p = 0.590 for males, p = 0.503 for females). In males, Spearman's correlation revealed a moderate negative association between serum iron levels and NT-proBNP levels (r = -0.35, p < 0.001), while in females, a low inverse correlation was noted (r = -0.22, p = 0.035). **Conclusion:** Our findings indicate that males presented higher serum iron levels compared to females, with no significant differences observed between HF phenotypes or NYHA-FC within each gender group. Notably, serum iron levels showed an inverse correlation with myocardial wall stress, as indicated by NT-proBNP, in both genders—although this relationship was stronger in males. These results underscore the importance of routine assessment and management of iron deficiency in CHF. Further prospective research is warranted to clarify the clinical impact of targeted iron treatment and to explore potential sex-specific strategies for managing iron deficiency in this population.

Keywords: chronic heart failure, iron levels, HF phenotypes, NYHA functional class, NT-proBNP

FRONTOTEMPORAL DEMENTIA: DELAYED DIAGNOSIS, RAPID PROGRESSION AND THERAPEUTIC LIMITATIONS

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Background: Frontotemporal dementia (FTD) is a neurodegenerative brain disease, affecting the frontal and temporal lobes. It's characterized by a progressive behavioral and language change. The exact etiology remains unclear, but genetic factors may contribute. FTD has an increasing incidence and is often diagnosed in people under 65. Depending on the initial symptoms, it's categorized between 2 groups, which can merge over the course of the disease. The first, and more common, is the behavioral variant. In this case, patients show severe behavioral changes. Primary progressive aphasia is defined by early speech impairment. The disease cannot be treated causally and is usually fatal within a few years. **Case presentation:** A 56-year-old male patient initially presented in 05/2020 with word-finding difficulties, impaired cognition, sleep disorders and depressive mood. First, a major depressive episode without psychotic symptoms was diagnosed. After the treating physician was changed in 06/2020, an organically based disorder was considered due to the aphasia beeing predominant. In addition, bupropion 150mg was prescribed due to the marked lack of motivation and daytime sleepiness. This resulted in the improvement of speech. Parallel, an inpatient examination with CSF and clinical evaluation was arranged. The analysis revealed unremarkable tau-proteins, Aβ42 and Aβ40. EEG showed generalized intermittent slowing and cranial MRI reveiled bilateral temporomesial atrophy beyond age-related measures. FDG-PET showed frontoparietal/left-sided atrophy. Based on the diagnostic findings, a moderate pronounced FTD was diagnosed. Neurotoxicological relevant exposure was ruled out. Without a causal treatment option, symptomatic treatment was initiated with opipramol 50mg, mementin 15mg, donezepil 5mg and escitalopram 10mg. Additionally, speech therapy/ergotherapy was prescribed. Despite these measures, there was an increasingly rapid progression of the demential degradation process. During a vacation in the USA, the patient had to be admitted to a specialist psychiatry due to severe neuropsychiatric symptoms. The focus was on screaming, aggression and extreme agitation. With severe aphasia, communication was impossible at any time. Psychopharmacological therapy proved to be exceptionally difficult. Various substances in different combinations and maximum doses could not lead to sufficient stabilization. Among others, mirtazapine, pipamperone and zopiclone were used. The excessive sedation considerably impaired mobility, but reducing the medication led to renewed agitation and aggressiveness. Ultimately, stabilization with medication wasn't possible. In April 2024, the patient died in a nursing home. **Case particularities:** FTD is a rare disease that is often misdiagnosed, particularly in the initial phase. This usually affects younger patients and there are currently no causal treatment options. In this case, it should be emphasized that the patient was very stable for 3.5 years until his stay in the USA and then, possibly triggered by changing the location, there was a dramatic deterioration within a few days. This delirious state could not be broken with the above-mentioned therapeutic measures and subsequently led to death 6 months later. **Conclusion:** Early diagnosis of FTD is essential, even if no causal drug therapy is available currently. A reliable diagnosis enables the initiation of socio-medical measures improving the patients' quality of life and their social environment and the targeted use of medication for symptomatic treatment.

Keywords: Frontotemporal dementia, Aphasia, Depression, Neurodegeneration

THE IMPACT OF BREAST RESTORATION TECHNIQUES ON THE PATIENT MENTAL STATE

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Background: From the moment the girl start her puberty she develop her primary and secondary sexual characteristics and one of most seen and tangible characteristics is developing her breast in a way that give her sign that she started new phase of her life and that she is now mature and most importantly she feels her femininity, it shows her personal identity as a women and give her confidence where most men does not develop breast like females in size and shape , it's a sign for motherhood, more over it is important body part for her sexual

wellbeing but there are factors that damages the breast shape and appearance and the cause could be due to trauma , congenital , burn injuries , but the most common cause is mastectomy after the breast cancer . Breast reconstruction surgery is one of great surgeries that was introduced many years ago to return to the women her confidence, it has many techniques such as the autologous, alloplastic, combined or hybrid reconstruction and each technique have different result physically and mentally. **Objectives:** This study aims to investigate the impact of different breast reconstruction techniques on the women psychological wellbeing and their satisfaction on their bodies. **Material and method:** This study was made by retrospective and prospective study and comparative table was done with point of comparison (type of techniques, psychological effect) to compare each technique and its effect on patient and the resource of data was patient hospital records. **Results:** The outcomes were expected and after comparing the patient data it showed that the autologous technique specially the DIEP flap(deep inferior epigastric perforator flap) had less risk factors and good psychological impact on the patient than the alloplastic technique . **Conclusion:** The hypothesis was confirmed where the results showed that the autologous breast reconstruction technique specially the DIEP flap showed less risk factors and better psychological effect on the patients than the alloplastic technique, these outcomes will be helpful when suggesting breast reconstruction techniques on patients in letting them know which techniques will affect them psychologically better specially that the number of patients with mastectomy increases annually and psychological impact is priority in these patient's life

Keywords: Breast reconstruction, Breast techniques, Patient life satisfaction

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INTRAOPERATIVE COMPLICATIONS AND CAUSES OF CONVERSION IN HIATAL HERNIA SURGERY

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Background: A hiatal hernia occurs when the gastric fundus protrudes into the thoracic cavity through the esophageal hiatus, often leading to gastroesophageal reflux disease (GERD) and other associated symptoms. The preferred treatment for this condition is surgical repair, typically performed using a laparoscopic approach due to its minimally invasive nature, reduced postoperative pain, and shorter recovery times. However, in certain cases, open surgery may become necessary due to intraoperative complications or technical difficulties. The decision to convert to an open approach is usually made to ensure patient safety and optimize surgical outcomes. **Objectives:** This study aims to identify the most common intraoperative complications observed in hiatal hernia repair and determine the leading causes necessitating the conversion of a laparoscopic procedure to open surgery. Understanding these factors can help refine surgical techniques and improve patient selection to minimize complications. **Material and method:** We conducted a retrospective observational study at the County Clinical Hospital, analyzing 146 cases of hiatal hernia surgical repair performed between 2006 and 2024. The study included patients of all ages and genders who underwent primary hiatal hernia repair, as well as those who had additional surgical procedures concurrently. A wide range of intraoperative complications and causes leading to conversion were assessed. **Results:** Hiatal hernia repair is generally considered a safe procedure with a low complication rate. However, approximately 5% of patients in our study experienced intraoperative complications or required conversion to open surgery. The most frequently observed complications included diaphragmatic rupture or defects, significant hemorrhage or vascular injury, severe fibrosis and adhesions (often due to previous surgeries), giant hiatal hernias, and esophageal, gastric, or pleural perforations. **Conclusion:** Our findings emphasize the importance of comprehensive preoperative assessments, including hemograms to evaluate blood status and endoscopic examinations to identify pre-existing gastric conditions. Early detection of gastric ulcers or severe esophagitis may help mitigate the risk of complications, particularly gastric perforation, thereby improving surgical outcomes and patient safety.

Keywords: Hiatal hernia, Complications, Conversion

ASSESSMENT OF ECHOCARDIOGRAPHIC (TAPSE/SPAP RATIO) AND CARDIOPULMONARY EXERCISE TESTING (VE/VCO2 SLOPE) PARAMETERS IN HEART FAILURE PATIENTS WITH AND WITHOUT PULMONARY HYPERTENSION

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Background: Heart failure (HF) significantly impacts patient outcomes. It often starts with left-sided dysfunction and progresses to right-sided failure if untreated. Pulmonary hypertension (PH) elevates pulmonary pressure, diminishing quality of life and prognosis. Echocardiography identifies ventricular pressure overload and dysfunction in HF with or without PH, while cardiopulmonary exercise testing (CPET) evaluates cardiac and pulmonary performance. **Objectives:** This study compares HF patients with and without PH by two diagnostic indices: i) the ratio of tricuspid annular plane systolic excursion (TAPSE) to estimated systolic pulmonary artery pressure (sPAP) ratio—TAPSE/sPAP, using a 0.5 cut-off and ii) the minute ventilation/carbon dioxide production slope (VE/VCO□), using 34 as a threshold. TAPSE reflects right ventricular strain, whereas VE/VCO□ is a hallmark of abnormal cardiopulmonary function in both HF with/without PH. **Material and method:** An observational, retrospective, single-center study design was used to include 38 patients over six months (Group A: 19 with HF without PH; Group B: 19 with HF and coexistent PH) in the Department of Internal Medicine II and Second Cardiology at the County Emergency Clinical Hospital Targu Mures, Romania. The Shapiro–Wilk test assessed data normality, while the Chi-square (Chi ^{2}) test compared TAPSE/sPAP and VE/VCO□ between groups. Cramér's V was used to determine the strength of association. T-Test for independent samples was used to perform comparison in terms of age and NT-proBNP between Group A and B. **Results:** Group A had a mean age of 58.16 ± 10.01 years, while Group B had 52.42 ± 14.6 years, with no age-related difference (p=0.166) or disparity in NT-proBNP (p=0.36). TAPSE/sPAP < 0.5 was observed in 10 patients in Group A and 13 individuals in Group B. A VE/CO□>34 occurred in 9 cases for Group A and 14 subjects in Group B. According to the Chi ^{2} test, neither TAPSE/sPAP ($\chi^2(1)=0.99$, p=0.319, Cramér's V=0.16) nor VE/VCO□ ($\chi^2(1)=2.75$, p=0.097, Cramér's V=0.27) showed a statistically significant difference between the groups. **Conclusion:** In this study of HF patients, neither TAPSE/sPAP nor VE/VCO□ significantly differentiated those with coexistent PH from those without. Although both parameters are recognized measures of right ventricular strain and cardiopulmonary dysfunction, they did not conclusively identify HF patients who also had PH in this small sample. Further studies involving larger populations and additional diagnostic tools are needed to clarify the hemodynamic and ventilatory implications of PH in HF and to optimize clinical management. Additionally, while CPET is not a recent diagnostic modality, its routine use remains limited in Romania. Larger cohorts are warranted to confirm these findings in the local setting.

Keywords: heart failure, pulmonary hypertension, echocardiography, cardiopulmonary exercise testing, TAPSE/sPAP ratio and VE/VCO2 slope

AGE DETERMINATION IN FORENSIC ODONTOLOGY, SHORT REVIEW THROUGH HISTORY

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Background: Age determination in forensic odontology, has been used historically primarily for visual assessments, in ancient times, and has developed throughout history to sophisticated digital and biochemical methods, which are used in modern times. Since the time of ancient civilizations, the Egyptians and Greeks recognized the natural sequence of tooth eruption in relation to age. **Objectives:** The 19 th century was the beginning time for age determination, in this era forensic science has developed, and age determination became more systemic, but it was still limited. In the 19th century Dr. Oscar Amoedo, worked as a dentist during the Paris fire in 1897 he laid the groundwork for systematic victim identification. In 1941, Schour and Massler introduced a dental development chart which remained influential in forensic and pediatric dentistry. **Methods:** The paper presents the methods used over time, such as: the dental development chart introduced by Schour and Massler (in 1941) and this details the Demirjian method (in 1970), used to determine dental maturity from panoramic

radiographs. The paper is based on a retrospective study that included 39 subjects, consisting of children aged between 6 and 16 years, and 7 left mandibular teeth were used to determine the age of the children. **Results:** This research result showed that the patient's age cannot be calculated exactly based on panoramic radiographs, but it can determine the age range.This analysis supports using age assessment as a helpful tool in determining the child's age when chronological data is unavailable, with an acceptable margin of error. **Conclusion:** For precision and reliability in forensic identifications exist, modern modalities (presented in the paper) can complement traditional approaches, ensuring that forensic odontology continues to be a dynamic field bridging historical insight with technological innovations.

Keywords: Forensic odontology, Age determination, Historical review

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ASSESSING THE USEFULNESS OF THE PARACELSUS SCORE IN PYODERMA GANGRENOSUM: PRELIMINARY RESULTS FROM A RETROSPECTIVE COMPARATIVE STUDY

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Background: Pyoderma gangrenosum (PG) is an ulcerative skin disease with an autoimmune mechanism that is rarely encountered and often misdiagnosed in the medical field. PG was long believed to be only a diagnosis of exclusion, and diagnosis was heavily dependent upon subjective opinion and experience of the physician, lacking objective diagnostic criteria. The newly developed PARACELSUS score, which is easy and quick to apply, may facilitate and improve the diagnosis of PG. **Objectives:** This study aims to assess the usefulness of the PARACELSUS score in diagnosing PG. **Methods:** Patients diagnosed with PG between 2017-2023 in Romania and 2015-2025 in Germany in two hospitals from Germany and Romania (Klinikum Lüdenscheid, respectively Mures Clinical County Hospital) were retrospectively included in this study. Patients' demographics and clinical data were collected and further statistically analysed. To ensure scoring as precisely as possible, the points were assigned using all available data from the patient files, photo documentation and seeking an expert opinion of one authors of the Paracelsus score. The total Paracelsus score was calculated in excel and analysed using excel statistic software. A PARACELSUS score higher than ten was considered highly suggestive of PG. The data presented refers to preliminary results obtained by the German database. **Results:** 36 patients were reassessed in this sub analysis with a ratio of 24 women/12 men (66,6% women and 33,3% men). The mean time interval between first symptom onset and starting of treatment is 187,76 days (SD=231,81). The mean PARACELSUS score was 12.83, with the highest being 20 and the lowest 4. Out of them, 27 (n=67%) had a PARACELSUS score above 10. **Conclusion:** The PARACELSUS criteria are not routinely established yet; more studies and trials are needed to validate them. However, considering its easiness and high specificity and sensibility, it should prove to be a useful tool in the clinical practice to avoid misdiagnosing. upon subjective opinion and experience of the physician, lacking objective diagnostic criteria.

Keywords: pyoderma gangrenosum, PARACELSUS score, ulcer, autoinflammatory

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COMPARATIVE STUDY OF INFECTIVE ENDOCARDITIS - STAPHYLOCOCCUS AUREUS VERSUS OTHER PATHOGENS VERSUS BLOOD CULTURE NEGATIVE CASES

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Background: Infective Endocarditis (IE) is a serious and potentially fatal infection of the endocardium, which primarily affects the heart valves. The incidence of the infection remains high with a hospital mortality rate of up to 25%. Despite advances in treatment, IE continues to pose a major clinical challenge, due to its wide range of clinical presentations, difficulties in diagnostics and potentially severe complications. **Objectives:** This study compares clinical characteristics and clinical outcomes in patients with IE caused by Staphylococcus aureus, Other bacterial pathogens, and Blood culture negative cases. **Material and method:** The study is a retrospective, single-center study analyzing 54 patients diagnosed with IE. The patients were categorized in three

groups:1. Staphylococcus aureus (n=19) 2. Other Bacterial Pathogens (n=30) 3. Blood-culture negative (n=5) Clinical characteristics, comorbidities, inflammatory markers (including C-reactive protein (CRP), Procalcitonin (PCT), Leukocytes), affected valve types (native vs. prosthetic, aortic vs. mitral, cardiac implantable electronic device (CIED) infection), and treatment approaches (conservative vs. surgical) were analyzed. The analysis of the clinical outcomes included mortality, complications (including embolism, heart failure, sepsis, valve insufficiency), and recurrence rates. Statistical analyses were performed using descriptive statistics and statistical tests to assess differences between groups. **Results:** Initially, the analyzed inflammatory markers (CRP, PCT, Leukocytes) were elevated (p-value = 0.019), especially in the Staphylococcus aureus group and blood-culture negative patients. However, regardless of the chosen treatment approach the levels normalized over time. The heart valves affected varied among the groups, with native valve endocarditis (NVE) (p-value = 0.245) being the most common condition observed (70.37%). In the whole patient cohort complications occurred in 59.26% of cases (p-value = 0.989). Embolism (35.19%) was most commonly observed followed by heart failure (27.78%) and sepsis (22.22%). The highest complication rate was observed in the blood culture negative group (60%). In total 75.93% a conservative treatment approach was chosen, while 24.07% of the patients underwent surgery. The clinical outcome showed an overall mortality rate of 33.33%, with mortality being highest in the blood culture-negative group (60%), followed by Staphylococcus aureus (42.11%) and other pathogens (23.33%). The overall recurrence rate was 11.11% (p-value = 0.667), with blood culture negative patients having no recurrences. **Conclusion:** The study highlights the heterogeneity of infective endocarditis and the pathogen-dependent differences in clinical presentation and clinical outcome. Staphylococcus aureus continues to be a highly virulent pathogen, while blood culture negative cases require improved diagnostic and therapeutic strategies. Due to the high complication and mortality rates, early diagnosis, targeted treatment strategies and individualized management are essential for an improved outcome. The results contribute to a better understanding of the disease. However, future multicenter studies should be done to further investigate and optimize clinical outcomes.

Keywords: Infective Endocarditis, Staphylococcus aureus, Bood-culture negative IE, Inflammatory markers, Clinical outcomes

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COMPARING THERAPEUTIC OUTCOMES IN PYODERMA GANGRENOSUM: EARLY FINDINGS OF A DESCRIPTIVE MULTICENTRIC ANALYSIS

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Background: Pyoderma gangrenosum is a neutrophilic dermatosis often associated with additional autoimmune disorders. The main treatments currently in use combine local wound care with systemic immunosuppressive therapy, but emerging immunomodulatory biologic agents may provide promising options for the future of PG treatment. **Objectives:** The primary endpoint of this study was to compare wound closure time, quantified in months, between the two study groups. Secondarily, we aimed to assess the differences in treatment strategies applied between the two groups and identify potential patient-specific factors correlating with wound closure time. **Material and method:** The data for this study were retrospectively collected from patient charts and include cases from Klinikum Lüdenscheid and the Dermatology Clinic of Mureș Clinical County Hospital, diagnosed with PGwithin the last ten years. Case data were compiled in an Excel table and analyzed using DATAtab and R dataanalysis software. Additionally, photographic documentation of some representative cases was collected from theKlinikum Lüdenscheid dermatology picture library. **Results:** This study included thirty-six patients diagnosed withPG in Lüdenscheid and eleven from Târgu Mureș. The mean age was 57.5 years, with 61.7% female and 38.3%male patients. Systemic corticosteroids were the most commonly applied treatment, used in 45/47 patients,followed by antibiotics (52.78%), wound debridement (38.3%), and biologic agents (21.74%). The main differencein wound healing time was found with the use of debridement. Patients treated with wound debridement had alonger wound healing time than those not receiving debridement (3.36±2.33 vs. 5.71±3.55; p=0.035), with amoderate effect size (r=0.36). Between the two case groups, the German case group presented a shorter woundhealing time than the Romanian case group (3.56±2.51 vs. 6±3.66; p=0.049), with a moderate effect size (r=0.36). **Conclusion:** The influences on wound healing time are multifactorial, and treatment represents a multidisciplinarychallenge. The decision to perform wound debridement in pyoderma gangrenosum patients should be made withcaution, as the induced pathergy phenomenon may worsen the condition.

