



**DAYS UMFST 2022**  
DECEMBER 5 - 9



# BOOK OF ABSTRACTS<sup>5/2022</sup>

GEORGE EMIL PALADE UNIVERSITY OF MEDICINE, PHARMACY, SCIENCE, AND TECHNOLOGY OF TARGU MURES  
UNIVERSITY DAYS  
DECEMBER 5 - 9, 2022, TARGU MURES

**SCIENTIFIC SESSION OF  
UNIVERSITY ACADEMIC STAFF**

**INTERNATIONAL CONFERENCE OF  
PHD STUDENTS AND YOUNG DOCTORS**



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

[www.zilele.umfst.ro](http://www.zilele.umfst.ro)



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**No. 5/2022**

**George Emil Palade University of Medicine, Pharmacy, Science, and Technology of Targu Mures**  
**University Days**  
**December 5 - 9, 2022, Targu Mures**

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



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## **Scientific Session of University Academic Staff Medicine and Pharmacy**

George Emil Palade University of Medicine,  
Pharmacy, Science, and Technology of Targu Mures  
University Days  
December 5 - 9, 2022, Targu Mures, Romania





## Scientific Session of University Academic Staff

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## **MEDICINE AND PHARMACY**

# ANESTHESIOLOGY AND INTENSIVE CARE MEDICINE

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## CORE BODY TEMPERATURE MONITORING IN PATIENTS UNDER GENERAL ANESTHESIA

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**Background:** Perioperative hypothermia represents a common occurrence of general anesthesia due to impairment of thermoregulatory control and body heat redistribution from core-to-peripheral site. The aim of core body temperature measurement during anesthesia is to maintain normal body temperature and to identify thermal disturbances. **Material and methods:** Core body temperature was monitored at the level of distal esophagus in 51 patients undergoing general anesthesia. The measurements were performed following intubation and prior to extubation. Differences in temperature were assessed using the Paired t test. The temperature drop was correlated with mean arterial pressure, heart rate, duration and emergence from anesthesia, tidal volume, fluid therapy and postoperative shivering using Pearson and Spearman tests. **Results:** Patients had significantly lower core temperature prior to extubation ( $p < 0.0001$ ). Analysis revealed negative significant correlation between the duration of anesthesia and temperature drop ( $p = 0.0005$ ,  $r = -0.47$ ). The volume of intravenous fluid therapy was negatively correlated with the drop in body temperature ( $p = 0.0001$ ,  $r = -0.55$ ). Postoperative shivering was observed in 18 cases, these patients showing lower temperature levels compared to those without shivering ( $p < 0.0001$ ). No significant correlation between the temperature drop and mean arterial pressure, heart rate, emergence from anesthesia and tidal volume was noticed. **Conclusions:** Fluid administration and anesthesia duration have a negative effect on core body temperature. Postoperative shivering occurs in patients with lower temperature. On extubation patients had lower body temperature.

**Keywords:** core body temperature, general anesthesia, fluid therapy

## BIOCHEMISTRY

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### THE LIPID PROFILE IN TYPE 2 DIABETIC PATIENTS AND ITS RELATIONSHIP WITH CARDIOVASCULAR RISK FACTORS

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**Background:** Lifestyle-related factors and biochemical parameters, including the lipid profile, represent an important aspect of cardiovascular risk evaluation in population-level diseases such as diabetes mellitus. **Material and methods:** The aim of the study was to evaluate the relationship between lipid profile and cardiovascular risk evaluation in type 2 diabetic patients. Registered data of patients with this diagnostic admitted during the first 10 months of 2022 to the Department of Diabetology of the Emergency Clinical County Hospital in Tîrgu Mureş were collected and statistically processed by GraphPad InStat3 software. **Results:** 205 type 2 diabetic subjects were hospitalized in this clinical section during the mentioned period (the total number of cases being 355), 191 subjects had also hypertension, 80% had overweight or obesity and 43% were active smokers. The mean age of the studied patients was  $66.08 \pm 11.41$  (SD) years, 48% of them being males. Average value of total cholesterol was  $175.22 \pm 57.46$  (SD) mg/dl, 29% of the patients presented values exceeding 200 mg/dl. Mean serum triglyceride concentration was  $213.03 \pm 174.30$  mg/dl (SD), 54% of the patients presented values over 150 mg/dl. HDL- and LDL-cholesterol were not determined for the hospitalized diabetic patients during the study period. 71% of our patients had pathological values of at least one lipid parameter during the study period. **Conclusions:** Lipid profile measurement is an important aspect of cardiovascular risk evaluation, the lack of HDL- and LDL-cholesterol measurements during hospitalization leads to difficulties regarding this aspect. Lifestyle changes (such as smoking cessation) could decrease the risk for cardiovascular complications in tobacco consuming diabetic patients, which represent about half of the studied subjects, and physical exercise could reduce the body mass index of the patients with overweight/obesity. **Acknowledgement:** This work was supported by the University of Medicine, Pharmacy, Science and Technology "George Emil Palade" of Targu Mures, Research Grant number 294/6/14.01.2020.