Keywords: pyoderma gangraenosum, ulcer, neutrophilic dermatosis, treatment

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THE IMPACT OF LIFESTYLE FACTORS ON THE PREVALENCE OF DIABETIC RETINOPATHY: THE ROLE OF SMOKING AND PHYSICAL INACTIVITY

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Background: Diabetic retinopathy is one of the most common microvascular complications associated with diabetes mellitus. This complication is a major cause of vision impairment or even loss in diabetic patients. Lifestyle factors, including smoking and physical inactivity, may promote or exacerbate the development of diabetes-related eye diseases. Therefore, it is essential to understand the relationship between these modifiable risk factors and the occurrence of diabetic retinopathy in order to design effective preventive strategies and improving patient education. **Objectives:** The purpose of this study is to examine the extent to which smoking status and physical activity levels, either alone or in combination, influence the prevalence of diabetic retinopathy in individuals with diabetes mellitus. **Material and method:** A cross-sectional analysis was conducted on a cohort of diabetic patients (n=50) who completed a structured questionnaire. Data on smoking status (smoker, previous smoker, non-smoker), physical activity levels (ranging from daily exercise to no exercise), and self-reported presence of diabetic retinopathy were collected. The association between the two modifiable lifestyle factors and the occurrence of diabetic retinopathy were tested with Chi-Square tests and binary logistic regression. **Results:** While neither smoking status ($p = 0.073$) nor physical activity level ($p = 0.664$) demonstrated a statistically significant association with retinopathy in individual Chi-Square tests, logistic regression revealed trends suggesting that both low physical activity ($p = 0.053$) and previous smoking history ($p = 0.065$) may be weak predictors of diabetic retinopathy occurrence. However, the overall model did not reach statistical significance ($p = 0.252$). **Conclusion:** The results indicate a possible link between smoking, low physical activity, and the occurrence of diabetic retinopathy. Although, statistical significance was not achieved, these findings emphasize the potential impact of modifiable lifestyle factors, including smoking and reduced physical activity, on the development of diabetic eye diseases. Additionally, they also highlight the necessity for further research with larger sample sizes.

Keywords: Diabetic retinopathy, Smoking, Physical activity

THE IMPACT OF FLUID VOLUME ON LACTATE CLEARANCE IN PULMONARY SEPTIC SHOCK: A RETROSPECTIVE STUDY

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Background: Sepsis is defined as a dysregulated host immune response towards infection that can lead to multisystem organ dysfunction and death. Fluid resuscitation is the cornerstone of sepsis management and plays an important role in the management of sepsis. The aim is to improve tissue perfusion, but the exact amount to be administered remains controversial as under- or over-resecutation will negatively a?ect the patient's life. Lactate clearance is one of the key parameters used to assess the tisuue perfusion in septic patient and high lactate level indicating impared oxygen delivary and hypoperfusion. **Objectives:** The aim of the study is to compare the clinical outcome of patients with pulmonary septic shock based on the volume of fluid they received and lactate clearance over 12 h. Hypothesis: patients who received an appropriate fluid volume based on their lactate levels will consequently have a better lactate clearance after 12h, leading to improved clinical outcome. **Material and method:** This study is a retrospective analysis. The data were collected at the Mär̈kische Kliniken in Lüdenscheid using the ORBIS system between January 2024 to December 2024. There are a total of 75 patients, all with a primary diagnosis of sepsis. The patients were classified into 2 groups, 38 patients with the diagnosis of sepsis and 37 with septic shock. For this analysis, 11 patients were diagnosed with pulmonary septic shock, and their fluid volume received in the first 3h and 12h, lactate level in the first 3h and after 12h and their outcome were evaluated. **Results:** Among the 11 patients diagnosed with pulmonary septic shock, the mean age was 64 years, of which 6 patients survived and 5 patients died . Survivors had an average lactate clearance of +1.27, indicating an overall reduction in lactate levels over 12h, compared to non-survivors with an average lactate clearance of -2.62, indicating poor lactate clearance and worse outcome. Analyzing of data using a scatterplot showed a strong negative correlation (R2=0.8856) between fluid volume and lactate clearance. The higher the volume of fluid administered, the lower the lactate clearance. Patients who received larger fluid volumes tend to have persistently high lactate levels or worsening of lactate levels. **Conclusion:** The results indicate that excessive fluid resuscitation does not necessarily improve lactate clearance in septic shock patients with pulmonary septic shock. Thus, high fluid volume administration is associated with worse lactate clearance and poor clinical outcomes. Survivors had better lactate clearance than non-survivors. So these findings support the hypothesis that lactate clearance is associated with better clinical outcome, however appropriate fluid administration based on lactate levels does not necessarily improve clearance, as higher fluid volumes do not strongly correlate with improved lactate clearance. Therefore, cautious fluid management strategies should be considered in septic shock patients, as over-resuscitation of the patient has no benefit on lactate clearance and may worsen the clinical outcome of the patient.

Keywords: Pulmonary sepsis, septic shock, Fluid resucitation, Lactate clearance, Clinical Outcomes

MEDICATION BELIEFS ABOUT SSRI/SNRI: THE IMPACT OF PROVIDING AN INFORMATION LEAFLET IN A SECONDARY CARE FACILITY

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Background: SSRIs and SNRIs are the most prescribed drug classes for the treatment of depressive disorders due to their more tolerable side-effect profile. Adherence to these medications is an essential aspect of achieving optimal clinical outcomes, as non-adherence is associated with a higher risk of relapse and recurrence, increased severity of depression, and lower response and remission rates. The Necessity-Concern Framework (NCF) examines the interaction between patients' beliefs about the necessity of treatment and their concerns regarding potential negative effects. For several conditions, including hypertension, diabetes, and depression, the relationship between these beliefs and adherence has been established. **Objectives:** This study investigates to what extent the provision of an information leaflet about SSRIs and SNRIs, with information about the course of

treatment, mechanism of action, expected effects, and possible side effects, can change patients' beliefs about SSRIs/SNRIs. **Material and method:** A pre-post intervention study was conducted in a secondary care facility in Southwest Germany to evaluate the impact of an informational leaflet on patients' beliefs and knowledge regarding SSRIs and SNRIs. 150 patients receiving or eligible for SSRI/SNRI treatment were recruited. Participants completed a structured questionnaire assessing medication beliefs (necessity and concerns), therapy-related knowledge, and specific worries about side effects. Following this, they received an informational leaflet based on publicly available guideline materials, adapted for improved clarity and relevance to SSRI/SNRI treatment. Immediately after reviewing the leaflet, participants reassessed the same parameters via a second questionnaire segment. A subset of participants voluntarily participated in a telephone-based follow-up to evaluate the persistence of changes in beliefs and knowledge. Wilcoxon signed-rank test was used to assess pre-post changes, and Spearman correlation analyses examined associations between knowledge acquisition and shifts in medication beliefs. **Results:** Providing the information leaflet resulted in a change in the concerns regarding SSRIs/SNRIs ($p = 0.002$), while the beliefs about the necessity of the medication did not ($p = 0.483$). A positive change in the medication knowledge significantly correlated with a reduction in the concerns score ($r = -0.19$, $p = 0,022$). In contrast, no correlation between changes in knowledge and necessity could be observed ($r = 0.11$, $p = 0.17$). **Conclusion:** This pre-post intervention study demonstrated that an information leaflet about therapy with SSRIs/SNRIs can significantly reduce patients' medication concerns, and this effect is closely related to a change in medication knowledge. Necessity beliefs were not significantly affected, indicating that the information leaflet provided in this study did not address topics influencing the perception of the necessity of treatment with SSRIs/SNRIs. These observations emphasize the importance of patient education in a clinical setting and incentivize future research to optimize educational interventions

Keywords: SSRI, SNRI, medication knowledge, medication beliefs

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PUBLIC AWARENESS AND PERCEPTION OF PROTECTION OF UV RELATED SKIN DAMAGE. KNOWLEDGE, ATTITUDES AND BELIEFS OF THE GENERAL POPULATION.

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Background: Ultraviolet (UV) radiation exposure is a significant health risk which can lead to skin cancer, premature aging and further dermatological diseases. As climate change leads to stronger UV radiation, the need for individuals to actively protect themselves from excessive sun exposure is growing steadily. Despite health campaigns and preventive measures, the number of skin cancer cases continues to rise. Understanding the behavior, awareness, and beliefs of the general population can aid in developing tailored interventions to reduce UV-related skin damage. **Objectives:** The aim of the study is to establish a connection between demographic data, specific knowledge and behavioral questions regarding UV radiation to carry out targeted educational campaigns. **Material and method:** An observational analytical cross-sectional study was accomplished using a questionnaire consisting of 33 questions. Demographic information, knowledge of UV-related risks and preventive behaviors were asked. The questionnaire was distributed both online and in paper format and was completely anonymous. The target group was the general population. Google forms was utilized to complete the survey online and the paper questionnaires were added manually. **Results:** A total of 409 people participated in the survey. Overall, participants demonstrated a good level of knowledge regarding UV radiation. 93% stated that a tan is not a sign of good health and almost 100% were aware of the dangers of UV radiation. 9% of respondents cited diet as the main reason for skin cancer. At 44%, sunscreen is the most popular form of protection against UV rays, yet 20% of respondents do not use sunscreen in the shade. 18% doubt that sunscreen prevents skin cancer. 29% stated they only use sunscreen on vacation, while 40% would increase their use if public availability increased. Only 5% of participants never had sunburns in the past, while 30% had one or more blistering sunburns. The frequency of sunburns shows that 52% of men have had 6 or more sunburns compared to 43% of women. 32% reported not using sunscreen as the main reason for their sunburn. 52% of the participants do not use the UV Index at all, whereas 10% of 18–30-year-olds use the UV Index daily. 55% of participants working in an outside job had as sun burn history of 6 or more sunburns in contrast to 46% who do not work outside. 32% don't go for skin checkups because they find it too difficult to get an appointment. Participants with a skin cancer history use sunscreen more frequently than without a history. **Conclusion:** Most respondents showed a good level of knowledge about UV radiation. Nevertheless, the high prevalence of sunburns, with a predominance in men, together with the high rate of people who do not use sunscreen suggests that there is a need for action.

Furthermore, the low usage of the UV index highlights the need for better promotion.Despite high UV awareness, 32% do not attend skin cancer screenings due to appointment difficulties, pointing to structural rather than knowledge-based barriers.

Keywords: Public Health Intervention, UV Radiation, Preventive Dermatology, Skin Cancer

CORONARY ARTERY CATHETERIZATION: AN EXTENSIVE ANALYSIS ABOUT RESULTS AND COMPLICATIONS OF THE PERCUTANEOUS CORONARY INTERVENTION IN PATIENTS WITH AN ACUTE CORONARY SYNDROME.

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Background: Acute coronary syndrome (ACS) remains one of the most common causes of death worldwide, making early diagnosis and treatment crucial. Percutaneous coronary intervention (PCI) is increasingly being used to restore the blood flow to the ischemic parts of the heart. However, this non-surgical, invasive procedure is associated with some complications. **Objectives:** The aim of the study is to analyze the complications encountered in ACS-patients during the percutaneous coronary intervention (PCI) and to highlight specific features. The following hypotheses were formulated at the beginning of the study: 1. The incident of complications is higher in the group of NSTEMI patients who underwent percutaneous coronary intervention than in the group of STEMI patients. 2. Complications are related to the use of increased amount of contrast media during percutaneous coronary intervention. 3. Performing percutaneous coronary intervention via a radial-approach has a reduced local complication rate, such as bleeding, compared to a femoral-approach. **Material and method:** This study retrospectively analyzed data from patients diagnosed with an acute coronary syndrome (ACS) and treated with percutaneous coronary intervention (PCI). The following patient data were analyzed: Age, Gender, Biochemical markers (Troponin, CK, CK-MB), Number of affected coronary vessels, Puncture site (radial vs. femoral), Fluoroscopy time, Amount of contrast media and Complications. The data were statistically analyzed to support or refute the hypotheses. **Results:** The analysis of complication rates between STEMI and NSTEMI patients demonstrated a significant difference in the indices of cardinal complications (p-value = 0.006), while other individual tested complications showed less significant differences (all p-values > 0.05). The association between the amount of contrast medium used and the occurrence of general complications could only be demonstrated at a less relevant level of significance (p-value = 0.739), but further analysis revealed that the use of increased amounts of contrast medium may be associated with a higher risk of local complications (p-value = 0.028). Comparing complication rates between puncture sites confirmed the thrid hypothesis, as the analyses demonstrated a lower incidence of local complications associated with the radial approach (N = 0) compared to the femoral approach (N = 9). **Conclusion:** The analyses and results of this study demonstrate the importance of carful performance of percutaneous coronary interventions in patients diagnosed with an acute coronary syndrome. Within the patient pool of the study, low significance of the increased occurrence of complications in any study group could be determined. To reduce the risk of complications in patients, special care should be taken when using increased amounts of contrast medium. Prioritizing the radial approach may also contribute to the reduction of complication rates. These results may contribute to optimizing the treatment of acute coronary syndrome patients by optimization of the percutaneous coronary intervention and thus reducing complication rates.

Keywords: Acute Coronary Syndrome (ACS), Percutaneous Coronary Intervention (PCI), Complications

RETROSPECTIVE ANALYSIS ON THE EFFECT OF COMORBIDITIES ON THE MANAGEMENT IN PATIENTS WITH SIGMOID DIVERTICULITIS

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Background: Sigmoid diverticulitis is a common gastrointestinal disorder with varied clinical presentations and treatment approaches. Comorbidities significantly impact management decisions, influencing treatment choices, complication rates, and recovery. However, the extent to which comorbidities alter therapeutic approaches remains inadequately explored. Understanding these associations is crucial for optimizing patient care. **Objectives:** The

object is to evaluate the impact of comorbidities on the management and outcomes of sigmoid diverticulitis patients. The hypothesis is that comorbid patients undergo more invasive interventions and experience prolonged hospital stays compared to non-comorbid patients. **Material and method:** A retrospective cohort study analyzed patient records diagnosed with sigmoid diverticulitis. Patients were categorized into comorbid and non-comorbid groups. Variables including age, sex, BMI, emergency vs. elective admission, ASA scores, disease severity (CT staging), therapy type (antibiotic, surgical, drainage), and statistical analysis was performed using the Graphpad prism 8 software, Fishers exact test and Chi square tests. We considered the result statistically significant if $p< 0.05$. **Results:** Patients with comorbidities were more likely to require surgical intervention ($p< 0.05$). They exhibited higher complication rates, assessed using the Clavien-Dindo classification, and longer durations of antibiotic treatment. The average length of hospital stay was significantly greater in comorbid patients ($p< 0.01$). Emergency admissions were also more frequent in this group, indicating more severe clinical presentations. In the dataset, older individuals (≥60 years) had a much higher prevalence of comorbidities compared to younger patients (< 60 years), suggesting a strong age-comorbidity relationship. This group also faced increased perioperative risks and more frequent escalations in care. **Conclusion:** Comorbidities influence management strategies and outcomes in sigmoid diverticulitis patients. The hypothesis that comorbid patients require intensive interventions and experience worse outcomes was supported by the findings. These patients not only undergo more aggressive treatment but also face greater risks of complications and longer hospitalizations. These results underscore the importance of proactive management and individualized treatment plans for patients with underlying health conditions. Tailored protocols may help minimize morbidity and optimize resource allocation, particularly in aging populations where comorbidities are more prevalent.

Keywords: Sigmoid Diverticulitis, Comorbidities, Surgical Intervention, Clinical Outcomes, Hospital Stay Duration

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RETROSPECTIVE ANALYSIS ON THE EFFECT OF AGE, SEX, AND BMI ON THE OUTCOME IN SIGMOID DIVERTICULITIS

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Background: Sigmoid diverticulitis is a common gastrointestinal disorder with varying clinical courses influenced by patient-specific factors such as comorbidities, age, sex, and BMI. Studies have shown that multimorbidity increases complication rates and mortality, while obesity and immunosuppression affect surgical decision-making. Younger patients may present with more aggressive disease, leading to higher hospitalization and surgical rates. However, the extent to which these factors impact treatment strategies remains underexplored. **Objectives:** The objective is to examine the effect of age, sex, and BMI on sigmoid diverticulitis outcomes. The hypothesis is that older patients, males, and those with higher BMI experience more severe disease and require invasive management strategies. **Material and method:** A retrospective analysis was conducted using patient data. Age, sex, and BMI were analyzed in relation to disease severity (CT staging), intervention type (conservative vs. surgical), complications (Clavien-Dindo classification), and hospital stay duration. Statistical analysis was performed using the Graphpad prism 8 software, Fishers exact test and Chi square tests. We considered the result statistically significant if $p< 0.05$. **Results:** Older patients (≥60 years) exhibited significantly higher rates of surgical interventions and complications compared to younger patients ($p< 0.05$). Male patients more frequently presented with advanced disease stages and required longer hospital stays, indicating a tendency toward more severe initial presentations. Patients with higher BMI showed increased rates of antibiotic failure, emergency admission, and conversion to surgical treatment. The combination of older age and elevated BMI was associated with the highest rates of complications and need for operative management. These findings suggest a synergistic effect when multiple risk factors are present, compounding the overall burden of disease. **Conclusion:** Age, sex, and BMI significantly impact sigmoid diverticulitis management and outcomes. The study confirms the hypothesis that older patients, males, and individuals with high BMI experience more severe disease requiring aggressive management. These demographic and clinical factors should be considered in treatment planning to reduce complications and improve patient outcomes. Personalized assessment frameworks that incorporate age, sex, and BMI could enhance decision-making, ensuring timely interventions for high-risk individuals while avoiding overtreatment in lower-risk cases.

Keywords: Sigmoid Diverticulitis, Age Factors, Sex Differences, Body Mass Index (BMI), Disease Severity

CAN NEUTROPHIL-LYMPHOCYTE-RATIO, MONOCYTE-LYMPHOCYTE-RATIO, THROMBOCYTES-LYMPHOCYTE-RATIO, AND SYSTEMIC-INFLAMMATORY-INDEX PREDICT PERI-PROSTHETIC INFECTION AFTER TOTAL HIP ARTHROPLASTY?

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Background: 1-2% of all THA get infected and this causes problems for both the patients and the medical personnel. The patient risks re-intervention, bacteremia, limb amputation, sepsis and ultimately death while the hospital faces important extra costs, together with a loss of bed space and doctors' time. Many associations have already created high-quality guidelines to efficiently diagnose PJI. Unfortunately, these guidelines include procedures that are invasive, expensive and time-consuming. The most used is the EBJIS (European bone & joint infection society) guideline that takes as parameters: sinus tract, synovial WCC, alpha-defensin, microbiology, sonication, histology, early loosening, poor wound healing, fever, purulence and nuclear imaging. **Objectives:** The aim of this study is to investigate the role of blood derived inflammatory markers in predicting and diagnosing peri-prosthetic joint infection (PJI) following THA. **Material and method:** This is a retrospective observational descriptive study, composed of 182 patients of which 32 present PJI and 150 being infection-free.The blood values collected, necessary for this analysis are: neutrophil-lymphocyte-ratio (NLR), monocytes-lymphocytes-ratio (MLR), thrombocytes-lymphocytes-ratio (TLR), systemic-inflammatory-index (SII).The ROC curve is used for each marker to determine the cut-off value and then individuate sensitivity and specificity. A univariate analysis was performed to evaluate if the difference between the response of two groups is statistically significant or not. **Results:** NLR had a cut-off value of 2.58, sensitivity of 68.75%, specificity of 58 %. Chi-square test of 7.2 with p-value of 0.007 showing there is an association between NLR measures between infected and NON-infected patient.MLR had a cut-off value of 0.28, sensitivity of 56%, specificity of 58. Chi-square test of 3.11 with p-value of 0.78 showing there is no association between MLR measures between infected and NON- infected patients.TLR had a cut-off value of 135.95, sensitivity of 50%, specificity of 62%. Chi-square test of 1.58 with p-value of 0.21 showing there is no association between TLR measures between infected and NON- infected patients.SII had a cut-off value of 758.21, sensitivity of 66%, specificity of 73%. Chi-square test of 17.22 with p-value of 3.35 showing there is no association between SII measures between infected and NON- infected patients. The results are quite consistent with the information already present in the literature review, denoting NLR as the most promising marker for PJI early diagnosis. **Conclusion:** This hypothesis is accepted for the NLR marker having a p value < o.o5 and therefore showing a significant association between the 2 groups of patients and should then be used as adjuvant with CRP. The hypothesis is denied regarding the other markers, that show low sensitivity and specificity but bearing in mind that they can still be used as adjuvant with more specific, markers. This finding could help improve the conditions of the medical field in this sector, further research in future is needed to maximize the implementation of existing markers and discovery of new ones.

Keywords: Inflammatory markers, Total hip arthroplasty (THA), Peri-prosthetic joint infection

ANALYSIS OF SIMULATION-BASED TRAINING ON FOCUSED ASSESSMENT WITH SONOGRAPHY IN TRAUMA (FAST) FOR FIFTH-YEAR MEDICAL STUDENTS

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Background: Simulation-based learning offers realistic education and is widely established in emergency departments and intensive care units to provide efficient personnel training. The Focused Assessment with Sonography for Trauma (FAST) ultrasound (US), a valuable diagnostic tool, is already incorporated into simulator-based training. FAST US is a fast, economical, and practical examination with practically no side effects for the patient. It is used to screen for internal haemorrhages, usually caused by trauma in the abdomen, chest, or pelvis. Unintentional injuries are a leading cause of major trauma, resulting in 3.16 million deaths annually worldwide (WHO) and ranking as the leading cause of death among individuals aged 1 to 44 in the USA (CDC). **Objectives:** How effective is a simulator for training 5th-year general medicine students in FAST US? The working hypothesis

is that simulation-based training has a significant effect on the performance of 5th-year general medicine students in FAST examinations. **Material and method:** The study included a total of 91 participants. After data collection, the number of participants was adjusted to 82 due to potentially corrupted data or prior education in FAST US. The participants were 5th-year students enrolled in the English section of the Faculty of General Medicine at "George Emil Palade" University of Medicine, Pharmacy, Sciences and Technology (UMFST) of Târgu Mureș in Romania. The study took place at the university campus with assistance and guidance from the simulation center. Before the examination, participants received information about FAST as an examination method and ultrasound as a diagnostic tool. They conducted the FAST examination on a healthy patient, followed by simulator training, and concluded with a re-examination of the same patient. Simultaneous training was performed using the CAE Vidmedix simulator. The data collected during the examination phases included the number of windows they could examine within a given time and the time required for each individual window. **Results:** From the original 91 participants, after removing outliers, the data of a total of 82 participants could be utilized. To demonstrate participant improvement, we compared the average time taken per window before and after the training. The difference was significant, with $p = 0.000173921$ (T-test), reflecting an average improvement of 23.49 seconds, which represents a 39.11% enhancement per participant. Of the 82 participants included, 60 (73.17%) showed improvement, while 22 (26.83%) did not show any improvement or even decline in their performance. **Conclusion:** The results demonstrate a significant improvement in the participants' ability to perform FAST ultrasound examinations, as evidenced by the substantial reduction in time needed per window following the training. Overall, the evidence highlights the potential of simulation-based training in medical education, particularly in ultrasound techniques. The data presented offers valuable insights, but there is still much more knowledge to be discovered. Further investigation could provide a deeper understanding and contribution to enhance medical education, optimizing training methods, and ultimately elevating the quality of clinical skills among medical professionals to higher levels.

Keywords: simulation-based training, FAST medicine, students, ultrasound

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ADVANCING CHRONIC HEART FAILURE THERAPY THROUGH AI-BASED CLINICAL DECISION SUPPORT SYSTEMS: EVALUATING CURRENT APPLICATIONS, BARRIERS, AND PROSPECTS FOR FUTURE DEVELOPMENT

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Background: Chronic heart failure (CHF) is a major cardiovascular disease worldwide that is associated with high morbidity and mortality as well as considerable healthcare costs. Due to the complexity of the disease, patient-specific therapeutic approaches and close monitoring of the disease progression are required. The recent development of clinical decision support systems (CDSS) in the field of artificial intelligence (AI) offers promising approaches to improve personalized therapy and treatment outcomes. This thesis investigates how AI-based CDSS can contribute to the optimization of therapy in chronic heart failure. To this end, current applications, challenges and future developments are examined. **Objectives:** The present work deals with the optimization of chronic heart failure therapy through the use of AI-based clinical decision support systems. **Material and method:** A comprehensive literature review and expert interviews using a semi-structured interview guide with clinically active cardiologists, internists, cardiologists in private practice and general practitioners form the methodological framework of the study. In this context, experts from a wide range of departments and specializations were selected to contribute their expertise and thus evaluate, assess and discuss the topic of heart failure and the potential of AI-based CDSS. **Results:** The implementation of AI-based CDSS in everyday clinical practice could lead to an increase in diagnostic accuracy, more patient-specific medication management and an optimization of the prediction of the course of the disease and the associated reduction in hospitalization rates. However, significant challenges were identified, such as the integration of AI systems into existing hospital infrastructures, the need for high-quality data sets, difficult ethical considerations regarding the protection of patient data and clinicians' acceptance of and trust in AI-driven recommendations. **Conclusion:** The emergence of AI-based CDSS represents a promising opportunity to optimize chronic heart failure therapy in various aspects. Through precise and patient-centered therapy recommendations, a significant reduction in morbidity, mortality and costs could be achieved. However, successful implementation depends on overcoming identified challenges, including technical integration issues, ensuring data quality, ethical concerns and increasing trust in the system. However, successful implementation depends on overcoming identified challenges, including technical integration issues, ensuring data

quality, ethical concerns and building physician confidence through rigorous validation studies. Increased and continuous development in the field of AI-based CDSS and interdisciplinary collaboration will be crucial to fully exploit the potential in cardiology and thus ensure an increased quality of care for chronic heart failure.

Keywords: Chronic Heart Failure (CHF), Artificial Intelligence (AI), Clinical Decision Support Systems (CDSS)

CASE SERIES ANALYSIS OF FATAL OUTCOMES IN COPD GOLD 3 AND 4 PATIENTS WITH ACUTE EXACERBATION IN THE ICU

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Background: Chronic obstructive pulmonary disease (COPD) accounts for the fourth most common cause of death globally. Recurrent exposure to triggers such as cigarette smoke or respiratory infections not only increases the risk of pulmonary complications, but also leads to life-threatening exacerbations requiring complex management in the ICU. Most of these critically ill patients have advanced COPD, indicating a high degree of progressive airflow limitation and tissue destruction (emphysema). **Objectives:** This study aims to identify recurrent clinical patterns associated with ICU mortality in COPD GOLD stage 3 and 4 patients with acute exacerbation, including the impact of concomitant pneumonia, type of ventilatory support, and key laboratory parameters. **Material and method:** A retrospective case series was conducted on five hospitalized patients classified as COPD GOLD stages 3 and 4, suffering from both pneumonic ECOPD (pECOPD) and non-pneumonic ECOPD (npECOPD). All five patients were treated in the ICU and had a fatal outcome. Data were collected retrospectively from digital patient records from the Department of Anaesthesiology at Klinikum Lüdenscheid, Germany. **Results:** The average ICU stay was 2.5 days. On admission, the mean SOFA (Sequential Organ Failure Assessment) score was 6.6, with individual scores >9 signifying worse outcomes. The patients' ages ranged from 57 to 84 years. Three were active smokers and two were non-smokers. Pneumonia was present in three cases, and these patients had longer ICU stays (mean: 3.0 days) compared to non-pneumonia cases (mean: 1.5 days). Moreover, higher SOFA scores (mean: 8.33 vs. 4.0) were observed in pneumonia patients, suggesting a more severe condition upon admission. Frequent pulmonary complications in COPD exacerbation included pleural effusion and respiratory failure (hypoxemic-hypercapnic insufficiency) with acidosis. Consequently, all five patients required non-invasive ventilation (NIV), with two GOLD 4D patients switching to invasive ventilation as their condition worsened. Patients with discontinued NIV treatment due to high FiO□ (high-flow oxygen) demand showed worse clinical outcomes and more severe respiratory failure. The inflammatory marker CRP was consistently elevated in all patients. The most extreme CRP increase was recorded in the patient with the lowest initial CRP of 0.23 mg/dL, rising to 11.2 mg/dL (+4769.6% increase), indicating a rapidly progressive course. In contrast, lactate levels remained in the normal range in four of five patients. **Conclusion:** In advanced GOLD stages, rapidly progressive COPD exacerbations, in combination with concomitant pneumonia, high SOFA scores, respiratory failure, and the need for invasive ventilation, are associated with prolonged ICU stays and increased mortality. Therefore, smoking cessation, vaccination for infection prevention, correct pharmacological therapy with combined inhaled bronchodilators and close multidisciplinary monitoring are essential for optimal treatment to reduce mortality.

Keywords: COPD exacerbation, ICU mortality, SOFA score, respiratory failure, pulmonary complications

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THE ROLE OF SUFENTANYL AS ADJUVANT IN SPINAL ANESTHESIA: ANESTHETIC AND HEMODYNAMIC EFFECTS – A PROSPECTIVE STUDY

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Background: Bupivacaine, the most frequently used local anesthetic in spinal anesthesia, has been associated with potent anesthetic effects and a profound sensory blockade. However, the addition of opioid adjuvants, such as sufentanyl, demonstrated to enhance the analgesic effect and reduce potential side effects. Sufentanyl has also been associated with prolonged anesthesia and improved postoperative outcomes. Thus, further resulting in a better patient experience. **Objectives:** This study evaluates the anesthetic as well as the analgesic efficacy

together with the potential side effects and safety of sufentanyl in combination with bupivacaine versus bupivacaine alone in the context of spinal anesthesia. **Material and method:** A prospective, randomized study was performed with 36 adult participants having lower abdominal surgeries under spinal anesthesia. Patients were assigned into two groups to receive either 15 mg of bupivacaine alone (Group A) or 10 mg of bupivacaine combined with 5 mcg of sufentanyl (Group B). Statistical analysis was performed with GraphPad using Student's t-test. A confidence interval of 95% and a P-value of < 0.05 were considered statistically significant. The outcomes evaluated included the onset and duration of sensory and motor blockade, intraoperative hemodynamic changes, and adverse effects such as pruritus, shivering, and vomiting. Postoperative pain and comfort scores were assessed. **Results:** No difference was found in the time of onset of blockade between the two groups. Patients in Group B presented significantly longer duration of sensory blockade ($p < 0.01$, mean duration 300 minutes vs. 240 minutes) as well as motor blockade ($p < 0.02$, mean duration 300 minutes vs. 180 minutes) compared to Group A. Pain scores in Group B at 5 and 24 hours postoperatively were significantly lower ($p < 0.03$, $p < 0.04$ respectively) and the comfort score substantially higher ($p < 0.02$, $p < 0.04$ respectively). Patients receiving bupivacaine alone suffered a higher incidence of intraoperative hemodynamic side effects, such as hypotension and bradycardia, however, without statistical significance. Patients in group A also experienced nausea and vomiting more frequently during the surgery. Shivering was significantly linked to Group A intra- as well as postoperatively ($p < 0.007$). **Conclusion:** The combination of bupivacaine with sufentanyl in spinal anesthesia significantly extends the duration of both sensory and motor blockade with an additional reduction of side effects. Sufentanyl proves to be hemodynamically stable, offers prolonged pain relief together with an improved patient experience, and can be considered a safe and supportive adjuvant in spinal anesthesia.

Keywords: Spinal anesthesia, Sufentanyl, Bupivacaine, Motor blockade, Sensory blockade

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EXAMINING THE IMPACT OF BORG SCALE-GUIDED ERGOMETER TRAINING ON PERFORMANCE IN ONCOLOGICAL REHABILITATION

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Background: Oncological rehabilitation is a critical component of cancer survivorship, addressing both the physiological and psychological outcomes of cancer and its treatment. Exercise therapy has been shown to improve endurance and general quality of life, notably through cycle ergometer training (CEG). Perceived exertion scales like the Borg Scale may potentially be useful in the context of oncological rehabilitation to maximize training results, as such scales have already been established in exercise research. **Objectives:** This study aims to understand how the Borg Scale-guided training influences patients' physical performance in cycle ergometer training during oncological rehabilitation. Specifically, it investigates whether patients using the Borg Scale during ergometer training sessions perform better than a control group receiving ergometer training without using the Borg Scale. **Material and method:** A randomized controlled trial of 61 patients undergoing oncological rehabilitation was conducted. Participants were randomly allocated to either a control group (n=30, regular training) or an interventional group (n=31, training with the Borg Scale). Analyzed parameters comprised progression in wattage (initial and final values) and Six-Minute Walk Test (6MWT) distance in meters. Statistical analyses included descriptive statistics as well as independent and paired samples t-Test, to compare the performance between both groups. **Results:** Patients in the intervention group offered a substantially greater increase in wattage (Mean $\Delta W = 13.2 \pm 14.6$) in comparison to the control group (Mean $\Delta W = 9.7 \pm 8.6$, $p = 0.019$), with an effect size of $r = 0.326$, suggesting a medium effect. Regarding walking distance in the 6MWT, no significant difference was found between groups ($p = 0.418$). In the paired sample analysis of the wattages, both interventional and control group showed a significant increase in wattage ($p < 0.001$), with large effect sizes ($r = -1.000$). This increase in performance is consistent with the usual effects of regular endurance training. **Conclusion:** This study suggests that using the Borg Scale during cycle ergometer training in cancer rehabilitation can lead to significant improvements in physical performance, shown by a higher increase in wattage compared to standard training. The moderate effect size ($r = 0.326$) lends credence to the practical relevance of this finding. However, no significant differences were observed between the groups in terms of distance covered in the 6MWT. These results suggest that Borg Scale-guided training may enhance specific performance during ergometer sessions, while it might not have a direct impact on all types of endurance training. The motivational factors behind these outcomes and long-term effects will need further research.

Keywords: Borg Scale, Perceived exertion, Oncological rehabilitation, Motivation, Cycle ergometer training

ACROMEGALY AND ITS COMPLICATIONS: A CASE REPORT OF AN AGGRESSIVE MACROADENOMA WITH DIFFICULT THERAPEUTIC CONTROL

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Background: Acromegaly is a rare disease affecting exclusively adults characterized by the growth of soft tissue and internal organs that can lead to complications such as hypertrophic cardiomyopathy (HCM), sleep apnea, diabetes mellitus (DM), hypertension (HT), etc. All of these complications can severely affect the quality of life and life expectancy of the patients. **Case presentation:** This paper presents a 54-year-old woman diagnosed with a 24mm GH-producing pituitary macroadenoma, extended to the cavernous sinus and to the optic chiasma and for which surgery was chosen as first-line treatment. An MRI performed a year after the intervention to see the clinical impact of the therapy showed a remnant tumoral mass of 39mm, a larger tumor than the one encountered at the beginning of the treatment. This further growth strongly suggests the low response to the initial treatment and represents a bad prognostic factor. IHC analysis revealed a sparsely granulated tumor and therefore it was decided to include diverse medical treatment as first and second-generation somatostatin analogs, dopaminergic agonists, and GH receptor antagonists. Her response to pasireotide was partial while she had an optimal response to pegvisomant. A conservative approach was further adopted involving gamma knife radiotherapy as the treatment of choice. The patient presents multiple morbidities associated with the disease: hypertension, diabetes mellitus, hypertrophic cardiomyopathy, sleep apnea, and gonadosomatic thyrotropic hypopituitarism. **Case particularities:** This case presents a patient with a complicated course of acromegaly, which involved an aggressive macroadenoma that failed to respond to first-line treatment strategies, and required multiple second-line interventions to reach control, associating multiple comorbidities due to chronic IGF-1 excess. **Conclusion:** In this case, we highlighted the importance of a multidisciplinary approach, involving multiple professionals: endocrinologists, cardiologists, and a radiodiagnosis team. Follow-up and early interventions to achieve biochemical control play a key role in managing and minimizing the development of multiple comorbidities. Good patient education is also crucial to ensure the patient's endurance to treatment and the understanding of the disease and its limitations.