**Keywords:** cardiovascular risk, diabetes mellitus, lifestyle-related factors, lipid profile, obesity

### THE IMPORTANCE OF GLYCATED HEMOGLOBIN IN MONITORING OF DIABETES CONTROL

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**Background:** Glycated hemoglobin (HbA1c) is an essential laboratory parameter used for monitoring of carbohydrate metabolic balance in patients having diabetes mellitus. It is an important tool from the point of view of therapeutic decision in these patients. **Material and methods:** The aim of the study was to overview values of HbA1c and glycemia in type 2 diabetic patients admitted between 01.01.2022-31.10.2022 to the Department of Diabetology of the Emergency Clinical County Hospital in Tîrgu Mureş. The database of the hospital was used for data collection for this retrospective, cross-sectional study. Demographic, clinical and laboratory data were collected and statistically processed by GraphPad InStat3. **Results:** Type 2 diabetic patients represented 58% of the total number of cases during the mentioned period. The number of female subjects was 107, having a mean age of  $68.83 \pm 10.48$  (SD) years, significantly older than the 98 male subjects, their average age being  $63.10 \pm 11.68$  (SD) years ( $p=0.0003$ ). The mean value of HbA1c was  $9.01 \pm 2.42$  (SD) %, 23% of the patients had values under 7%, 29% between 7-9%, 34% between 9-12% and 14% exceeding 12%. Significantly higher ( $p<0.0001$ ) average fasting serum glucose values were measured when admitting

the patients to the hospital ( $254.88 \pm 104.28$  mg/dl) compared to those obtained at the end of hospitalization ( $129.33 \pm 42.17$  mg/dl), and the first glycemias correlated with the measured HbA1c values ( $r=0.6484$ ,  $p<0.0001$ ). **Conclusions:** A large number of type 2 diabetic subjects are admitted to the hospital in poor metabolic balance, which can lead to severe complications. Hospitalized type 2 diabetic males were significantly younger compared to the studied female subjects. Less than one quarter of the studied cases presented optimal HbA1c values, carbohydrate metabolic balance significantly improved during hospitalization. Acknowledgement: This work was supported by the University of Medicine, Pharmacy, Science and Technology "George Emil Palade" of Targu Mures, Research Grant number 294/6/14.01.2020.

**Keywords:** diabetes mellitus, glycated hemoglobin, glycemia, carbohydrate metabolic balance, monitoring

# CLINICAL PSYCHOLOGY

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## MULTIMODAL AND INTEGRATIVE CBT AUGMENTED WITH VIRTUAL REALITY (IMCBT-VR) COMPARED TO COGNITIVE-BEHAVIORAL THERAPY (CBT) FOR MEDICAL STUDENTS WITH PSYCHONEUROTIC ANXIETY

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**Background:** Psychoneurotic anxiety, known in the manuals of psychiatric diagnoses as Generalized Anxiety Disorder (GAD), is common among medical students, due to multiple tasks, academic demands, and high distress levels associated with increased exams difficulty (Erschens et al., 2016). From the perspective of psychological treatment efficiency, Cognitive-Behavioral Therapy (CBT) is the golden standard for approaching anxiety disorders. There are multiple CBT orientations, nowadays CBT enhanced with Virtual Reality representing one of the newest and most preferred evidence-based treatments with well-established efficacy for psychoneurotic anxiety (GAD). **Material and methods:** Based on the existing scientific literature, we will present a comparison between a classical CBT intervention and a Multimodal and Integrative CBT protocol augmented with Virtual Reality (IMCBT-VR) for the reduction of psychoneurotic anxiety (GAD) symptoms in medical undergraduates. **Results:** The classical CBT is highly effective for medical students with GAD symptoms. **Conclusions:** Considering that the CBT protocol indicated a clinically relevant impact on reducing the tendency to experience worries, it is recommended that intervention continues to be the first-line psychological treatment for medical students with GAD. Moreover, IMCBT-VR psychological interventions are promising and associated with beneficial outcomes (Wu et al., 2021). The possibility to adjust psychological interventions for academic contexts can be an important advantage regarding VR applications, considering common time constraints due to busy schedules. Future research could determine if VR-based approaches are particularly useful for enhancing the outcomes of some techniques like exposure and relaxation, in specific disorders, or with certain populations (e.g., medical students).