Keywords: acromegaly, sparsely-granulated, CMH, apnea

THE IMPACT OF THE PTNM STAGE ON THE AVAILABILITY OF BIOMARKER EGFR, ALK AND PD-L1 AND THE INITIATION OF ADJUVANT THERAPY IN PATIENTS WITH NSCLCS: A REAL-LIFE ANALYSIS

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Background: The timely availability of the biomarker EGFR, ALK and PD-L1 in the treatment of patients with non-small cell lung cancer (NSCLC) is crucial. Therefore, biomarker availability (BA) and factors which may delay this process like additional clinical processes or disease complexity are essential steps in the improvement of NSCLCs therapy. While previous study assessed the overall time intervals of biomarker availability, there are limited data regarding patient specific factors which may have an impact on the time intervals from EGFR, ALK and PD-L1 results to the initiation of targeted therapy. This study investigates if there are a prolonged time intervals in the determination of the biomarker and the start of the targeted therapy in NSCLCs patients regarding the different pTNM stages. pTNM is the pathological assessment of the tumor by tumor size, lymph node involvement and metastasis. **Objectives:** The aim of the study is to examine the correlation of the pTNM stage and the time to BA of EGFR, ALK and PD-L1. Further it evaluates the time until initiation of adjuvant targeted therapy. **Material and method:** It is a retrospective qualitative study (performed between the 01/01/2025 and 17/03/2025). All data were collected anonymously and were gathered from digital patient records from a German medicine institution in the state of Schleswig-Holstein called "LungenClinic Grosshansdorf GmbH". The study include 65 patients (41 patients from 2023 and 24 from 2024). The data included date of surgery or biopsy, date of EGFR, ALK and PD-L1 request

and availability, date of adjuvant therapy starting and pTNM classification. **Results:** A total of 97% of patients with NSCLCs included in this study either had pTNM stage IIIA (55%) or stage IIB (42%). While IA3 (1%) and IB (2%) were rare and therefore not significant, the results are focused on stage IIB and IIIA. The analysis of time intervals of the BA revealed a minimal difference between IIIA and IIB, with EGFR and ALK results available in approximately 14-15 days and PD-L1 results in 4-4,5 days. Despite these similar biomarker availabilities, patients with stage IIIA had significantly prolonged delays in the initiation of adjuvant targeted therapy compared to stage IIB (62,5 vs 46 days, p= 0,022). These findings suggest that the pTNM stage may influence therapy delays beyond biomarker availability. **Conclusion:** This analysis proposes that the tumor stage itself may have an impact on the time of initiation of the adjuvant targeted therapy but not the biomarker turnaround time. Reasons for this delay may be due to additionally clinical decision-making processes, disease complexity, additionally investigations, tumor board delays or individual patient factors.

Keywords: NSCLC, Biomarker availability (BA), pTNM, adjuvant targeted therapy delay, EGFR, ALK, PD-L1

UNRESTED & EXHAUSTED : A DIVE INTO SLEEP APNEA AND DAYTIME SLEEPINESS

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Background: Sleep apnea, especially obstructive sleep apnea (OSA) is a prevalent sleep disorder affecting the everyday lives of many people, especially in the west. It is characterized by recurring episodes of airflow hindrance causing fragmentation in sleep and intermittent hypoxia. One of the hallmark symptoms of sleep apnea is Excessive daytime sleepiness (EDS). Being a symptom that poses a significant risk to the individuals daily functioning, as well as cognitive impairment, decreased productivity and an increase risk in accidents, it still presents with high individual symptomatic variation, making it hard to properly assess the mediating factors for the relationship between the breathing disorders of sleep and their daytime manifestation. Objectives: The conducted study aims to explore the correlation between sleep apnea, its severity and the degree of daytime sleepiness in patients attending a sleep laboratory. **Material and method:** A retrospective analysis was conducted on 61 patients from the sleep laboratory of the Hospital Leer in Ost Friesland, Germany, who were examined between 2023 and 2025. All patients were included based on a primary or secondary diagnosis of obstructive sleep apnea or central sleep apnea.A retrospective analysis was conducted on 61 patients from the sleep laboratory of the Hospital Leer in Ost Friesland Germany, that were depicted and based on their primary or secondary diagnosis of Obstructive Sleep Apnea or Central Sleep Apnea. Evaluated key metrics were the Apnea-Hypopnea Index (AHI), Oxygen Desaturation Index (ODI), Sleep stages N1, N2, N3, REM, NREM and Epworth Sleepiness Scale (ESS). Additional demographic and clinical variables, such as age, gender, BMI, comorbid conditions, and treatment compliance, were also considered. The study utilized Pearson correlation analyses to assess the relationship between sleep apnea severity (measured by AHI and ODI) and daytime sleepiness (measured by ESS). Statistical analyses were performed, with visual representations provided through scatter plots and box plots. Excessive Daytime Sleepiness was evaluated via the Epworth Sleepiness Scale Questionnaire, determining Daytime Sleepiness with a score of 10 or higher. **Results:** A Pearson correlation with AHI, ODI and ESS showed a weak, but positive correlation between Sleep Apnea and Daytime sleepiness, with r = 0,0597, p = 0,05773. This suggest that sleep apnea itself does not fully account for, or strongly predicts daytime fatigue and excessive sleepiness. A correlation with ODI, with r = 0,0261 and p = 0,2131, presents an even weaker association. This means that oxygen desaturation episodes during the night also doesn´t explain sleepiness in OSA patients. **Conclusion:** The findings of this study suggest that excessive daytime sleepiness in patients, contrary to common thought, is not strongly associated with sleep apnea or hypoxia during sleep. And though this weak correlation may initially appear unsatisfactory, it is important in underlining the causation for EDS being rooted beyond singular factors, and might likely be influenced by factors such as sleep fragmentation, comorbidities and individual sleep architecture. This further emphasizes the need for more extensive differential diagnostic work up of patients suffering from excessive daytime sleepiness to improve their quality of life and reduce the risk of associated health and public safety complications.

Keywords: Sleep Apnea, Excessive Daytime Sleepiness, Apnea-Hypopnea Index, Epworth Sleepiness Scale

EVALUATING INFLUENCING FACTORS ON THE OUTCOME OF ACUTE KIDNEY INJURY FOLLOWING INTRAVENOUS CONTRAST MEDIA ADMINISTRATION IN EMERGENCY CT CASES

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Background: Contrast-induced acute kidney injury is described as the occurrence of kidney function impairment shortly after intravascular contrast media administration. Since their implication decades ago, contrast media have been incriminated for their nephrotoxic potential. Despite ongoing improvements in their application and the emergence of conflicting data about contrast-induced nephropathy, contrast agents failed to dispel the preconception about their harmful properties. The problem that ensues is based on a reserved attitude towards contrast material, in the end having a potential detrimental effect on diagnostic accuracy and medical care. **Objectives:** As multiple rumours about this topic arose, this study investigates the hypothetical question, if an acute kidney injury, following contrast-enhanced interventions, is not merely attributed to the denigrated effects of contrast substances, but rather to several patient-, as well as procedure-related factors, acting as key determinants for the resultant renal impairment. **Material and method:** This clinical investigation analysed patients who underwent contrast-enhanced CT in a prospective design, with a final data set of 118 cases admitted to the emergency department. The incidence of acute kidney injury, highlighted within the first 72 hours after contrast media administration, was compared between two groups, whether a kidney function impairment was noted, or not and was evaluated on the background of several influencing factors. For statistical analysis of this interrelation a logistic regression model was applied. Correlations and comparisons were conducted with Spearman´s rank and Welch´s T-, Mann Whitney U-test, respectively. **Results:** After comparing the two groups, patients developing AKI showed to be significantly older (72.9 vs 66.1; p= .005) and exhibited a significant difference in serum lactate levels (U=367; z=-1.97; p= .049). A significant correlation between mean arterial pressure and post-contrast creatinine values (r=-0.21; p= .025) was detected. The logistic regression analysis revealed an administration of vasopressors (OR=4.160; CI=1.008-17.166; p= .049), as well as previous contrast substance injections during the last six months (OR=13.268; CI=1.125-156.442; p= .040) as significant risk factors for AKI. Similarly, patients with pre-existing kidney damage, CKF, were associated with higher risks (OR=16.048; CI=1.434-179.554; p= .024). **Conclusion:** The results displayed above, demonstrate contrast-related variables, as well as patient- and procedure-specific conditions as significant influencing factors in the development of acute kidney function decline.

Keywords: Acute kidney failure, Intravenous contrast, Emergency situation

ASSESSING DEPRESSION AND ANXIETY IN PATIENTS WITH DIABETIC NEUROPATHY: GENDER DIFFERENCES IN BECK AND HAMILTON SCALES

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Background: According to the Centers for Disease Control and Prevention, the risk of developing depression in diabetic patients is 2 to 3 times higher than in patients without diabetes. Although several factors are associated with the onset of mental disorders, diabetic neuropathy, one of the most common chronic complications of diabetes, plays a key role in their development. Neuropathic pain, autonomic symptoms, and postural instability leading to falls interfere with the patient's daily activities, significantly negatively affecting the quality of life. To assess the levels of anxiety and depression, the Hamilton and Beck scales are used, respectively. Both questionnaires evaluate essential parameters associated with anxiety—such as worries, fears, cognitive function, and somatization—and with depression—including anhedonia, guilt, and suicidal thoughts. **Objectives:** The primary aim of this study is to compare anxiety levels and depressive symptoms in patients with diabetic neuropathy, determining whether there are or not gender-based variations in the items evaluated on the Hamilton and Beck scales. **Material and method:** In this retrospective observational study, 108 subjects diagnosed with type II diabetes mellitus were enrolled. Patients were divided into two groups: those with diabetic neuropathy and

those without and further subdivided into male and female subgroups. All individuals underwent assessments using the Hamilton Anxiety Scale and Beck Depression Scale to classify the severity of anxiety and depression, as well as the most affected domains. According to the evaluation points, depression is categorized into normal fluctuations (1-10 points), mild symptoms (11-16 points), borderline depression (17-20 points), moderate depression (21-30 points), severe depression (31-40 points), and extreme depression (over 40 points). Anxiety is categorized into "none" with 0-7 points, mild with 8-14 points, moderate with 15-23 points, and severe above 24 points. **Results:** When comparing each item on the scale, females in the neuropathic group scored higher on the Beck scale at item 2 (p=0.03), which assesses pessimism; item 21 (p=0.016), which measures loss of libido; and item 9 on the Hamilton scale (p=0.01), which relates to cardiovascular health symptoms. On the other hand, males received higher scores on the Hamilton scale point 12 (p=0.049), which assesses genitourinary symptoms. In the non-neuropathic group, no significant differences existed between the scores on any of the points. **Conclusion:** The manifestations of anxiety and depression among patients with diabetic neuropathy vary between males and females, underscoring the importance of a gender-specific approach in managing mental health in chronic conditions diseases.

Keywords: Diabetic neuropathy, Anxiety, Depression, Hamilton Anxiety Rating Scale, Beck Depression Inventory

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WHICH EVIDENCE AND BENEFITS SUPPORT THE IMPLEMENTATION OF BRCA GENETICS AS A SCREENING TEST FOR EARLY DETECTION OF HEREDITARY BREAST AND OVARIAN CANCER IN CLINICAL PRACTICE? - A PRELIMINARY REPORT

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Background: Despite the well-established role of BRCA1/2 mutations in hereditary breast and ovarian cancer, BRCA testing rates are still low. Multiple factors influence if a patient decides to have a genetic testing, ranging from healthcare system limitations to individual patient concerns. Clinicians may refrain from recommending testing due to perceived waste of resources, genetic discrimination, misinformation, or restrictive guidelines that exclude many patients who could benefit from testing. On the patient side, the decision to pursue testing is influenced by health insurance coverage, knowledge, personal attitudes, and emotional responses. In the case of a positive BRCA result, additional barriers arise when considering prophylactic measures. Understanding these barriers is crucial for improving access to genetic testing and optimising preventive care strategies. **Objectives:** The primary objective of this study was to point out how important a broad-based genetic testing for the BRCA mutations is by assessing the current state of testing, the prophylactic measurements in case of a positive test result and the factors influencing the patients' decisions. **Material and method:** The retrospective study was conducted at Klinikum Lüdenscheid and included all patients (n=44) who scored ≥3 on the checklist to assess breast cancer risk, including DCIS, between 2023 and 2024. The age of the patients ranged between 30 and 88. Data collection focused on several factors influencing BRCA testing and prophylactic decision-making. Patient characteristics such as test results from the checklist, cancer type, age at first diagnosis, BMI, smoking status, use of contraceptive pills, and history of breastfeeding were assessed. The results of genetic counselling and whether patients opted for prophylactic measures were assessed by the aid of a questionnaire. For those who did not pursue preventive measures, the barriers preventing such decisions were analysed with the questionnaire as well. The questionnaire includes four questions and starts with the question if the patient has had a genetic counselling (yes / no / I don't know) and what the results were (no mutation / BRCA1 positive / BRCA2 positive / I don't know). The third question focuses on the prophylactic measurements in case of a positive test result (mastectomy / salpingo-oophorectomy / frequent examination of the breast / genetic counselling for family / no measurements) and finally, the patients were asked which reasons they had to reject a genetic testing (there was no genetic counselling / no need to know the test result / no need to get tested because patient prefers to not have any prophylactic measurements anyway). **Results:** Since the data collection is not completed yet because all patients were asked to submit the questionnaire until April, the analysis of the complete dataset is postponed. **Conclusion:** Final conclusions will be drawn after the complete dataset has been analysed.

Keywords: BRCA, genetic counselling, prophylactic measurements

DRUG ALLERGIES AND COMORBIDITIES CHALLENGING THE PATIENT AND PHYSICIAN

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Background: Accounting for a big fear of physicians is an unpredictable harmful reaction to a certain medication that was initially prescribed with a curative intent. Drug allergies (DA) are a subcategory of drug hypersensitivity reactions (DHRs) which are counted to type B adverse drug reactions. These are unpredictable, unidentified during clinical trials and unrelated to dosage. Many patient- and drug-related risk factors (RFs) like previous sensitization, comorbidities, polypharmacy, age and genetics are playing into their occurrence. Epidemiology does not provide accurate data, since many patients are mislabeled, both extremes – over- and underreporting – contributing to this. **Objectives:** This study serves the purpose of answering the question, if delabeling and allergology work-up are beneficial, regarding epidemiological occurrence, impact on acute and chronic patient treatment, including comorbidities and which medications and RF are commonly implicated in DA. **Material and method:** Day admission cases for allergology evaluation of the Internal Medicine ward in the Emergency County Hospital Targu Mures have been selected. Inclusion criteria were patients above 18 years, that were allegedly having an allergic reaction to one or multiple drugs, patients undergoing (repeated) chemotherapy and patients requiring radiocontrast substance administration for a radiological examination having an antecedent DA label to another medication. Patients gender, age, suspected culprit drug(s), time elapsed between administration and clinical manifestation, phenotype and subsequent treatment, medications taken at the time of reaction and included in long-term treatment plan for comorbidities, comorbidities itself (immunologic, allergic, rheumatic, malignant, cardiovascular etc.), previously medically proven DA and the testing strategy (in vivo, in vitro) including the result and description of the result were documented. Only direct testing results were included, since some patients reported an undocumented clinical manifestation after administration of several medications at once, only a few of them being tested during admission. **Results:** 10 out of 36 patients tested positive, some being positive for multiple drugs. 8 of the tested patients were male, 28 were female. From the 10 positively tested patients, 9 patients were female. The average age was 54 years. Both in vivo and in vitro testing displayed 16 positive and two equivocal results. 83 drugs were tested in total, of which 21 were positive (25,3%). 80 in vivo tests (skin testing and oral provocation) were performed, of which 18 showed positive results (22,5%), and total amount of in vitro testing were 3 tests, which were all positive. In vivo testing revealed four patients positive for BLA, two for Metamizole, two for Ciprofloxacine, one patient for Meropenem, one positive for Codeine Phosphate, one for radio-contrast substance, one for Atropine and Ketamine and an equivocal skin testing for Clindamycin and Gentamycin. In vitro tests showing positive results in one patient were for Ibuprofen, Ciprofloxacine and Ceftriaxone. 27 have been tested negative. **Conclusion:** The results display the importance of allergology work-up, since only one in four medications were identified as culprit agents for DA. Furthermore, the medications tested are considered commonly used and are implicated in many first-line treatments. Invalidating suspected DA beliefs enables a more appropriate treatment, decreasing disadvantages encountered by second- or third-line treatments.

Keywords: drug allergies, delabeling, management, comorbidities

THE ABSENCE OF CONSENSUS REGARDING OPTIMAL ADHERENCE MEASURES AND INTERVENTIONS

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Background: Medication nonadherence continues to be a problem in medicine, with an estimated 50% of patients under chronic medication not following their treatment plan. Whilst the medical world is aware of this problem the true rates of nonadherence are not fully known, since accurate measurements are difficult to obtain. To measure adherence there are many methods: subjective (interviews, questionnaires/scales, diaries) and objective (body fluid measurements, pill counting, direct observation, electronic medication packaging, pharmacy/insurance database). All have certain weaknesses, which is why the most accurate course of action is considered to be a

combination of a subjective with an objective method. The cutoff values defining adherence are often chosen more or less arbitrarily (many choose 80% since many drugs produce a clinically proven benefit above that value) with no rule being externally imposed. Studies widely vary in their use of adherence measures (most using one) depending on the time, money and number of people participating, leading to results with poor quality evidence and bad comparability between different trials. There are many factors associated with decreases in adherence, which have been put by the WHO in 2003 into five categories and are still used today: social and economic, HCT-related, therapy-related, patient-related, condition-related. **Objectives:** This study seeks to expose the absence of a gold standard protocol for measuring adherence, as well as the lack of clear, concise definitions concerning categorization of adherence interventions, which are needed to improve level of evidence and provide significant solutions to combat nonadherence. **Methods:** Using PubMed, Medline, Springer, WHO 2003 publication, for current status of literature (2015-2025) with search terms: "optimal adherence measures", "gold standard adherence measure", "adherence measures overview", "adherence interventions overview", "systematic reviews of adherence interventions". **Results:** Noone has stepped forwards to define a certain combination of adherence measures as the gold standard, nor is there a defined cutoff value to define adherence for different adherence measures. Adherence interventions studies focused on improving adherence rates of patients, use wide varieties of different interventions and adherence measures with many specifically tailored towards certain diseases and factors. The results produced vary greatly with no one method having shown to help increase adherence substantially in patients across the board, for a longer interval. Systematic reviews analyzing adherence interventions make up their own categories for the same intervention and none of them follow the WHOs example of placing interventions into the same five categories as the risk factors. The reviews differ considerably regarding the category names, definitions, number, and encompassed interventions. Since the 2003 WHO publication regarding adherence, no comprehensive update has been published. **Conclusion:** Studies concerning themselves with adherence, its measures and interventions will continue to provide only poor levels of evidence as long as no clear consensus is reached on the best way to obtain accurate, acceptable measurements, delaying optimal solutions to improve adherence. Furthermore clear categories need to be established for adherence interventions, to better compare their effectiveness, in general and from disease to disease, to most efficiently increase adherence throughout the whole patient population.