**Keywords:** psychoneurotic anxiety, Cognitive-Behavioral Therapy, Virtual Reality, medical students, Generalized Anxiety Disorder

## DENTAL MEDICINE

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### BURNOUT SYNDROME IN DENTISTRY

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**Background:** The world health organisation recognizes burnout as a syndrome that affects the circulatory system, the endocrine system, as well as the nervous system. The burnout rate is above average among dental professionals. **Material and methods:** The assessment of psychological, physical and emotional overload which are a direct result of accumulated stress factors with origin in different sources. Burnout is linked with having a multitude of responsibilities, in medical activity, with each patient, working under a lot of pressure, being in a people facing environment, being aware of the lasting impact of any possible mistake and error and also being in a competitive nature of the practice. **Results:** As a result, professional performance and efficiency are affected directly and are impacting patient care and also its wellbeing. The difficulty of tasks, as well as the working and relational environments can directly influence stress levels among practitioners, this being further amplified by personal matters. **Conclusions:** Individual lifestyle choices and personality traits can also contribute towards professional exhaustion. Various behavioral and cognitive techniques can be used to reduce the negative impact of stress, consequently contributing to reducing the development of professional burnout syndrome.

**Keywords:** burnout, dentistry, stress

### DENTAL TREATMENTS AT HOME: A DANGEROUS SELFIE

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**Background:** Through this paper we want to bring into attention the protocols of various dental treatments or procedures applied/performed by patients at home, according to the indications in the leaflets. **Material and methods:** Review of some dental therapeutic procedures and attitudes, the time of application, the absence of medical indications, the shortcut in the correct therapeutic steps and the evaluation of the pathological effects in the case of at-home tooth bleaching and mouthguards of athletes. **Results:** The main adverse manifestations and the dangerous and irreversible effect, including the long term one of these dental selfies, depending on the self-recommended treatment, may themselves constitute precursor or aggravating medical conditions of the existing ones. Dental medical consultation, indications, establish a correct protocol, and a proper management can be the only method to prevent the adverse effects and complications of these "self-medical" methods. In the case of home teeth bleaching, too high concentrations of preparations are chosen, therefore the action time is usually prolonged and uncontrolled and thus the harmful effect on the gums and enamel will be a long-term one and it may be irreversible. In the case of athletes' protective mouthguards, some rudimentary rules for making them are possibly observed, which leads to them not performing their role even in the short term. The iconographic material is the basis for formulating the conclusions. **Conclusions:** The dental consultation, clear indications, compliance with the protocol represent the "main terminals" in prophylaxis and combating self-treatments. The effect of dental treatments or protocols performed at home can be extremely serious and dangerous, the effects ranging from those of aesthetic order to those severe, irreversible ones.

**Keywords:** home-bleaching, mouthguards, self-treatments, effects



## NECROTIZING FASCEITIS A CHALLENGE IN CASE OF YOUNG PATIENTS-CASE PRESENTATION

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**Background:** Cervical necrotizing fasciitis is a very rare complication of a bacterial infection which can have a dental cause. This infection can affect soft tissue and cervical fascia with extension in the mediastinum. Incidence in children is extremely rare, and can be associated frequently with other various general pathologies that decrease the immune response. **Material and methods:** We present a case of a young boy, 11 years old with this type of infection of the head and neck as a complication of a second inferior molar pericoronitis. **Results:** Quick evolution and extremely rare incidence in children makes present difficulties in diagnosis and require aggressive surgical treatment and complex multidisciplinary involvement. **Conclusions:** After this kind of infection and long time of hospitalization and intubation the young patients need a lot of care for the treatment of motor and mental sequelae. This work was supported by the University of Medicine Pharmacy, Science, and Technology "George Emil Palade" of Târgu Mureş Research Grant nr.510/4/17.01.2022

**Keywords:** pericoronitis, fasciitis, multidisciplinary

## REABILITAREA ORALĂ COMPLEXĂ A PACIENȚILOR CU BRUXISM

Dan Patroi<sup>1</sup>

<sup>1</sup>Oral Rehabilitation, Titu Maiorescu BUcuresti

**Background:** O conferință o e e e e e e **Material and methods:** O conferință o e e e e e e **Results:** O conferință o e e e e e e **Conclusions:** Restaurările integral ceramice, cimentate adesea la structurile dure dentare reprezintă de mai bine de 10 ani de zile soluția cea mai bună din punct de vedere estetic, biologic și biomecanic de a restaura diferite defecte ale dinților naturali. Fie că vorbim de fracturi dentare, modificări de formă sau de bruxism, coroanele sau fațetele integral ceramice sunt cea mai bună soluție de a reda pacientului aspectul dinților naturali, respectând întotdeauna aceiași pași simpli, ușor de învățat și de realizat.

**Keywords:** DVO, arc facial, bruxism, articulator, fatter

## RESEARCH AND CAREER DEVELOPMENT THROUGH INTERDISCIPLINARY STUDY OF UNIVERSITY ACADEMIC STAFF

Kinga Dörner<sup>1</sup>, Bernadette Kerekes-Máthé<sup>2</sup>, Andreea Borș<sup>2</sup>, Cristina Molnar-Varlam<sup>2</sup>, Melinda Székely<sup>2</sup>

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**Background:** The success in university academic career is based on research activities performed and published in highly recognized scientific journals. The aim of the present study is to provide a review of our interdisciplinary research in the domain of emergency dental care conducted in the past decade. **Material and methods:** The ten-year study was based on the analysis of patient's dental records. Included in this study were all dental records of patients attending for emergency care in the dental office of Mureş County Emergency Hospital in Târgu Mureş. Student t-test and Mann-Whitney U tests were used for statistical analyses ( $p < 0.05$ ). **Results:** The number of dental emergency patients increased in the first years, and decreased in the last years of study period. Significantly more adult than child patients attended for emergency dental treatments. Overall, no significant differences were observed between the prevalence of urban and rural dental emergency patients ( $p < 0.05$ ). **Conclusions:** The prevalence of emergency dental care services were correlated with the changes in dental health politics and epidemiological situation during the investigated period. Our research meant not just data collection and statistical analyses for career development, the main outcome was the experience of friendship through successful team work of the authors.