Keywords: Adherence, Adherence measures, Adherence interventions, Gold standard

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DECOMPRESSIVE CRANIECTOMY: A COMPARISON OF DUROTOMY TECHNIQUES

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Background: Decompressive craniectomy (DC) is an emergency last resort operation for reducing increased intracranial pressure following ischemic or hemorrhagic stroke or intracranial bleeding. Although external factors influencing the outcome of the surgery are relatively well examined, there is insufficient data regarding the best surgical technique for DC and it is usually done according to the neurosurgeon's personal experience and preference. An example of this are the different ways a durotomy can be performed, namely in X-shape or in C-shape. This will be the subject of discussion in the following. **Objectives:** The aim is to improve surgical outcomes by examining the efficacy of the surgical techniques like the type of durotomy used in decompressive craniectomy.
Material and method: The data of every patient undergoing DC between the years of 2018 and 2024 from the Targu Mures county hospital's neurosurgery department was analyzed, which measures 82 patients. Specifically, data was extracted from patient release papers and operation reports. Information recorded includes patient age, sex, comorbidities, indication of surgery, pre-OP Glasgow Coma Scale (GCS), presence or absence of anisocoria, operation time, durotomy type, duraplasty type, post-OP GCS, complications and Glasgow Outcome Scale (GOS). To compare the outcome between X-shaped and C-shaped durotomy, 4 factors demonstrating outcome were chosen to be examined: GCS variation pre- and post-OP, the complication rate, duration of the surgery and GOS. A Chi square test was performed to examine possible statistical differences between the groups of X-shaped durotomy and C-shaped durotomy regarding complication rates. An F test was performed to establish possible relationships between durotomy group and operation time, GCS improvement and GOS. **Results:** There is no statistically significant difference in surgical outcome between durotomies performed in X-shape vs. durotomies performed in C-shape as part of decompressive craniectomy regarding complication rate (X2=2.4872, p=0.1148), GOS (t=2.0395, p=0.3380) and GCS improvement (t=-1,94, p=0.0691). However, it should be noted that the mean GCS improvement in the X-shaped durotomy group was 3,2857, whereas the C-shaped group's was 0.3778 and

the threshold for statistical significance of p< 0.05 was closely missed. Since the number of patients in the X-shaped durotomy group with a total of 14 is much lower than the C-shaped group with 45 patients, more research on this area is advised to rule out statistical bias due to small sample size. A statistically significant difference could be observed in operation time (t=2.1009, p=0.0232) with X-shaped durotomies requiring 43,39 min (26,25%) longer on average compared to C-shaped durotomies. **Conclusion:** A superiority in outcome of either surgical technique of durotomy in the context of DC could not be proven. However, further research on this field is warranted due to inconclusive data regarding a possible difference in average GCS improvement and the statistical difference in operation time between X-shaped vs. C-shaped durotomies.

Keywords: decompressive craniectomy, surgical technique, durotomy

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NEW SURGICAL APPROACH IN THE TREATMENT OF UTERINE PROLAPSE INTRODUCED – A STUDY ON LAPAROSCOPIC SACROPEXY USING THE HOTT TECHNIQUE

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Background: Uterine prolapse affect many women, especially if specific risk factors are given, like multiple vaginal births or age-related degenerative changes. The POP-Q score evaluates grade and severity of prolapse, guiding the decision of conservative or surgical treatment. If symptomatic, mostly surgical treatment is chosen to support the pelvic floor and elevate the uterus/vagina. Mesh implementation is helpful to reinforce pelvic reconstruction, but post-operative complications like mesh erosion, foreign body reactions and infection called for a new surgical method. The "HoTT" technique (Hornemann Tendon Transplant) is an autologous transplant of the tendon of the knee's Musculus semitendinosus for uterine/vaginal suspension to the sacrum. **Objectives:** The main objective is to evaluate a recently introduced surgical technique as a potential alternative to mesh implementation. The importance of this autologous graft approach is highlighted by health and safety concerns raised by the Food and Drug Administration (FDA) concerning mesh, as infection is a frequent post-operative complication. We present real-life data regarding the efficacy and complication rate of the HoTT technique and a comparison to results of the published prospective trial. **Material and method:** This single-center retrospective trial includes a total of seventy-seven cases of women that underwent laparoscopic sacropexy using the HoTT technique in the Gynecology Department of the St. Elisabeth Hospital Damme, Germany, from 2020-2023. The cohort is defined as women over eighteen years diagnosed with uterine, cervical or vaginal prolapse (POP-Q score 1-4). To evaluate each patient´s characteristic and history, comprehensive inclusion criteria are established. The data collected are organized into Excel database in order to facilitate systematic analysis. **Results:** Patient´s characteristics (age, weight, height, BMI and parity), and outcome parameters like grade of prolapse pre- and post-operatively (by POP-Q score 1-4), surgical details (operative time, blood loss) and intra-/ post-operative complications will be presented and compared to previously published results of the prospective study as well as the KOOS (Knee and Osteoarthritis Outcome Score) since the knees's Musculus semitendinosus is the site where the tendon is harvested from. It is anticipated that it will result in an efficient anatomical correction for uterine prolapse, comparable with mesh implementation. **Conclusion:** "HoTT" is a promising alternative operative approach with autologous transplant reconstruction to mesh based correction of apical pelvic insufficiency with robust results in daily routine. Further follow up is necessary to investigate longterm results of the HoTT-technique.

Keywords: Hornemann Tendon Transplant (HoTT), Uterine prolapse, POP-Q score, Laparoscopic sacropexy

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TRENDS IN GERMAN PATHOLOGISTS' DEMOGRAPHIC STRUCTURE CHALLENGE THEIR WORKING CAPACITY IN THE HEALTH CARE SECTOR

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Background: Pathologists play an irreplaceable role in modern medicine, increasingly influencing targeted therapy choices for patients. Prognostically, this role will be further accentuated by the 77% rise in cancer cases predicted by the WHO until 2050. However, concerns regarding the workforce of German pathologists are rising. Influencing

factors, including rising case numbers, increasing diagnostic complexity per case, as well as few young pathologists, have been reported. One example of demand not meeting the pathology service capacity can be seen in the UK, struggling with an average annual increase of cases by 4.5% since 2007 and 10-12% vacant jobs as reported by the Royal College of Pathologists (RCOP). Single reports mention that cancer diagnosis can be delayed by weeks to months. Current demographic aspects of pathologists in Germany raise concerns that a similar development of a bottleneck system lies ahead. **Objectives:** This study aimed to evaluate the trends regarding the pathologist workforce in Germany between 1991 and 2023. A secondary objective was to compare Germany to the issues with skilled work in the UK. **Material and method:** Data was collected from the German federal health reporting system. UK-based data was retrieved from publicly available official resources of the RCOP. For Germany, all registered pathologists, both residents and specialized doctors, between 1991 and 2023 were included in this study. Each variable set was plotted over time using Microsoft Excel 16.93.1 and Python 3.11.4. Simple comparisons over time included the percentage change from one time point to another. Where applicable, annual growth rates and average annual growth rates were calculated. We calculated ratios and average ratios over time for physician to pathologist. Significance was tested in a multistep process to obtain z, then translated to alpha, set at 0.01. **Results:** Between 1991 and 2023, the total number of pathologists increased by 106% to 2,650. However, the age distribution revealed a 20.27% decrease in pathologists under 35, while the proportion of those over 60 increased significantly. A 295.15% rise occurred in the 60-66 age group, and a 521.17% increase in those over 66. Similar trends were observed in the UK, where a significant proportion of pathologists were over 55. A quarter of histopathologists were aged 55 or older, and 36% of this group were 60 or older. At the same time, pathologists did not grow as fast as the physicians, showing a decrease of 18.07% of pathologists per physician. The proportion of non-practicing pathologists is much higher now, from 160 in 1991 to 758 in 2023. Significant redistribution in gender proportions and employment form are observed, with male-to-female ratios of 4.5:1 in 1991 and 1.5:1 in 2023. **Conclusion:** The data indicates a significant shortage of workforce in the upcoming years, when older pathologists retire and younger generations cannot compensate. A demand-supply mismatch as seen in the UK could be the consequence also in Germany. Conquering this mismatch would require either an increase in the total number of pathologists or an improvement in their efficiency, especially through digitization to reduce overall workload.

Keywords: Pathology, Demographic structure, Provision of care

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FATAL GAS GANGRENE IN A CHRONIC HEROIN USER: A FORENSIC AND CLINICAL CHALLENGE

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Background: Gas gangrene or clostridial myonecrosis, a deadly necrotizing soft tissue illness is mainly caused by clostridium perfringens. In general, it can develop after surgeries, trauma or intravenous drug use, particularly when bacteria are transmitted by contaminated materials or improper injection techniques into deep tissues. Even with immediate medical intervention the condition evolves fast and has a significant high death rate. Our novel analysis of this case study of a chronic intravenous heroin user involved in a traffic accident highlights how challenging it is for forensic medicine to identify the source of infection. **Case presentation:** A 27-year-old male with a 10-year history of heroin abuse sustained a left leg injury in a traffic accident. Five days later, he saw a doctor and was diagnosed with an ankle luxation and received a splint. Twelve days post-injury, he was found unconscious with high fever (39.6°C), tachycardia (160 bpm), and hypertension (206/110 mmHg). Hospital examination revealed extensive tissue necrosis, crepitation, and blistering on the left thigh, confirming gas gangrene. Despite immediate high amputation, he died four hours later. Autopsy confirmed Clostridium infection, extensive muscle necrosis, and chronic hepatitis B, with no new needle marks or clear infection entry site. **Case particularities:** The delayed symptom onset (12 days after injury) and the absence of definitive infection route makes this case atypical. The ankle splint may have created a localized anaerobic environment, promoting necrosis and bacterial growth. Forensic examinations found no recent injection sites, which makes it very difficult to pinpoint the exact entry gate. One possible explanation is bacterial translocation from the gut or hematogenous spread due to immunosuppression. Factors such as malnutrition, long-term heroin use, and chronic hepatitis B may have increased intestinal permeability, allowing Clostridium species to enter the bloodstream and spread systemically. Another important consideration is contaminated black tar heroin, which has been associated with clostridial infections such as Clostridium sordellii, leading to severe necrotizing infections. Presence of clostridium

spores in heroin allows the infection even without recent injections. A similar case has been reported, where black tar heroin use resulted in a fatal clostridial infection. **Conclusion:** This case demonstrates the difficulties in forensic and clinical diagnosis, when there is no obvious entry gate. It emphasizes the importance of early detection and rigorous surgical treatment in gas gangrene. Two potential infection mechanisms in this case include contamination from black tar heroin or bacterial translocation caused by compromised gut integrity. Because of high death rate and rapid progression, forensic studies must consider less common routes of transmission. To establish the exact cause of death the physicians and forensic pathologist must work in close coordination.

Keywords: forensic diagnosis, gas gangrene, intravenous drug user, black tar heroin, bacterial translocation

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MULTIMODAL THERAPEUTIC APPROACH IN SYNCHRONOUS PRIMARY TUMOR CASES: A CASE REPORT

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Background: The simultaneous diagnosis of multiple primary tumors represents a significant therapeutic challenge, being a relatively rare phenomenon in oncological practice. The presentation of a complex clinical case, where the patient is diagnosed with primary tumors located in different areas, highlights the importance of a multidisciplinary approach in the treatment of these patients. Additionally, the integration of innovative therapies such as immunotherapy, targeted therapies, and personalized treatments can effectively address multiple oncological lesions and contribute to improving the patient's survival. In this context, the effective oncological management of patients with multiple primary tumors depends on the correct identification of each tumor and the selection of appropriate treatment for each type of neoplasm. Due to the rarity and complexity of this type of diagnosis, it is essential that treatments be personalized, taking into account not only the type and stage of each tumor but also the specific biological and molecular factors of the patient. Furthermore, continuous evaluation and monitoring of treatment effectiveness are crucial for the success of therapy. **Case presentation:** We present the case of a 55-year-old male diagnosed with two synchronous primary tumors: malignant melanoma of the lumbar region and right papillary renal carcinoma. Following evaluation by an oncological committee, surgical excision of the skin lesion with adequate safety margins was performed, along with a right radical nephrectomy, followed by the initiation of immunotherapy with Pembrolizumab. Nine months after the start of immunotherapy, a control PET-CT revealed the presence of a third primary tumor in the middle esophagus, which was later confirmed by biopsy as squamous cell carcinoma of the esophagus. As a result, chemotherapy with Paclitaxel and Carboplatin, combined with radiotherapy, according to the Cross protocol, was initiated. After completing the treatment, based on molecular testing that identified the BRAF V600K mutation, the patient started targeted therapy with anti-BRAF-anti-MEK agents, Dabrafenib and Trametinib, in accordance with current personalized therapy guidelines. **Case particularities:** The uniqueness of this case lies in the diagnosis of three synchronous primary tumors located in different areas of the body: malignant melanoma of the lumbar region, right papillary renal carcinoma, and squamous cell carcinoma of the esophagus. The simultaneous presence of two of these distinct tumors, combined with the development of a third tumor during treatment, represents a rare and complex clinical scenario. **Conclusion:** This case emphasizes the importance of an integrated and dynamic approach in the management of patients with multiple primary tumors, as well as the necessity of a comprehensive molecular assessment before initiating treatment. The multimodal treatment, which combines therapies such as immunotherapy and targeted therapies, allows for more efficient disease management and can extend the patient's survival. As clinical research continues to evolve, it is expected that new therapeutic options and combinations of treatments will further improve outcomes for patients with multiple primary tumors. In this regard, individualized management, tailored to each case, becomes an essential direction for improving the quality of life and survival of patients.

Keywords: synchronous primary tumors, multimodal treatment, immunotherapy, targeted therapies

A RARE CASE OF MIXED POST-PUBERTAL YOLK SAC TUMOR WITH METASTATIC SPREAD: DIAGNOSTIC AND THERAPEUTIC CHALLENGES – A CASE REPORT

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Background: Yolk sac tumors are part of the category of non-seminomatous germ cell tumors and have a bimodal age distribution, being the most common testicular neoplasm in children under the age of 3. In adults, yolk sac tumors are more aggressive and are more often observed as mixed tumors, in association with other types of germ cell neoplasms. **Case presentation:** We present the case of a 28-year-old male patient who presented to the territorial emergency department with a palpable mass in the left supraclavicular fossa. A thoracic CT scan revealed left supraclavicular adenopathy and multiple necrotic adenopathic blocks at the mediastinal and retroperitoneal levels, with mass effect on the major blood vessels. The left supraclavicular adenopathies were subsequently excised, and histopathological analysis confirmed the presence of a metastasis originating from a yolk sac tumor. Shortly after, the patient presented to the Oncology Department due to a rapid increase in the size of the left testicle, prompting the need for left orchiectomy. Histopathological examination of the excised tissue confirmed a mixed germ cell testicular tumor, consisting of 80% yolk sac tumor and 20% mature teratoma. Following a detailed evaluation of the patient's global status, oncological treatment was initiated with chemotherapy consisting of Bleomycin, Etoposide, and Cisplatin. Control evaluation after two cycles of chemotherapy showed a partial biochemical response with a decrease in alpha-fetoprotein and total human chorionic gonadotropin values. However, imaging revealed disease progression, including secondary pulmonary and pleural lesions and an increase in the size of mediastinal and retroperitoneal adenopathic blocks. Thus, palliative decompressive radiotherapy was initiated at the thoracic level, followed by a new chemotherapy regimen with Paclitaxel, Ifosfamide, Cisplatin, and Mesna, and a port-a-cath catheter was implanted. A few days after catheter placement, the patient presented with symptoms specific to superior vena cava syndrome, including face and neck swelling, dyspnea and dysphagia, prompting the initiation of anticoagulant treatment. Angio-CT examination revealed a significant increase in the size of the mediastinal adenopathic block compared to the previous evaluation, conducted two weeks earlier. **Case particularities:** This case presents a rare post-pubertal mixed germ cell testicular tumor of the yolk sac type in an adult male, showing rapid progression and regional metastases. Despite initial chemotherapy showing partial biochemical response, disease progression continued with secondary pulmonary lesions and complications such as superior vena cava syndrome. The case highlights the importance of early diagnosis, aggressive treatment, multidisciplinary care, and continuous monitoring to manage rare, rapidly progressing tumors and related complications effectively. **Conclusion:** This case highlights the importance of early diagnosis and prompt therapeutic intervention in managing yolk sac testicular tumors, which, although rare, can progress rapidly and cause significant regional metastases. Careful monitoring of treatment response through imaging and biochemical markers is essential for adapting therapeutic strategies and evaluating disease progression. In advanced cases, palliative approaches such as decompressive radiotherapy and treatments for complications like superior vena cava syndrome play a crucial role in improving quality of life and symptom control. This case underscores the necessity of a multidisciplinary approach for efficient and comprehensive patient management.

Keywords: yolk sac tumor, mixed germ cell tumor;, superior vena cava syndrome

ANALYZING AND COMPARING THE THERAPEUTIC POTENTIAL FO DIFELIKEFALIN AND DIMETINDENE

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Background: Background: Uremic pruritus is a common and debilitating symptom in patients with renal failure undergoing dialysis, significantly impairing quality of life through chronic itching, sleep disturbances, and skin damage. Despite widespread use of traditional H1-antihistamines such as Dimetindene, many patients continue to

experience severe symptoms, resulting in sleep disturbancs, lesions of the skin and a general decrease in quality of live, highlighting the need for more effective therapies. **Objectives:** Aim: This study compares the efficacy and tolerability of the conventional antihistamine Dimetindene with Difelikefalin, a recently approved kappa-opioid receptor agonist, in alleviating uremic pruritus. **Material and method:** Materials and methods: From January to March 2025 a structured questionnaire was administered to 50 (n=50) dialysis patients at two centres in Thuringia, Germany, capturing subjective assessments of pruritus severity, sleep quality, skin changes, and side effects both before and after treatment. Patients were asked to fill out the questionaire before and after their treatment with said medications. 28 participants received dimetindene, while 22 were part of the Difelikefalin cohort. **Results:** Results: Currently preliminary analyses indicate that both treatments provide significant reductions in symptom severity. Notably, Difelikefalin shows a slight advantage in itch relief (reduction of 43,03% vs 40,8%) and in reducing sleep disturbances (reductionk of 21,01 vs 9,54%) whereas Dimetindene was more effective in diminishing skin lesions (reduction of 32,57 vs 36,5%) regarding to the participants. Furthermore, Difelikefalin is accompanied by a lower overall incidence, but a broader variety of adverse effects compared to Dimetindene. **Conclusion:** Conclusion: These initial findings suggest that Difelikefalin may represent a promising alternative for managing uremic pruritus and may be used in patients who do not adequately respond to conventional antihistaminic therapy or these suffering from adverse effect like somnolence, which led to a high disapproval and incompliance in the dimetidene study cohort. Further research with larger cohorts and extended follow-up is warranted to confirm these results.

Keywords: Nephrology, Uremic Pruritus, Dimetindene, Difelikefalin

SYNCHRONOUS ARTERIAL MALFORMATION OF THE GALLBLADDER AND STOMACH: A CHALLENGING DIAGNOSIS

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Background: Angiodysplasia or Dieulafoy lesion represents a rare congenital vascular abnormality characterized by the appearance of blood vessels with large calibers and sinuous aspect which might predispose to severe hemorrhages, especially in the gastrointestinal (GI) tract. This abnormality is rare and usually involves one organ only. Macroscopically, in the GI tract, it can have an ulcerative or a polypoid aspect. **Case presentation:** A 50-year-old male was admitted in the Emergency Department of the Emergency Clinical Hospital of Targu-Mures, Romania, with the following symptoms: pain in the right hypochondrium, fever, nausea, and vomiting. Ten days before the present admission he was hospitalized, and a laparoscopic suture of a perforated gastric ulcer was done. Peritonitis was associated but the patient was discharged at three days after surgery. At the present episode, the abdominopelvic CT showed accumulation of fluid in the abdominal cavity with no acute lesion of the abdominal or pelvic viscera. The presumptive diagnosis was perforated cholecystitis with subphrenic abscess and perforated gastric ulcer. The surgical intervention consisted of an exploratory laparotomy, re-suturing of the gastric ulcer, drainage of the suprahepatic abscess and cholecystectomy. Microscopic examination of the gallbladder showed mucosal hyperplasia without atypia and a mild inflammatory infiltrated that was mainly represented by lymphocytes. In the muscularis layer, several large vessels with sinuous aspect were described. They showed even thick wall, representing arteries, or thin layers as for veins. No gastric wall was removed but the presence of recurrent GI hemorrhage rose the suspicion of a synchronous malformative vascular proliferation. The postoperative evolution was favorable. **Case particularities:** Association of two vascular abnormalities in two organs is extremely rare, only one similar case being presented in the English literature. **Conclusion:** In patients with perforated gastric ulcers and recurrent gastrointestinal hemorrhages, suspicion of angiodysplasia or other vascular abnormalities should be raised. In patients with cholecystitis, vascular malformations might be incidentally found.

Keywords: Dieulafoy lesion, angiodysplasia, synchronous arterial malformation, gastrointestinal tract

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THE SYNCHRONOUS ANGIODYSPLASIA, GASTRIC CARCINOMA AND POST-CHEMOTHERAPY LYMPHOMA: A CHALLENGING THERAPEUTIC MANAGEMENT

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Background: Carcinoma is a malignant neoplasm characterized by atypical proliferation of the epithelial cells. The mixed type-carcinoma consists of presence of at least two different architectures of the cells. Therapeutic plans for gastric adenocarcinoma include pre-operative chemotherapy and then gastrectomy. The response of the tumor is variable, depending on the patient's status and the tumor stage. Although rare, chemotherapy can exacerbate some of the preexisting diseases or can even cause a secondary cancer. **Case presentation:** A 74-year-old male presented to the Emergency Department with fatigue, loss of appetite, and significant weight loss. The onset of the symptoms was five months before. The patient declared that, one year ago, after several episodes of vomiting, an upper endoscopic examination was done. It revealed an ulcerative lesion in the mucosa of the gastric wall that was microscopically proved to be a mixed gastric adenocarcinoma composed of moderately differentiated tubulopapillary adenocarcinoma and mucinous carcinoma. The patient underwent four cycles of chemotherapy. At the present admission, the CT scan showed multiple lymphadenopathies, both perigastric and retroperitoneal. Based on the clinical protocols, the decision to proceed with surgery was done. It consisted of exploratory laparotomy, total gastrectomy with eso-jejunal anastomosis, and extended lymphadenectomy. After 14 days of hospitalization, the patient was discharged in a good general condition, without fever. The histological examination of the stomach revealed a T1-staged adenocarcinoma without lymph node metastases. In the submucosa, large blood vessels with high calibre and sinuous aspect were seen. The architecture of the lymph nodes was modified, being replaced by proliferation of atypical B-cells. Changing of the therapeutic plan was recommended. **Case particularities:**

This case is notable because of its complexity and the possible relation between chemotherapy and the secondary lymphoma. The large vessels from the submucosa might represent an exacerbation of a possible congenital malformation of the vessels or can be a chemotherapy-induced angiodysplasia-like lesion. **Conclusion:** Although the therapy of gastric adenocarcinoma is based on international guidelines, in cases with secondary malignancies the therapeutic management needs to be established by the multidisciplinary ONCOTEAM. For any oncologic patient, long-time follow-up is necessary, to monitor post-chemoterapy side-effects.

Keywords: adenocarcinoma, small cell lymphocytic lymphoma, secondary cancer, stomach

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MEDICATION ACCESS IN ROMANIA VS. GERMANY: HOW AVAILABILITY AND AFFORDABILITY SHAPE PATIENT OUTCOMES

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Background: Medication shortages and affordability issue significantly impact healthcare systems, particularly in countries with structural and financial disparities. Inadequate drug availability can discourage physicians from adhering to clinical practice guidelines, leading to suboptimal treatment and potentially poorer patient outcomes. While some countries have robust pharmaceutical markets, others, such as Romania, are experiencing high price controls, taxation, and less pharmaceutical profitability. Consequently, numerous drugs go out of stock or become hard to procure. Moreover, disruptions in supply chains in Europe have further aggravated drug shortages, impacting even stable healthcare systems such as Germany's. It is critical to comprehend these differences to be able to determine their influence on patient care and health outcomes. **Objectives:** This study aims to investigate differences in medication availability and affordability between Germany and Romania. Specifically, it will assess whether these disparities affect patient treatment and health outcomes. By quantifying these differences, the research seeks to provide insights into the extent of the problem and highlight potential areas for improvement. **Material and method:** A structured survey will be distributed to medical doctors in Romania and Germany. The questionnaire will collect data on physicians' experiences with medication shortages, the affordability of essential drugs, and the strategies used to manage treatment limitations. The survey will also explore whether these challenges influence patient health outcomes, including disease progression, treatment adherence, and overall prognosis. The collected data will be compared to bring out major differences and similarities between the two countries and give a comparative overview of the accessibility of healthcare in terms of medication availability. **Results:** It is anticipated that both Germany and Romania experience medication shortages, although the severity and impact may differ. While German physicians may have more alternatives and resources to compensate for missing medications, Romanian doctors may face greater limitations in prescribing current guideline-adhering treatments. Nevertheless, medical professionals in both countries are likely to adapt by utilizing available and, if necessary, affordable alternatives. Whether these adaptations affect patient outcomes and if so, to what extent remains an important question, to potentially improve the medical system. It has to be kept in mind though, that cultural factors such as trust in the medical system, emphasis on preventive measures, and lifestyle differences are influencing overall health status as well. Notably, in 2022, Romania had the third-lowest life expectancy in the EU, 5.4 years below Germany's, which is the current EU average. If medication access has an influence on this remains to be seen. **Conclusion:** While this study will not directly resolve any identified issues, it aims to quantify the issues and raise awareness among healthcare professionals and policymakers. By highlighting these differences, the findings may be used as a basis for informed discussions and policy changes that enhance medication availability, improve resource distribution, and ultimately optimize patient outcomes. Identifying and addressing these challenges could lead to more efficient healthcare delivery and better health outcomes in affected regions.

Keywords: Drug availability, Drug affordability, Drug safety, Health economics

THE QUALITY OF ONLINE INFORMATION ON PSYCHIATRIC DISORDERS

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Background: Psychiatric disorders represent a significant challenge for both patients and their caregivers, and the stigma associated with these conditions can profoundly impact access to information and support. **Objectives:** The main objectives were to evaluate the quality of online information aimed at non-specialists about psychiatric disorders—bipolar disorder, autism, depression, and schizophrenia- in English, using the brief DISCERN (bD) tool. A secondary objective was to check for possible correlations between the bD score and other measures of information quality. **Material and method:** A sample of 100 English-language websites were evaluated, in a cross-sectional, observational study, with 25 websites allocated to each disorder. Compliance with credibility requirements was assessed using a set of 12 widely accepted criteria based on the eEurope 2002 standars. Completeness and accuracy of the information were assessed by cross-checking the website content against diseases-specific evidence-based quality benchmarks developed in collaboration with specialists in the respective field and they were described in previously published papers. Credibility, completeness, and accuracy were expressed as scores ranging from 0 to 10. The bD tool was applied to measure the quality of information about treatment choices as described by its authors. Correlations between scores were tested using Spearman correlation test. **Results:** The overall scores were calculated on the sample of 100 websites. The bD score=14.4 points out of maximum of 30. The bD scores were 14.9 for bipolar disorder, 12.9 for autism, 13.0 for depression, 16.9 for schizophrenia. The overall scores credibility=6.2, accuracy=6.5, completeness=6.8 points out of a maximum of 10 possible. The results of the correlations test showed the following values: credibility vs. bD: rho=0.1078, p=0.0894; completeness vs. bD: rho=0.3324, p=0.0007; accuracy vs. bD score: rho=0.0926, p=0.3593; Google rank vs bD: rho=-0.1752. **Conclusion:** Overall bd, the average credibility, accuracy and completeness scores for the psychiatric disorder websites were moderate, indicating substandard quality of available information. The statistically significant correlations between Google ranks and two quality scores suggest a trend where higher-ranked websites offer more comprehensive and accurate content.

Keywords: bD, online information, psychiatric disorders, depression, autism, bipolar disorder, schizophrenia

POSSIBLE FUTURE THERAPEUTICS FOR LIPEDEMA

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Background: Lipedema is a subcutaneous tissue disease, characterised by an abnormal accumulation of adipose tissue in the lower limbs due to adipocyte hypertrophy. It is almost exclusively a female condition and 10% of all women have been shown to suffer from lipedema. However, many cases get misdiagnosed or dismissed as obesity. It is a challenging disease since conventional weight loss methods are not effective. Lipedema can further progress to affect the lymphatic system, causing lymphedema. Lipedema has been associated with increased collagen accumulation and increased levels of macrophage markers, hence, we could conclude that this disease comes with fibrosis and low grade chronic inflammation. It has also been noted, that lipedema flares up and progresses when combined with hormonal contraceptives and in phases where Estrogen levels are dominant. This poses as a vicious cycle, as fat cells cause excess Estrogen levels themselves. Currently, the medical interventions for lipedema consist of either conventional non invasive therapy or invasive surgical intervention. Conventional therapy only maintains the stage (e.g. manual lymphatic drainage, compression therapy, ketogenic diet (KD) , intermittent fasting (IF)), while surgical intervention (e.g. water-assisted liposuction (WAL)) lowers the stage of the disease. **Objectives:** The aim of this study is to investigate how already existing medication such as:metformin, GLP-1 agonists, testosterone boosting medication/conditions with high testosterone (PCOS), Progesteronizing drugs and adrenocortical suppressants can affect the progression of lipedema. The goal is to provide a multifocal treatment strategy, addressing the low grade inflammation, swelling,insulin resistance and estrogen excess, to provide patients with a holistic treatment plan for enhanced quality of life. Furthermore, this study can explore the impact of a Low cortisol life style and low intensity physical exercise (heart rate zone 2

cardio) on lipedema evolution. Those parameters will be examined by surveying the effect of cortisol lowering medication on the patient's symptoms. **Material and method:** Data from pubMed was used to explore the morphology and pathophysiology of lipedema by using keywords such as "lipedema" "inflammation" "cortisol" "estrogen" "insulin resistance" "metformin" "GLP-1" "anastrozole" among others. A forthcoming survey will be conducted amongst women in the departments of Gynecology, Diabetology and Endocrinology to further asses the impact of pre-existing medications on possible lipedema treatment outcomes. The survey will target patients undergoing treatment with the mentioned medications , patients diagnosed with PCOS or cushing's syndrome and those on hormonal contraceptives to evaluate if their lipedema symptoms have worsened or improved post treatment/diagnosis. **Results:** The hypothesis posed suggests that treatment with metformin, GLP-1 or any of the medications/ conditions mentioned above should result in decreased symptoms and slowed progression of lipedema in affected women. As well as lowering the potential risk of developing insulin resistance and further metabolic disorders. **Conclusion:** If the hypothesis stands right , it is important to note that in the case of progesteronizing or testosterone-boosting drugs, it is crucial to find monitoring methods to ensure that those medications do not aromatize into Estrogen, which could counteract their intended use. This supports further exploration into possible treatments that can alleviate this disease.

Keywords: Lipedema, Low grade chronic inflammation, Metformin, Insulin resistance, Estrogen

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COMPARATIVE INSIGHTS INTO HEART VALVE REGENERATION: STEM CELL-BASED STRATEGIES VERSUS TRADITIONAL METHODS

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Background: Valvular heart disease (VHD) as a common health issue, contributes significantly to illness and mortality by affecting millions worldwide. Mechanical and bioprosthetic heart valves are the current standard treatment options for cardiac valve regeneration, with a lot of advantages. Nonetheless they present well-documented drawbacks, including the risk of thrombosis formation, structural valve deterioration, and the need for repeated interventions. In recent years, stem cell therapy showed great promise in the field of regenerative medicine, offering potential for self-repair, remodeling, and improved biocompatibility compared to currents treatment options. However, challenges regarding their clinical feasibility, their long-term durability, and regarding regulatory approval barriers remain. This study aims to compare stem cell-based bioengineered heart valves with traditional valve replacement methods, assessing their benefits, limitations, and future role in clinical practice based on expert interviews and current literature findings. **Objectives:** This study compares stem cell-based bioengineered heart valves to traditional valve replacement methods, focusing on their potential benefits, challenges, and future role in clinical practice. By gathering insights from expert interviews and through analyzing current research, the goal is to understand whether innovative approaches can improve outcomes for individuals with VHD. Additionally, challenges of clinical translation, regulatory approval, and long-term durability were assessed, providing insights into the necessary advancements required for successful implementation in patient care. **Methods:** A qualitative comparative analysis was conducted, combining expert interviews with an extensive literature review. Different specialists in the fields of cardiac surgery, regenerative medicine, interventional cardiology, and biomaterial engineering were selected based on their contributions to heart valve research and innovation. The study primarily focused on long-term effectiveness and patient quality of life, while secondary factors included complication rates, cost-effectiveness, and ethical considerations. Expert opinions were transcribed, coded, and thematically analyzed to identify key points of agreement and disagreement, which were then compared with existing scientific evidence. **Results:** Findings revealed both optimism and skepticism regarding the future of stem cell-based heart valve regeneration. Experts highlighted the potential advantages of induced pluripotent stem cells and adipose-derived mesenchymal stem cells in developing biocompatible, patient-specific heart valves. However, concerns were raised regarding immune rejection, inefficient differentiation, and the structural durability of these bioengineered valves. While some experts emphasized the potential for reduced reintervention rates and improved patient outcomes—particularly for pediatric cases—others pointed to challenges in standardization, regulatory approval, and large-scale clinical implementation. Cost and accessibility were identified as significant barriers, with traditional prosthetic valves still seen as the more reliable and practical solution at present. **Conclusion:** Although stem cell-based bioengineered heart valves present a promising future direction, they are not yet ready to replace traditional heart valve transplantation methods in routine clinical practice. The hypothesis that these bioengineered valves could outperform mechanical and bioprosthetic

alternatives in the near future was not fully supported, as key challenges remain unresolved. Despite those challenges, continued advancements in stem cell differentiation, biomaterial development, and gene-editing technologies could pave the way for the future clinical application of bioengineered heart valves. This could ultimately improve patient outcomes by addressing the growing need for durable heart valve replacements.

Keywords: Heart Valve Regeneration, Stem Cell Therapy, Tissue Engineering, Comparative Analysis

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SILENT THREATS: ADVERSE DRUG INTERACTIONS FROM UNSUPERVISED OTC MEDICATION USE

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Background: The unsupervised use of over-the-counter (OTC) medications poses a significant risk to patients as a result of easy accessibility, resulting in overlooked adverse effects and progressively leading to severe health complications in combination with prescription medication. While self-medication is a common practice due to its convenience, misuse of OTC medication is becoming a growing public health concern, leading to cases of intoxication. **Objectives:** This review evaluates notable literature sources regarding the prevalence of patients who experience adverse effects while using OTC medications without consulting a physician or pharmacist, the most common interactions, and the adverse effects reported by patients. **Methods:** A state-of-art literature review from PubMed was assessed to analyze the effects of over-the-counter drugs and their interactions with prescribed medications. Keywords such as 'adverse effects,' 'self-medication,' OTC medication,' and 'drug interactions' were used in the search. **Results:** Among the wide variety of over-the-counter medications, non opioid analgesics such as Ibuprofen, acetylsalicylic acid (ASA), and paracetamol are the most used and frequently misused medications by the general population. There have been several incidences of intoxication resulting from inappropriate use and drug - drug interactions. Patients with chronic diseases on prescribed medications are most at risk and require counselling when approaching over-the-counter medication. Some classes of medications may induce interactions and or require dose changes, such as antihistamines, oral decongestants, and gastrointestinal drugs. [3] It was found in a study that about 98% of patients report the use of over-the-counter medications such as NSAIDs and dietary supplements while taking an anticoagulant, apixaban. Of those patients, 20% take dietary supplements such as turmeric and ginger; however, due to a lack of knowledge, they are at an increased risk of bleeding in combination with their anticoagulant medication. **Conclusion:** Discussion: Patients who self-medicate with these readily available medications are at a potential risk due to limited understanding of drug interactions, storage, dosage, the inappropriate choice of treatment, and possible side effects. Despite their availability, OTC medications are not as harmless as consumers believe.Over-the-counter medications, while being readily available to patients, can cause health effects that can be fatal if incorrectly combined with prescribed medication. Research studies from Pubmed underline the prevalent outcome of patients unknowingly causing greater harm to their health due to their limited knowledge of drug-drug interactions.

Keywords: OTC Medication, Adverse Effects, Self - Medication, Drug - Drug Interactions, Unsupervised

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SYNERGISTIC EFFECT OF MTHFR MUTATIONS AND ANTIPHOSPHOLIPID SYNDROME IN A YOUNG PATIENT WITH BRAIN THROMBOSIS

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Background: Thrombophilia results from genetic and autoimmune factors that significantly increase clotting risk. Methylenetetrahydrofolate reductase (MTHFR) gene mutations can lead to hyperhomocysteinemia, while antiphospholipid syndrome (APS) causes autoimmune-mediated thrombosis. Their coexistence significantly elevates the overall risk of thrombotic events, especially in young patients. The interaction between these conditions may further exacerbate clot formation, leading to severe complications requiring early intervention and individualized treatment strategies. **Case presentation:** A 38-year-old woman was admitted to the Neurology Clinic, Emergency Clinical Hospital Târgu Mureș, with brain thrombosis. With no major cardiovascular risk factors (hypertension, diabetes mellitus, hyperlipidemia, obesity, or smoking), a thrombophilia panel was performed at a

private laboratory in Târgu Mureș, revealing a double heterozygous MTHFR mutation (C677T and A1298C) and elevated IgG antiphospholipid antibodies, confirming APS. Patient presents with a tension headache as an associated condition. Additional laboratory findings showed high homocysteine levels, reinforcing the role of genetic predisposition in thrombosis. MRI confirmed cerebral vein involvement, necessitating urgent therapeutic intervention to prevent further complications. **Case particularities:** This case highlights the interplay between genetic and autoimmune thrombophilia as an important risk factor for thrombotic events in young patients. The coexistence of MTHFR mutations and APS suggests a compounded effect, necessitating early detection and targeted management. Given the absence of traditional cardiovascular risk factors, comprehensive thrombophilia screening played a crucial role in establishing the diagnosis and guiding therapy. The patient was started on anticoagulation and homocysteine-lowering therapy to reduce the risk of recurrence. Additionally, long-term follow-up and lifestyle modifications were recommended to optimize treatment efficacy and minimize potential adverse outcomes. **Conclusion:** Early identification of combined thrombophilic disorders allows targeted prevention, reducing the risk of recurrent thrombotic events. Comprehensive thrombophilia screening is crucial for young patients with unexplained thrombosis in combination with a tension headache, especially when genetic and autoimmune risk factors coexist. Timely diagnosis, appropriate therapeutic intervention, and patient education are essential in preventing further complications, ensuring a better prognosis, and improving overall patient outcomes in such cases.