**Keywords:** emergency dental care, Mures County Emergency Hospital, patients' attendance

## ENT (OTORHINOLARYNGOLOGY)

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### THE ROLE OF FUNCTIONAL EXAMINATION AT PATIENTS WITH OBSTRUCTIVE SLEEP APNEA SYNDROME

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**Background:** The obstructive Sleep Apnea Syndrome is a condition characterized by repeated episodes of upper airway obstruction, produced during the sleep. The obstruction is associated with arousals and oxygen desaturation. For a good diagnosis it is necessary testing the patients for OSAS with polysomnography. **Material and methods:** Through this study we followed the differences between patients with different degree of sleep apnea. We have evaluate the position during sleep, limb movement and body mass index. We have divided the 74 patients according the apnea-hypopnea Index into two groups: patients with mild and moderate Apnea and patients with severe apnea. We have compared the values of certain parameters during sleep in the 2 groups of patients. The present study was carried out within the framework of the internal research 511/6/17.01.2022 in the field of Sleep Medicine. **Results:** The clinical and paraclinical examinations of the patients demonstrated the existence of significant differences in anatomical and functional changes between the 2 evaluated groups. The anatomical changes located in the Oro and hypopharyngeal region were closely related to the degree of apnea. **Conclusions:** The clinical and polysomnographic evaluation contributes essentially to the monitoring of patients with obstructive sleep apnea Syndrome. This plays an essential role in establishing effective therapeutic behaviors.

**Keywords:** sleep, obstructive sleep apnea, apnea-hypopnea Index, arousal, body mass index

## EPIDEMIOLOGY

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### DIAGNOSIS OF HUMAN PAPILLOMAVIRUS HPV INFECTION BY THE HYBRID CAPTURE II METHOD, RESPECTIVELY BY THE PROTEIN BIOMARKERS TELOMERASE AND FIBRONECTIN

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**Background:** It is very important to understand the mechanisms by which Human Papilloma Virus infection is involved in the pathogenesis of squamous intraepithelial lesions, as well as knowledge of diagnostic methods, knowing that dysplastic lesions are precursors of neoplasia. The main goal. Identification of a correlation by the cytological examination method and the Hybrid Capture (HC) II method, respectively of telomerase and fibronectin as protein biomarkers in the diagnosis of intraepithelial squamous lesions of the cervix. **Material and methods:** To identify the precision of the HC II method and the correlation with various parameters, we used a cross-sectional study, for which samples were collected from 122 patients who presented in the gynecologist's office, blood samples were collected for the determination of serum fibronectin and telomerase and cervico-vaginal secretion samples, which were later analyzed on a liquid medium both by the Babeş-Papanicolau test and by the HC method. II. Based on a questionnaire, we classified the selected cases according to age, socio-economic status, education level, marital status, sexual characteristics. **Results:** For fibronectin we identified a median of 3.74 ng/ml (min-max: 1.00-68.5 ng/ml), for telomerase a median of 0.09 ng/ml (min-max: 0.01-30.10 ng/ml), and for HC II a median of 44.89 ng/ml (min-max: 0.15-1525.89 ng/ml). Out of 122 patients, 50 had positive results by the HC II method, meaning a percentage of 41%, and of these 26% had changes of the squamous cell type: either atypical with undetermined significance (ASC-US) or not could exclude H-SIL (ASC-H) by the Babeş-Papanicolau test. **Conclusions:** Corroboration of the cytological results with the results of the HC method and with the inflammatory proteins: fibronectin and telomerase level allowed us to draw the profile of women predisposed to the development of cervical cancer. Acknowledgements "This work was supported by the University of Medicine, Pharmacy, Science and Technology of Tîrgu Mureş Research Grant number 615/14/17.01.2019."

**Keywords:** Hybrid Capture II, fibronectin, telomerase, Human Papilloma Virus, cervical cancer

### THE ROLE OF MASS MEDIA IN PROMOTING CERVICAL CANCER PREVENTION

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**Background:** Cervical cancer (CC) is a public health problem in Romania, every year, 4,343 new cases and 1,909 deaths caused by this disease are registered. Romania ranks first in the EU in terms of CC mortality - the mortality rate is 4 times higher than the EU average. One of the major causes of this totally unfavorable statistic is the lack of information. The studies carried out in Romania draw attention to the fact that 1 in 10 women has not had a routine medical check-up in the last 10 years. 7 out of 10 women have not had a test for precancerous lesions or for HPV in the last 3 years. The main purpose. It is to establish the role of mass-media in promoting CC prevention. **Material and methods:** We used a questionnaire as a research tool to identify whether the mass-media through the content of the information as well as through the use by consumers can have an impact on the awareness, knowledge and attitudes regarding the prevention of CC. **Results:** Of the total of 908 people surveyed, 10.7% are vaccinated against HPV, respectively 71% have had a Pap test. Most respondents know a screening method used in CC pathology, but only 5.4% mentioned the mass-media as a source of information. 24.9% of respondents participated in some gathering/campaign where CC prevention was discussed, but only 7.9% learned about the subject through the mass-media. **Conclusions:** The mass-media can have a beneficial impact through information, awareness, and education actions on the importance of CC prevention, by

transmitting correct information about the benefits of vaccination and learning the habit of regular medical check-ups in order to learn the basic rules related to hygiene and healthy lifestyle. Acknowledgements "This work was supported by the University of Medicine, Pharmacy, Science and Technology of Târgu Mureş Research Grant number 615/14/17.01.2019."

**Keywords:** mass media, questionnaire, Human Papilloma Virus, cervical cancer, vaccination

## FORENSIC MEDICINE

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### PREVALENCE AND CLINICAL ASPECTS IN THE EXPERTISE FOR SUSPENDING OR POSTPONEMENT OF SENTENCE ON MEDICAL GROUNDS.

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**Background:** The only conclusive evidence on the basis of which a Court can admit or reject a request to postpone or suspend a sentence for medical reasons is the medico-legal report. The medical board, which includes the forensic pathologist as head of the board, the doctor representing the National Penitentiary Administration as well as doctors specialized in the disease in question, also carries out expert examinations in order to suspend the criminal prosecution for illness or the alternative punishment of community service. **Material and methods:** We have included a number of 51 expertises carried out between January 2019 and October 2022. **Results:** From the total studied, 22 reports were requested for the sentence suspension, 20 for participation in the Court trial, 7 in order to perform community service and two for being evaluated to be handled over to foreign authorities. Following the completion of the requested work, no suspension period was proposed, but 2 inmates required treatment in a Ministry of Health hospital, with the assurance of permanent security. In 12 expertises it was assessed that participation in the Court trial is not possible and 5 persons could not perform community service; both expertized accordingly, could be transported to foreign authorities. **Conclusions:** In the last two years there has been a significant increase in requests, most of them regarding sentence suspension and trial participation. The disease involved did not fit into the criteria necessary to suspend the sentence.

**Keywords:** medico-legal expertise, sentence, trial, disease, community service

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### SUDDEN CARDIAC DEATH IN THE THIRD TRIMESTER OF PREGNANCY- AUTOPSY FINDINGS.

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**Background:** Cardiovascular disease is an emerging factor of maternal mortality in both developing and developed countries due to an upward trend in the mean age of pregnant individuals. Observational studies have shown that advancing age at the time of pregnancy is associated with an increase in maternal morbidity and mortality despite the complex screening protocol undergone. Still, systematic research for cardiac disease is usually not performed, at an advanced maternal age the investigations focus on prenatal genetic screening and fetal development. As a result, alongside well-established causes of maternal death (hypertension, obstetrical hemorrhage, sepsis) undiagnosed cardio-coronary pathologies turn into sudden cardiac death cases where the autopsy report reveals them. **Material and methods:** We report 2 cases over 35 years, one being infected with SARS-COV2 one month before the event, the other one being tested positive during admission, both asymptomatic, who were declared healthy on periodic clinical evaluations, with pregnancies over 35 weeks, with normal fetal development which suddenly accused chest pain, dyspnea, loss of consciousness. They required emergency c-sections dying suddenly after it was performed. **Results:** In both cases, we performed autopsies which were mandatory as stated by law. While waiting for the histopathological examination the autopsy reports concluded that the cause of death was an acute myocardial infarction due to coronary dissection with acute pulmonary edema. **Conclusions:** We strongly recommend that periodic EKG and at least one echocardiogram be included as standard antenatal screening tests to minimize preventable sudden cardiac deaths.