Keywords: Thrombophilia, MTHFR Mutation, Antiphospholipid Syndrome (APS)

NEONATAL CARDIAC MALFORMATION AND GIANT CELL MYOCARDITIS

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Background: Congenital heart diseases (CHDs) are among the most common congenital anomalies. The transposition of the great arteries (TGA) needing early surgical intervention. Additionally, ventricular septal defects (VSDs), atrial septal defects (ASDs) and patent ductus arteriosus (PDA) often coexist, complicating the clinical course. In rare cases, neonates develop a giant cell myocarditis (GCM). **Case presentation:** A 3 week-old male neonate with severe cardiovascular malformations, including TGA, VSD, ASD, PDA, mitral, pulmonary and tricuspid insufficiency underwent arterial switch surgery and VSD closure with a patch. The patient's postoperative course was complicated by signs of neonatal infection of unspecified etiology. Despite intensive medical management, the newborn died shortly after the second surgical intervention at the age of 23 days due to cardio-respiratory failure. Macroscopic examination showed a neonate with no sings of prematurity or trauma weighting 4334g with a length of 53cm. Internal examination revealed an enlarged liver extending beyond the costal margin and collapsed lungs with patchy aeration. A shock kidney pattern indicated a circulatory insufficiency. Microscopic examination of the heart revealed giant cell myocarditis with multinucleated cells (CD68+) and foci of intramyocardial calcification as well as an abundant mixed inflammatory infiltrate with an increased number of T lymphocytes (CD3+). Other findings included bilateral diffuse bronchopneumonia, chronic pulmonary congestion, pulmonary emphysema, hepatic congestion and bilateral cryptorchidism. **Case particularities:** The coexistence of multiple cardiac malformations with idiopathic giant cell myocarditis, potentially caused by an undetermined transplacentar infection, aligns with reported literature. In our case a maternal infection during pregnancy with either Parvovirus B19, Coxsackie virus B2 or Herpes simplex virus 1 or 2 is highly suspected. Additionally, bilateral diffuse bronchopneumonia, chronic pulmonary congestion and pulmonary emphysema contributing to respiratory failure. **Conclusion:** This case is notable because of the complex CHD and the presence of giant cell myocarditis with unclear origin, even though one or more infections are highly suspected. The baby boy's death is a sad reminder of the importance of TORCH screenings and pregnant womens' health.

Keywords: Fetal malformation, Congenital heart disease, Giant cell myocarditis, Pregnant women’s health

SGLT 2 INHIBITOR USE TO REDUCE THE RISK OF DEVELOPING ATRIAL FIBRILLATION IN DIABETIC PATIENTS

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Background: Atrial fibrillation (AF) as one of the most common cardiac arrhythmias presenting with incomplete contraction of the cardiac muscle fibers in the atria. It is often associated with increased atrial pressure, distention of the atrial wall and cardiac fibrotic events secondary to myocardial infarction and other ischemic events. Diabetes mellitus, a prevalent disorder characterized by impaired glucose metabolism, is a significant risk factor for atrial fibrillation through the induction of myocardial fibrosis due to chronic glycemic fluctuations. Sodium Glucose transport receptor inhibiting medications such as Dapagliflozin, given to diabetic patients to help control glycemic fluctuations, seem to have a cardioprotective effect by slowing down cardiac remodeling and fibrosis. **Objectives:** The objective of this review was to assess the existent clinical evidence regarding the beneficial effects of SGLT2 inhibitors in preventing cardiac remodeling and fibrosis, furthermore, contemplating its efficacy as a potential treatment for diabetic patients at risk of developing atrial fibrillation. **Methods:** An extensive State of the art literature search was conducted using the databases PubMed and Google Scholar. Using the keywords atrial fibrillation", "SGLT2 inhibitor as well as "Diabetes mellitus" and restricting the search to publications since 2017, a total of 153 studies were found of which 5 were taken as evidence for the review and 148 were categorized as irrelevant. **Results:** Human clinical studies have evidenced that SGLT2 inhibitors are reducing the risk of developing atrial fibrillation by lowering the levels of low-density lipoprotein molecules which are associated with causing hypertension. Also, SGLT2 inhibitors showed to reduce oxidative stress in cardiac myocytes secondary to hyperglycemia by decreasing the activation of reactive oxygen species, thus preventing cardiac remodeling and fibrosis. This significantly contributes to prevention of fibrotic remodeling processes in cardiac tissue. Additionally, randomized placebo-controlled studies have shown that SGLT2 administration in diabetic patients decreases the incidence of developing atrial fibrillation by 19,33% compared to placebo. Other clinical trials demonstrated that prescribing SGLT 2 inhibitors instead of other glucose lowering medications (ATC10 class) significantly decreased the reporting of AF. **Conclusion:** The administration of SGLT2 inhibiting medications clearly has beneficial effects on prevention of atrial fibrillation in diabetic patients while still exerting its normal effect of controlling glycemic fluctuations leading to less diabetes symptoms as well as decreased remodeling of cardiac tissue. Since the amount of evidence is progressively growing and clinical trials have already been showing positive results, the need to reassess the use of SGLT2 inhibitor as on- or off-label is becoming more and more urgent. Additionally, the impact of SGLT2 inhibitors on the heart raises the question of their potential use in non-diabetic patients at risk for AF.

Keywords: SGLT2 inhibitors, Atrial Fibrillation, Diabetes Mellitus, Cardiac fibrosis

USING BRIEF DISCERN TO MEASURE THE RELIABILITY OF ONLINE GYNECOLOGICAL CANCER RESOURCES

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Background: Gynecological cancers and related treatment decisions significantly impact women's health. Since many women rely on the internet as a main source of information, the reliability and quality of online medical content is a major concern. **Objectives:** This study aimed to assess the reliability of online information about gynecological cancers (ovarian, endometrial, cervical, and breast cancer) using the Brief DISCERN tool. A secondary objective was to analyze correlations between brief DISCERN and other reliability and quality indicators (credibility, completeness, accuracy, and Google rank). **Material and method:** In this cross-sectional, observational study, 100 English-language websites were evaluated, with 25 websites assigned to each cancer type. The quality of treatment-related information was assessed using the six-question Brief DISCERN tool, which

attributes scores between 6 and 30. The studied quality scores took values on a scale from 0 to 10. Spearman and Pearson correlation tests were used to examine relationships between reliability and quality scores. **Results:** The Brief DISCERN scores by cancer type were: ovarian, 14.8 ± 6.7; endometrial, 14.1 ± 3.6; cervical, 14.9 ± 4.7; and breast, 15.3 ± 4.7. The mean scores across all included websites were: Brief DISCERN, 14.8 ± 5.0; credibility, 6.4 ± 2.0; completeness, 6.8 ± 1.8; accuracy, 7.9 ± 2.0. With the exception of accuracy ($r = -0.0069$, $p = 0.9450$), all other studied parameters exhibited statistically significant correlations with the Brief DISCERN score: credibility, $r = 0.3817$, $p < 0.0001$; completeness, $r = 0.4625$, $p < 0.0001$; Google rank, $r = -0.2166$, $p = 0.0304$. **Conclusion:** The Brief DISCERN scores were moderate, with breast cancer information scoring slightly above half the possible maximum. The credibility, completeness, and accuracy of online information were also of moderate quality, with accuracy scoring highest (7.9/10). Information quality as assessed with the Brief DISCERN tool matched the credibility and completeness of the websites. Although the negative correlation between Google rank and the Brief DISCERN score suggests that websites appearing first on the Google results list may contain better information, the weak linear correlation indicates that Google rank is not a reliable predictor of information quality.

Keywords: gynecological cancer, treatment, brief DISCERN, online information quality

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KILLING THE UNDEAD: CAN SENOLYTICS ERADICATE ZOMBIE CELLS AND REVERSE AGING?

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Background: Aging has traditionally been considered an unavoidable consequence of time. However, advancements in cellular biology suggest that aging might be modifiable, even reversible. Central to this theory is the discovery of senescent cells, often referred to as "zombie cells." Normally, when cells can no longer divide, they enter a programmed cell death (apoptosis). Some cells evade this and become senescent—unable to divide but resistant to death. These cells accumulate in tissues over time, secreting harmful inflammatory molecules that accelerate aging and facilitate disease development. This phenomenon is known as the **Senescence-Associated Secretory Phenotype (SASP)** and has been linked to neurodegenerative diseases, cardiovascular disorders, and cancer. Senescent cells release pro-inflammatory factors that disrupt normal tissue function, leading to a hostile environment that contributes to organ dysfunction and accelerated aging. Animal studies have shown that clearing senescent cells can restore tissue function, increase lifespan, and reverse the effects of age-related diseases. Drugs developed to eliminate zombie cells are known as senolytics. Some of these drugs are undergoing early-stage clinical trials for Alzheimer's, osteoarthritis, and fibrosis. However, their full effectiveness and safety remain to be established. **Objectives:** This review explores the impact of senescent cells on aging and disease, focusing on how these cells drive chronic inflammation and tissue degeneration, and evaluating the potential of senolytic therapies. **Methods:** This review analyzes recent preclinical and clinical research found through PubMed and Google Scholar. The focus is on studies from the last 5–10 years concerning cellular senescence, SASP, and the emerging field of senolytics. **Results:** Senescent cells play a central role in the development of multiple chronic diseases. Their SASP secretions alter the microenvironment of tissues, leading to accelerated aging, loss of organ function, and decreased regeneration. Some significant effects include: **Neurodegeneration** : Zombie cells contribute to diseases such as Alzheimer's and Parkinson's, intensifying cognitive decline and neuronal damage. **Cardiovascular Disease** : Senescent cells in blood vessels increase the risk of atherosclerosis and hypertension, leading to heart attacks and strokes. **Metabolic Disorders** : These cells interfere with insulin function, promoting insulin resistance. **Cancer** : Although senescence initially protects against cancer, chronic SASP activity creates an environment conducive to tumor growth, which may lead to malignancies. Recent research on senolytic drugs, such as dasatinib, quercetin, and fisetin, has shown that clearing senescent cells reduces inflammation, promotes tissue repair, and extends lifespan in animal models. Early-stage clinical trials in patients with idiopathic pulmonary fibrosis and osteoarthritis have shown promising results. However, concerns remain regarding safety, efficacy, and side effects in humans. **Conclusion:** Presence of enescent cells in tissues drives chronic inflammation, degeneration, and increases the risk of age-related conditions. Senolytic therapies represent an opportunity to delay age-related diseases and extend lifespan. While early outcomes from animal studies and clinical trials are encouraging, further research is needed to understand the long-term safety and effectiveness of these therapies. Future work should focus on optimizing treatment protocols, exploring combination therapies, and minimizing side effects. If these therapies prove successful, they could transform the way we approach aging and disease.

Keywords: senolytics, senescent cells, aging, zombie cells, senescence

CONVOLUTIONAL NEURAL NETWORKS AND THEIR POTENTIAL USE IN THE IDENTIFICATION OF MILD TRAUMATIC BRAIN INJURIES.

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Background: Convolutional Neural Networks (CNN) are deep learning Algorithms that can interpret data sets, find patterns between different data sets and analyse images. This potential presents many opportunities when thinking about large scale research, and patient care. The long term prediction of complications regarding mild Traumatic Brain injuries (mTBI) is still poorly understood to date. CNN represent a untapped source to improve patient outcome and research into intervening in the pathological process that can result as a consequence of mTBI, such as Parkinson's, Chronic Traumatic Encephalopathies or Alzheimer's. **Objectives:** The purpose of this literature review was to assess if convolutional Neural Networks have a place in the future of diagnosis, prediction of complications and ultimately estimating the prognosis of the patients suffering from mTBI. **Methods:** A search of English, German and Romanian literature was conducted on March 1, 2025, using the academic search engines PubMed and Google scholar. Inclusion criteria comprised articles published between 2020 and 2025, presenting the keywords: "Convolutional Neural Networks", "multiple traumatic brain injury", "amyloid", "complications" and "neuroimaging". **Results:** We discovered that groups used CNNs to either diagnose or offer prognostics in mTBIs. Examining technological breakthroughs, we believe that studies utilizing CNN should be considered when evaluating efficacy in predicting complications and the evolution of mTBI.Firstly, Ladefoged et al. assessed cognitive impairment related to amyloid accumulation, one of the most critical complications of mTBI. Their study analysed over 1300 PET/CT and PET/MRI scans. Two CNN models evaluated 75% of the participants, while the remaining cases served as controls. The CNN demonstrated 99% accuracy in classification and identification, compared to 97% accuracy from human evaluation. To illustrate its efficacy in identifying mTBI-related complications, we highlight the work of Chen et al. and Mandal et al. Who investigated seizure predictability using implantable devices that assessed intracranial EEG readings. They employed "leave one out cross-validation" to evaluate the model, achieving 82% sensitivity. This research concluded in 2021, and considering the significant advancements in CNN and technology since then, the potential for future applications is promising.Mandal et al. trained a CNN with nearly 8 million parameters, achieving 99% accuracy in predicting dementia and its stage. Early Alzheimer's diagnosis could benefit mTBI research by improving clinical trial evaluations and enhancing pathological process understanding, allowing for early intervention and treatment to prevent long-term complications.To provide an unbiased view of CNN usage, our group also evaluated less effective implementations. A critical evaluation of Syed et al. highlights certain limitations, such as a lack of specificity and sensitivity. Their study demonstrates the importance of providing more than 100 datasets to the CNN to ensure supportive data when assessing future cases. **Conclusion:** This literature review highlights the significance of Convolutional Neural Networks in the assessment of risk Factors and weighting the results of Patients that suffered mTBI. Additionally, it's role in future research; integral to take the next essential steps to understand where to intervene in the pathological process. To not only prevent progression but eliminate the building blocks of destructive diseases.

Keywords: Convolutional Neural Networks, multiple traumatic brain injury, Amyloid, Complications, Neuroimaging

PRELIMINARY RESULTS ON THE AGREEMENT BETWEEN A LARGE LANGUAGE MODEL AND HUMAN EXPERT RATINGS IN THE CREDIBILITY ASSESSMENT OF ONLINE HEALTH INFORMATION

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Background: The sheer volume of online health-related information, coupled with varying levels of quality,

accuracy, and credibility has created an environment where misinformation flourishes, often with serious consequences for public health. To address these quandaries, instruments such as the HON Code and eEurope 2002 guidelines have been cultivated to systematically assess the standard, reliability, and credibility of medical websites. More recently, large language models (LLMs) like ChatGPT have emerged as potential tools to aid this process. Nonetheless, their ability in this role remains underexplored. **Objectives:** This exploratory and observational study aimed to assess whether ChatGPT can reliably apply a predefined credibility assessment criteria to a collection of medical websites. The focus is primarily on the extent to which the ChatGPT model 4.o adheres to the structured evaluation process. The main goal was to investigate LLM's potential as scalable aiding tools for ensuring credible medical websites providing online health information. This is of importance due to limitations of manual expert evaluations, such as the volume and rapid expansion of online platforms and user-generated content. **Material and method:** A total of 149 medical websites across six medical topics were analyzed. Evaluated topics included cervical cancer (CC), peripheral artery disease (PAD), endometrial cancer (EC), melanoma (ML), thyroid cancer (TC), and lung cancer (LC). Each website had previously been evaluated by human experts, using a predetermined standardized assessment procedure, including 12 questions concerning the credibility of the medical website (e.g., disclosure of author credentials, presence of bibliographic references, and statements on potential conflicts of interest). ChatGPT model 4.o was then used to independently assess each website according to the 12 credibility criteria. Agreements between AI-generated and human-assigned scores were analyzed across all topics to assess the consistency with which the model followed structured evaluation criteria. **Results:** Across six medical topics and their respective websites, agreement between AI- and human-rated credibility was variable. Agreement percentages ranged from 50.7% (EC) to 68.0% (TC). Gwet's AC1 coefficients measuring inter-rater reliability, indicated fair agreement in CC (0.263), PAD (0.248), and TC (0.182), but low agreement in EC (0.077) and ML (0.106). **Conclusion:** Considering the novelty of the application area, these findings demonstrate both the potential and current limitations of using large language models like ChatGPT 4.o for credibility assessment of online medical information. While inter-rater agreement varied across topics, the results provide an important foundation for future refinement and targeted development, supporting the broader vision of AI-assisted quality control in online health information.

Keywords: Population Health, Artificial Intelligence, Health Information Quality, Credibility Assessment, Online Health Information

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CAFFEINE AND COGNITIVE FUNCTION IN MEDICAL STUDENTS

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Background: Medical students frequently use caffeine as a coping mechanism against their demanding academic responsibilities even though the substance's impact on mental performance remains poorly understood especially when consumed in varying amounts. Research indicates that moderate caffeine intake produces cognitive advantages yet high caffeine consumption produces negative effects which include anxiety and sleep problems so further investigation of this high-consumption group becomes necessary.The caffeine habits of medical students and their relation to cognitive abilities, function and other indirect factors were explored as a whole **Objectives:** Medical students to fully understand the consequences of incorrect caffeine use and possibly encourage better caffeine management.Ultimate goal would be for them to personalize strategies from their own self-assessments in the questionnaire and to increase their awareness. Additionally, the purpose of creation of a database that can serve future epidemiological studies was also an objective **Material and method:** A questionnaire-online-survey for medical students (cross-sectional, observational) .It tracked their caffeine intake and mental performance and cognition alongside external factors including sleep and stress.The online survey collected 100 responses which were analyzed anonymously **Results:** Revealed that 72% of students use caffeine regularly yet 63.9% had better mood and lower stress levels and 65.3% higher alertness and focus.52.8% experienced withdrawal symptoms while 56.9% compensated by raising their caffeine consumption.Many students complained of poor sleep with disturbances because 54.2% experienced poor sleep quality and therefore negative impacts on their academic work the following day after this high-dose caffeine.Consumption of high-dose caffeine also led to jitteriness and anxiety in 48.6% .Actual consumption was greater than 400 mg/ day (upper limit) for 19% of students who provided input for their serving amounts via chart-filling in the questionnaire.A significant number of 23% of participants reported consuming more caffeine than they thought they did which showed their lack of understanding about their caffeine use.The study found that 44.4% of students felt social and academic pressure to use caffeine while 73.6%

increased their caffeine consumption after beginning medical school.The student population consisted of 63.9% who limited their caffeine use on specific days while 29.2% experienced decreased academic performance when they stopped consuming caffeine.44.4% confessed promoting caffeine to classmates for better academic results **Conclusion:** General and broad usage of caffeine as a cognitive enhancer is unfortunately followed by dependency risks and withdrawal symptoms as well as anxiety and sleep disruption as its main drawbacks.Results gathered demonstrate the need to maximize caffeine intake for cognitive and academic performance but also to lower any and possibly all negative consequences.If inappropriately consumed, reduced cognitive function thus poorer academic performance, can be the ultimate consequence.The promotion of correct caffeine use supports both academic achievement and enduring wellness

Keywords: caffeine, cognitive function, academic performance, health, students

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CONNEXIN INHIBITION AS A NOVEL AUGMENTING THERAPY IN ALZHEIMER'S DISEASE

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Background: Cell coupling via connexin gap junction proteins plays an essential role in neuronal functioning by acting as a bridge, facilitating cell-cell communication, paracrine/autocrine signaling as well as intracellular pathway activation between neurons, neuronal progenitor cells, and glial cells. The connexin subtypes 43 (Cx43) and 30 (Cx30) have garnered attention in recent literature due to their upregulation in pathological conditions, such as Alzheimer's disease (AD). With Alzheimer's being the 6 th leading cause of death in America, there is a significant need for new treatment options. Recent research suggests that THN102, a novel pharmaceutical drug combination of donepezil and mefloquine, which has connexin inhibiting properties, may represent an effective augmenting AD treatment in humans. **Objectives:** This state of the art review aims to evaluate the current clinical and preclinical evidence on Cx43 and Cx30 inhibition as a potential adjunctive therapy for AD. **Methods:** A comprehensive literature search was conducted through PubMed and clinicaltrials.gov encompassing the last 25 years of published research, using the keywords "astroglial connexin inhibition" and "THN201". The resulting search query yielded 287 results of which 16 papers were selected for further analysis, while 272 articles were classified as having insignificant relevance for this review. **Results:** In a familial AD mouse model (APPSwe/PS1dE9), amyloid-beta (Aβ) was found to activate connexin hemichannels in hippocampal slices, promoting gliotransmitter release, such as ATP and glutamate, which facilitate neurotoxicity. Genetic knockout of Cx43 and connexin blockade with INI-0602 mitigated gliotransmitter release and neuronal damage. Additionally, in a different mouse model inducing cognitive impairment using scopolamine and Aβ25−35 peptide injections, the repurposed connexin inhibitor mefloquine, which is clinicaly used to treat malaria, exhibited synergistic effects with donepezil, leading to the development of the drug combination THN201. A first-in-healthy-human investigation of THN201 demonstrated superior efficacy over donepezil alone, improving memory speed and enhancing cortical gamma EEG frequencies, with a comparable side effect profile to donepezil. **Conclusion:** Connexin inhibition represents a promising strategy to augment existing AD therapies without increasing common adverse effects. The current evidence base suggests that larger clinical trials are warranted to fully assess the true scope of its therapeutic potential in AD and it's long term risk of adverse effects.