**Keywords:** sudden cardiac death, maternal death, SARS-COV-2, autopsy, forensics

## HEMATOLOGY

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### WALDENSTROM'S MACROGLOBULINEMIA/LYMPHOPLASMACYTIC LYMPHOMA WITH OSTEOLYTIC BONE LESIONS AND LUNG MASS - A CASE REPORT

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**Background:** The scarcity of osteolytic bone lesions (OBL) is usually used to differentiate Waldenstrom's Macroglobulinemia(WM)/Lymphoplasmacytic Lymphoma(LPL) from the much rarer IgM Myeloma(IgMM). Some cases of WM/LPL with OBL are reported, making the difference between WM/LPL and IgMM challenging. Concomitant other osseous metastases may sometimes display a lytic pattern too. **Material and methods:** 56 year old, male patient was first presenting with progressive lymphadenopathy and splenomegaly, skin rash (Schnitzler's syndrome), very high erythrocyte sedimentation rate, C-reactive protein, IgM (above 3000 mg/dl, normal=40-230). Hemoglobin, calcium, creatinine, IgG, IgA, and other biochemistry parameters were normal, and the radiologic bone scan was without any OBL and CT scan with multiple lymphadenopathies and splenomegaly. Lymph node and marrow biopsies revealed lymphoid infiltration (small/medium size) with lymphoplasmacytic differentiation, IgM kappa positivity, expression of CD20, PAX5, MUM1, CD38, and CD138, negativity for CD10, BCL6, CD23, CD56, CyclinD1, Ki67 30%. According to WM/LPL diagnosis immuno-chemotherapy (rituximab-cyclophosphamide-dexamethasone/RCD) was started, for six cycles. After RCD therapy, the skin lesions, lymphadenopathy, splenomegaly, and IgM level improved significantly but intense bone pain in the right scapula developed. New CT scan: a space-replacement process in the left pulmonary apex, multiple OBL(costal, clavicular, right scapula with extension in the surrounding musculocutaneous tissues). Bronchoscopy was negative; CT-guided lung biopsy and scapular tumor biopsy are planned. **Results:** WM/LPL are advocating the IgM-kappa gammopathy, the lymphoplasmacytic differentiation, CD20 positivity, Cyclin D1 negativity, and the absence of CRAB criteria at diagnosis. A misdiagnosed IgMM may be supported by the new OBL and CD138 positivity. The lung mass may be primary lung cancer (smoker) or lung amyloidosis, OBL related to WM/LPL, IgMM, or concomitant metastases. **Conclusions:** Despite some clinical, biological, and histological similarities WM/LPL and IgMM have very different prognostic and therapeutic approaches. Lung amyloidosis may be a complication of WM/LPL but concomitant lung cancer (smoker) with osteolytic metastases, can be also an unfortunate possibility.

**Keywords:** Waldenstrom's Macroglobulinemia/ Lymphoplasmacytic, Osteolytic bone lesions, Lung space-replacement mass

## HYGIENE

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### CLIMATEMED - CURRICULUM DEVELOPMENT ON THE HEALTH EFFECTS OF CLIMATE CHANGE

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**Background:** Nowadays global warming, climate change and its environmental and health effects became frequently discussed topics. Humanity has changed the surface of its planet and the composition of its atmosphere, thereby causing climate change, the consequences of which are clearly visible in natural disasters, variable rainfall, and excess deaths caused by extreme weather conditions. Climate change is now a major health risk. **Material and methods:** There is an increasing need to integrate knowledge about the health effects of climate change into medical training. Medical schools face the challenge to teach the health implications of climate change. CLIMATEMED is a project based on the cooperation of six universities and institutions from four countries, the aim of which is to improve the curriculum and expand knowledge about the health effects of climate change at medical universities. **Results:** Among the goals of the research is the development of a detailed curriculum for medical students, which serves to expand their knowledge in the basic education. At the same time, the project promotes the increase of teacher motivation and the development of methodological guidelines for university teachers; it also provides further training for practicing doctors. The planned teaching materials will be developed in a format suitable for traditional face-to-face teaching, as well as e-learning teaching materials. **Conclusions:** In order to assess the needs, to summarize the proposals, to develop the necessary strategy, World Café type, one and a half to two hour round table discussions will take place separately for medical students, academic staff and practicing doctors. CLIMATEMED project can facilitate the integration of knowledge about the health effects of climate change into curricula and can promote the practical use. The avoidance of the unwanted effects of global warming and climate change is not only a public matter, it is also a challenge to change our own lifestyle.

**Keywords:** climate change, health effects, curriculum, medical universities

### EVALUATION STUDY REGARDING THE KNOWLEDGE OF MEDICAL AND AUXILIARY PERSONNEL OF INFECTIONS ASSOCIATED WITH HEALTHCARE AND HAND HYGIENE

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**Background:** Healthcare-associated infections (HAI) present important complications which annually affect a significant number of patients. A significant percentage of these infections can be prevented by hand hygiene. This was proven to be the most important method of prevention and limitation of HAI. However, the compliance of medical and auxiliary staff regarding hand hygiene is low, and one of the efficient methods of improving it is changing their attitude and behavior by improving their level of knowledge about this aspect. **Material and methods:** An anonymous analysis of the knowledge of the medical and auxiliary staff of a private medical clinic from Tg. Mureş. We used a questionnaire with items categorized into the following fields: hand hygiene; HAI; disinfection and sterilization; standard precautions and precautions regarding the transmission way; accidental exposure of the medical staff to biological products; medical waste management. **Results:** In this study, a number of 17 people had been included: 10 medical assistants, 5 receptionists, and 2 cleaning staff. The difficulty index of the addressed questions was of medium level. The percent of correctly answered questions was 92%, while the wrongly answered ones was 8%. The mean value of the obtained results showed that the personnel was well trained. **Conclusions:** The results of the study show a good knowledge level regarding HAI and hand hygiene. In conclusion, there is a continuous need for medical healthcare education for the medical and auxiliary personnel regarding the supervision, prevention, and limitation of HAI.