Keywords: THN102, Connexin Inhibition, Alzheimer Disease, Donepezil, Mefloquine

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EVIDENCE AND CLINICAL PERSPECTIVE OF THE CLOSURE OF PATENT FORAMEN OVALE (PFO) IN PATIENTS PRESENTING MIGRAINES WITH AURA

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Background: The foramen ovale is an essential anatomical opening located in the septa between the two atria of the heart. After birth, normally, this hole is forced to close as pulmonary circulation of the newborn is established and the pressures within the atria change. In 10-30% of the population, this foramen never closes and can lead to pathologies like: migraines with aura, transient ischemic attacks, cryptogenic strokes, and high-altitude pulmonary edema, among others (Mayo Clinic, 2022). The etiological factors behind the persistence of the opening remain

unclear, but there are a number of surgical procedures that have been developed to close it. The most common one is the percutaneous closure with an occluding device. Failing to do so may lead to clinical manifestations, most frequently migraines with aura, which occur in 40-90% of PFO cases. (Tang et al., 2024). Symptoms of migraines include intense and painful headaches often accompanied by nausea, vomiting and hypersensitivity to light and noises. Migraines might be preceded by various sensations like visual disturbances, flashes of light and facial paresthesia; this phenomenon is called aura (Mayo Clinic, 2023). The etiology of migraines could be explained by the activation of the brainstem and diencephalic nuclei, followed by the trigeminal vascular system. This system is triggered by vasoactive peptides, secreted among others by platelets, and leads to a cortical depression and vasoconstriction (aura) and subsequently, a reactive vasodilation (migraine). These vasoactive substances are normally filtered by the pulmonary circulation. Failing to accomplish this, like in PFO, causes these substances to reach the brain vessels (Dong et al., 2025). **Objectives:** To analyze the relationship between Patent Foramen Ovale and migraines with aura and understand why closing the foramen might be beneficial. **Methods:** A comprehensive search in PubMed, PMC, Mayo Clinic and ScienceDirect databases was conducted using the keywords: "PFO," "PFO closure," "migraines with aura," and "trials." **Results:** The existence of a PFO is not the only mechanism causing migraines, but brain hypersensitivity has also been shown to influence it. (Dalla Volta et al., 2005). There are several studies, like PRIMA (Mattle et al., 2016) and PREMIUM (Tobis et al., 2017), which analyze the effectiveness and who will benefit from this closure. Even though the results of the trials did not meet half of the endpoints due to lack of specificity in the target group, their conclusion led to more precise and detailed studies, like RELIEF. This study highlights the importance of platelet inhibitors alongside the occluding device, reaffirming the connection between platelet-derived peptides and migraines (Ahmed and Sommer, 2021). **Conclusion:** There is a common consensus that closing the PFO is beneficial, but this topic needs further research. Establishing a clear target group and investigating the pathophysiological mechanism deeply could allow this procedure to become the gold standard therapy.

Keywords: PFO (Patent foramen ovale), migraines with aura, PFO closure, trials

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EVALUATING AI CHATBOTS ON CERVICAL CANCER PATIENT EDUCATION: A CROSS-LANGUAGE COMPARATIVE ASSESSMENT

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Background: As the 4th most common cancer globally, cervical cancer caused around 350,000 deaths in 2022. This frequency and mortality rate are partly attributable to a knowledge gap. Until recently, individuals increasingly relied on Google searches to address this gap, but the landscape is shifting towards a more condensed and accessible source of information - AI Chatbots. These have become potentially significant contributors to patient education, highlighting a critical need to ensure accuracy and reliability of the information provided. **Objectives:** This study quantitatively and qualitatively evaluated the accuracy of answers provided by AI Chatbots when asked patient questions centered on cervical cancer. Additionally, it compared Chatbots' performance in different languages. **Material and method:** Questions on cervical cancer signs, investigations, diagnosis, and treatment were extracted from hospital websites with patient FAQs and public forums. The chosen chatbots (ChatGPT English & German; Gemini; DeepSeek; Co-pilot; Claude) were evaluated against a detailed benchmark. A quantitative assessment was conducted by scoring answers based on accuracy using a scale of 0-2, the sum of which was normalised on a scale of 1-10. To enable statistical comparison, the Kruskal–Wallis test was used to compare all chatbots in a single language, while the Mann–Whitney U test was applied to compare the performance of a standard chatbot (ChatGPT) across two languages (English and German). Qualitative assessment was investigated through the Flesch Kincaid Reading Ease (FRE) and a corresponding grade level (FRG). **Results:** The results were : ChatGPT = 7.3 ± 0.57; Gemini = 7.5 ± 0.51; DeepSeek = 7.2 ± 0.5; CoPilot = 7.7 ± 0.51; Claude = 7.5 ± 0.63, with a standard deviation of 0.19 among the normalized scores. The Kruskal-Wallis test statistic of 0.77 and P-value of 0.95 indicated no statistically significant difference in performances. The normalised scores of ChatGPT English and German were reported as 7.3 ± 0.57 and 7.5 ± 0.57 respectively, with an SD of 0.12 between their normalised scores. The Mann-Whitney U test yielded a statistically insignificant result (P = 0.83, U = 435.5). The readability scores of the Chatbots were: ChatGPT = 43.5; Gemini = 32.3; DeepSeek = 42.6; Co-Pilot = 48.4; and Claude = 40.8. Co-Pilot's high FRE score corresponded to a high school readability level (FRG), while ChatGPT German was rated 30 (Fleschindex), corresponding to a university-graduate level. Findings revealed that the following percentages of answers included medical advice disclaimers: ChatGPT (English and

German) = 37%, Gemini = 70%, DeepSeek = 67%, Co-Pilot = 63%, and Claude = 53%, with an average of 58% across chatbots. **Conclusion:** Although Co-Pilot and ChatGPT German each achieved the highest scores in their respective comparative assessments, this study corroborated minimal differences in accuracy across the chatbots. The study highlighted variability in readability, with Co-Pilot attaining the highest FRE score. The attempt to ensure safety of provided information can be evidenced by an average of 54% answers including a medical advice disclaimer across Chatbots, with Gemini leading. Based on the findings, this study underscores the need for safe and reliable information across chatbots in Cervical Cancer patient education.

Keywords: Artificial Intelligence Chatbots, Patient Education, Cervical Cancer Education, Medical Accuracy, Cross Language Comparison

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HASHIMOTO THYROIDITIS IN PRIMARY THYROID NON-HODGKIN B-CELL LYMPHOMA

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Background: Hashimoto thyroiditis (HT) is an autoimmune disorder that is defined by the chronic inflammation of the thyroid gland that Is responsible for a life-altering disorder known as hypothyroidism. It is linked with higher levels of thyroid autoantibodies, particularly anti-thyroid peroxidase (anti-TPO) antibodies.Primary thyroid non-Hodgkin B-cell lymphoma is an uncommon neoplasm, which can arise in patients with Hashimoto thyroiditis. Epidemiological investigations have demonstrated a higher incidence rate of PTNHL among patients with HT, in particular the diffuse large B-cell lymphoma subtype. The exact mechanisms behind the association of HT-PTNHL remain unclear, but chronic inflammation and immune dysregulation are considered to play major roles. **Objectives:** The objective of this case is to evaluate the association between Hashimoto thyroiditis and the development of primary thyroid B- cell non- Hodgkin lymphoma. I want also to show the risk factors and complications with this Abstract. **Methods:** The methods are including previous studies from different researchers and it will show the prevalence of HT and its association with histotypes (MALT). **Results:** The study mentioned described the frequency of Hashimoto's thyroiditis (HT) in patients with primary thyroid lymphoma (PTL), in particular non-Hodgkin B-cell lymphomas. Key findings are Hashimoto's thyroiditis in this scenario:Overall HT Prevalence: The overall prevalence of HT in 1,346 patients in 38 studies of PTL was 78.8%. This shows that a notable percentage of patients exhibited PTL while also being challenged with HT.Diagnostic Criteria for HT:Antithyroid Antibodies: positive in 70.53% patients.Clinical history: HT was present in 41.7% of the patients. Histopathologic Evidence Histopathologic examination for HT was documented in 64% of the cases.Subgroup Analysis:Prevalence of HT in studies published after 2010 was greater (82.8%) than studies before that year (71%).The prevalence of positive antithyroid antibody was lower in the studies published after 2010 (62.7%) than that of the studies published earlier than 2010 (67.9%).Clinical history of HT was more predominant in the studies before 2010 (51.1%) compared to the studies published after 2010 (30.9%).Histologic confirmation of HT was higher in studies published in the post-2010 era (73.1%) than in earlier studies (60.2%).HT Prevalence by Histotype:HT was present more frequently in patients with MALT- compared to DLBCL (OR=2.175).Plural histopathological subtypes revealed a significantly increased prevalence of HT in DLBCL cases with MALT-type components (OR of 9.11) as opposed to pure DLBCL cases.Statistical considerations: There was considerable statistical heterogeneity among the studies included in the current study, especially regarding the overall prevalence of HT and various diagnostic criteria of the disease.In conclusion, findings concerning this cohort indicate a significant association of HT with a diagnosis of PTL, emphasizing a potential association between HT and especially MALT lymphoma. **Conclusion:** This study confirms a strong link between Hashimoto's thyroiditis (HT) and primary thyroid lymphoma (PTL), particularly MALT lymphoma. The high prevalence of HT (78.8%) in PTL patients underscores its potential role in lymphoma development, with variations in diagnostic criteria over time. Despite some statistical heterogeneity, these findings highlight HT as a significant factor in PTL, especially in MALT cases.

Keywords: MALT-Lymphoma, anti-TPO, lymphatic infiltration, Malignancy

IMPLICATION OF BUTYRATE PRODUCED BY FAECALIBACTERIUM IN PATHOLOGIES - A SYSTEMATIC REVIEW

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Background: The human gut microbiota consists of microorganisms that colonize specific locations in the digestive tract. Among these, *Faecalibacterium prausnitzii* plays a key role as an anaerobic bacterium found in significant quantities in the gut microbiota. It generates anti-inflammatory molecules and short-chain fatty acids (SCFAs), such as butyrate. **Objectives:** This review aims to explore the role of *Faecalibacterium* -derived butyrate in the development and progression of pathologies. **Methods:** A systematic literature search was conducted on PubMed using the keywords "Butyrate", " *Faecalibacterium* " and "Effects". The search was limited to original research published in English within the last ten years, emphasizing human studies that described the pathophysiological mechanism of *Faecalibacterium* and butyrate. Studies were excluded if they did not directly explore *Faecalibacterium* or butyrate, were non-original research, or relied on animal models. Articles were then screened in three steps: title screening, abstract screening, and full-text screening, by two investigators. Data was extracted using Excel. **Results:** After the PubMed search, 22 articles were retrieved. However, after title screening, 10 articles were selected, and 3 were included after abstract screening. After the full-text review, only one article met all criteria. The article provides evidence of an inverse correlation between changes in triglycerides, total cholesterol, low-density lipoprotein, and *F. prausnitzii* , suggesting an involvement of this bacterium in the link between inflammation and hyperlipidemia. Consequently, lower concentrations of butyrate are also associated with hyperlipidemia. This SCFA is sensed by receptors on multiple cell populations throughout the body, resulting in the regulation of energy metabolism, insulin sensitivity, and immune responses, which further clarifies the connection between lipid metabolism and *F. prausnitzii* . Similarly, a decrease in intestinal butyrate levels was observed in type 2 diabetes; a hyperlipidemic-associated disease. **Conclusion:** This research confirms a connection between *Faecalibacterium* and the studied condition. However, more accurate and representative research is needed to validate these conclusions. The fact that only one study met the criteria shows the scarcity of information on this topic. Expanding our knowledge is critical since it could lead to breakthroughs in therapeutic approaches.

Keywords: Butyrate, Faecalibacterium, Effects

MIND OVER MATTER: MENTAL AND PHYSICAL HEALTH ANALYSIS IN HIGHER EDUCATION

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Background: Physical and mental well-being plays a crucial role in academic success and overall quality of life. This study examined how university students and faculty members at the University of Medicine, Pharmacy, Science, and Technology Emil Palade, Târgu Mureș (UMFST-UMCH) assessed their own health, using the international standardized SF-12 Health Survey. **Objectives:** By analyzing the Physical Component Score (PCS) and Mental Component Score (MCS), this research aims to explore how academic staff members and body mass index (BMI) influence health perceptions. Additionally, it investigates the impact of emotional vulnerability on mental well-being. **Material and method:** A cross-sectional survey was conducted among 80 participants, including students and teachers from UMFST-UMCH. The SF-12 questionnaire was used alongside biometric data collection (age, gender, height, weight, and BMI). Health scores were calculated on a 0–100 scale, and statistical analyses was performed using Microsoft Excel and Python (Pandas, SciPy, Seaborn). Statistical significance was defined as a p-value of less than 0.05, with a 95% confidence interval. Participation was voluntary, and confidentiality was strictly maintained to ensure data privacy. **Results:** From the total number of responses, 86.3% (69) were students and 13.8% (11) teachers. Among them 61.3% (49) were female and 38.8% (31) were male. The average age of participants was 24.3 years, with a standard deviation of 7.1 years. Body weight ranged between 42 and 115 kg, with a mean of 71.2 kg. Height ranged from 151 cm to 193 cm, and the average BMI was

24.2. When asked to self-assess their overall health, the majority of respondents (over 90%) rated it as Good, Very Good, or Excellent, indicating a generally healthy population, aligning with the average BMI of 24.2, which is within the normal range.Emotional vulnerability strongly correlated with lower MCS scores, as participants experiencing high emotional distress reported significantly lower mental health scores (34.42) compared to those with lower distress (59.00) ($t = -8.31$, $p < 0.001$).No significant differences were found in PCS between students (79.53) and teachers (85.77) ($t = -1.01$, $p = 0.33$), nor in MCS between students (52.01) and teachers (61.18) ($t = -1.21$, $p = 0.25$). **Conclusion:** While overall physical and mental health perceptions were similar between students and faculty members, emotional well-being varied significantly. Students experiencing higher emotional distress exhibited lower mental health scores, emphasizing the need for targeted support programs.The study highlights university's continuous efforts to enhance the health and well-being of academic staff, and to further improve health outcomes, it suggests implementing additional initiatives aimed at strengthening emotional resilience and building stronger social connections among students and teachers.Additionally, the study highlights the value of the SF-12 tool in monitoring health trends in academic settings, reinforcing its effectiveness in tracking and promoting the well-being of university communities over time.

Keywords: Mental and Physical Health, SF-12, Emotional Resilience, Academic Staff, Well - Being

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DANGEROUS MIXES - A RETROSPECTIVE PHARMACOLOGICAL COHORT STUDY OF POLYDRUG ABUSE IN CELEBRITY DEATHS

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Background: Polydrug abuse, the consumption of multiple substances, is prevalent among celebrities and accounts for most fatalities. This demographic shows stronger psychological vulnerability to such behaviors, with combinations like "speedball" a mix of cocaine, a stimulant, and heroin, a depressant, highlighting the severe levels of use. **Objectives:** This study assesses the demographic profiles of celebrities who have succumbed to polydrug abuse, analyzes trends from 1950 to 2023, and explores potential drug-drug interactions and their effects on the central nervous system (CNS). **Methods:** We conducted a retrospective cohort study using data from Wikipedia's "List of deaths from drug overdose and intoxication". We conducted a pioneering analysis of the assembled data. We extracted information on age, gender, substances that were involved, and year of death. The analysis excluded non-celebrities, cases of single substance abuse, and unclear reports. We also investigated drug-drug interactions and their impact on serotonin, dopamine, and cortisol pathways in the CNS. **Results:** Of a pool of 553 deaths due to drug overdose, 137 met our criteria and were analyzed. The mean age at death was 38.56 years, with 72% being male. The years 2000 until 2019 were observed with a statistically significant higher death rate. Musicians (33%), actors (22%), and athletes (19%) were the most affected groups of celebrities. Predominantly used substances included semi-synthetic opioids (43.8%), alcohol (38.7%), and cocaine (31.4%). The most common drug combinations were semi-synthetic opioids with cocaine (17.5%), benzodiazepines (13.9%), and alcohol (11.7%), followed by benzodiazepines with alcohol (9.5%). The 3-group drug combination of opioids, benzodiazepines, and cocaine was the most prevalent (4%). **Conclusion:** This study provides the demographic particularities and data showing the consumed drug combinations and their effects on celebrities, with particular emphasis on opioid misuse. Hereby, we concluded that musicians of every type were most susceptible to polydrug abuse and that "Speedball" was popular among most celebrities.

Keywords: Polydrug Abuse, Celebrities, Speedball

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