**Keywords:** medical personnel, knowledge, healthcare-associated infections, hand hygiene, education



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## THE OPERATING BASICS AND THE UTILITY OF SEMMELWEIS SCANNER

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**Background:** One of the biggest health problems of our time consists in the nosocomial infections. To prevent the hospital induced infections, Ignác Semmelweis introduced in the XIX century the handwash with chlorinated water. As a result of this, it is known that the proper handwash is the easiest and most effective way to prevent or to minimize nosocomial infections. **Material and methods:** The efforts of Semmelweis inspired Hand-in-Scan company to develop an electronic device in 2016. This hand scanner is used mostly to evaluate the quality of hand disinfecting technique of the user. The device has an installed photo-processing algorithm, which shows immediately the sufficiently and insufficiently disinfected zones of the hand. For the measurement, it is necessary to use an UV-reactive disinfection gel, which will be shown by UV-A light. **Results:** The results will be uploaded to a cloud report system, which guarantees the saving and statistically processing of the stored data. This hand scan is used worldwide by various countries as Argentina, Hungary, Switzerland, Austria, Romania. In Romania the first testing study was effectuated in Brasov. **Conclusions:** The expansion of use of this hand scanner helps us to learn the correct method of washing our hands. Thanks to this, we can be more aware about the necessity of the effective handwash in the adequate time. Semmelweis scanner is a spectacular equipment of the modern prevention.

**Keywords:** nosocomial infections, hand scanner, Semmelweis, UV reactive gel

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## THE HEALTH BENEFITS OF THE TEA

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**Background:** Tea, originally from ancient China, is prepared from the leaves of *Camellia sinensis*. It is the second most cheapest beverage consumed worldwide after water, and it has had an increasing popularity in the recent decades. Due to production processes, tea can be classified into: white-, green-, yellow-, oolong-, black- and dark tea. Since ancient times tea consumption has been considered a health-promoting custom. **Material and methods:** There were studied different articles presenting 21st century research, published in the scientific literature, which are presenting evidence that tea contains a rich source of pharmacologically active molecules providing diverse health benefits. **Results:** Different evidence, originating from cellular, animal, clinical and epidemiological studies, found correlation between tea consumption and several health benefits (chemoprevention of cancer, chronic inflammation, cardiac and hepatic illnesses, diabetes, neurodegenerative diseases, ultraviolet B (UVB)-induced skin aging, bone fracture, etc., along with some other beneficial activities, e.g., chemo-sensitizing, antioxidizing, stress-reducing, etc.). **Conclusions:** In order to provide a better understanding of tea and its health potential, this review summarizes and discusses recent literature on the bioactive components, bioavailability, health functions, and safety issues of tea.

**Keywords:** tea, literature, health benefits

## INFECTIOUS DISEASES

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### ACUTE INFLAMMATORY DEMYELINATING POLYRADICULONEUROPATHY IN A CHILD – CASE PRESENTATION

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**Background:** Acute inflammatory demyelinating polyradiculoneuropathy (AIDP) is a form of Guillain Barre syndrome, an autoimmune disease attacking the myelin, frequently triggered by different infectious agents. It manifests clinically as ascending paralysis, areflexia, rarely dysesthesia and autonomic involvement. Intravenous immunoglobulins are the first line therapy in AIDP in children. **Material and methods:** We present the case of a 6-years old male child, who presented cough and fever 38<sup>o</sup> C, treated with antibiotics, without any improvement, followed by pain and progressive paralysis of the lower limbs. Brain CT scan showed pansinusitis, lung X-ray was normal, fundoscopy normal. The diagnosis of AIDP and flaccid paraplegia was established by neurologist consultation. The child was admitted to the 1st Infectious Diseases Clinic of Tg. Mures. **Results:** CSF analysis was performed, showing albuminocytologic dissociation, no pathogens were detected in the CSF by multiplex PCR, microscopy, cultures, latex-agglutination. Serological tests showed the presence of IgM antibodies against *Mycoplasma pneumoniae* and herpes simplex 2 virus. RT-PCR test for SARS-CoV2 infection was negative. Spinal MRI did not show any pathological changes. The child underwent intravenous immunoglobulin therapy in a dose of 400 mg/kg/day for 5 days, received Acyclovir and Azithromycin, corticotherapy, neurotrophic agents, underwent physical therapy, with slowly favourable outcome. **Conclusions:** AIDP responds well to intravenous immunoglobulin therapy in children, with slow but possible complete recovery.

**Keywords:** Guillain Barre syndrome, *Mycoplasma pneumoniae*, herpes simplex virus

### SEVERE COVID-19 AND SEPSIS - CASE PRESENTATION

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**Background:** The pandemic of coronavirus disease 2019 (COVID-19) became a global public health concern. Many in patients with severe COVID-19 developed sudden onset of clinical deterioration like in bacterial sepsis, with serious systemic inflammation and sometimes associated with multiorgan failure. Connected to this phenomenon in the medical literature appeared multiple discussions regarding COVID-19 related viral sepsis. **Material and methods:** We present the case of patient admitted to the Infectious Diseases Clinic Nr. I with severe COVID-19, associated with a rash and unspecified sepsis. **Results:** 82-years-old man, immunized against COVID-19, in personal history with cardiovascular and chronic kidney disease, under immunosuppressive treatment for psoriatic arthritis, with the onset of complaints 7 days ago, started with the appearance of a maculopapular, itchy rash on the face, chest and limbs, on the 2nd day fever and respiratory symptoms were associated. Laboratory investigations on admission: elevated WBC count with the presence of left shift, marked inflammatory syndrome, procalcitonin level >10 ng/ml, negative blood cultures, elevated serum urea and creatinine, glomerular filtration rate 7 ml/min, coagulation disorders, impaired fasting glucose. CT scan of the thorax showed foci of left latero-basal pulmonary condensation. Treatment consisted of antibiotic, anticoagulant, immunomodulator, corticosteroid and gastric protective agents. The outcome improved gradually, with ameliorating inflammatory syndrome (normalization of serum procalcitonin level). The rash disappeared after about 14 days. He was discharged after 13 days of hospitalization. **Conclusions:** Elderly patient with immunodeficiency, multiple comorbidities developed severe COVID-19, with multiple complications: sepsis, pulmonary affection and rash.

**Keywords:** Sepsis, SARS-CoV-2, procalcitonin, rash

## HEMORRHAGIC VARICELLA: A CASE PRESENTATION

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**Background:** Hemorrhagic manifestation in chickenpox is a rare complication, usually occurs in immunocompromised persons and is associated with higher mortality rate (7-10%). **Material and methods:** Case presentation. **Results:** 8-year-old male patient, in past medical history with epilepsy, seasonal allergies, eczema and repeated bronchitis, the present illness started about one week ago with fever (38.5) followed by generalized vesicular rash after approx. 36 hours. He presented at the 1st Infectious Diseases Clinic, home isolation and antiviral treatment was recommended. After 2 days due to persistent fever, hemorrhagic rash and altered general status, the patient was admitted. Physical examination showed: generalized rash, present on oral mucosa and on the scalp, hemorrhagic blisters on the trunk and face. Laboratory tests showed elevated liver enzymes, hyposideremia, leukocytosis and thrombocytopenia. Intravenous antiviral treatment was started associated with analgesics and antipyretics. The outcome was favorable. After five days of treatment the patient was discharged afebrile, in good general condition, with crusted rash. **Conclusions:** Usually VZV causes mild infection in pediatric patients, complications as hemorrhagic lesions can be rare. Vaccination against VZV is recommended especially for children with chronic underlying diseases to prevent severe and/or complicated cases. Some experts recommend prophylaxis with acyclovir or valacyclovir for high-risk patients.

**Keywords:** Varicella, hemorrhagic, complication, child

## HIV-MTB CO-INFECTION IN COVID ERA – EXPERIENCE OF MUREŞ REGIONAL HIV/AIDS CENTRE

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**Background:** Mycobacterium Tuberculosis (MTB)-HIV co-infection is an important public health problem in the European Region. With the increasing prevalence of HIV in Europe and the high prevalence of MTB, the number of co-infections are expected to increase dramatically over the next few years. **Material and methods:** Observational, retrospective study conducted on 172 patients admitted to the Mureş Regional HIV/AIDS Centre, (total of 341 hospitalizations) during the last 32 months. 80 were men, 92 women, with a mean age of 39 years (28-73). 6 deaths were recorded. We enrolled 38 patients (108 admissions), all of them >16 years old, with MTB/HIV. Data were collected from the medical records. We followed demographics, comorbidities, anatomical site of MTB, length of hospital stay and cost of care. Descriptive statistical analysis was performed with IBM SPSS Statistics. **Results:** From admitted patients 22% had HIV-MTB co-infection. The study group consisted of 17 men, 21 women, with a mean age of 38 years (28-59). One patient in average needed 2.7 hospitalizations (1-11 admissions), with an average of 38.4 days of admission (total 1460 days), with an average cost of care 37.453 RON/hospitalization (total amount of 1.423.214 RON). 21 relapsed and 17 with newly diagnosed MTB, from those 5 were newly diagnosed HIV. From our cohort 24 patients developed pulmonary, 3 extrapulmonary, 11 pulmonary and extrapulmonary MTB. Frequently associated diseases were: 13 viral hepatitis B and Wasting syndrome, 12 chronic hepatopathy, 10 HIV encephalopathy and oral candidiasis and other conditions cerebral toxoplasmosis, syphilis, aspergillosis, cryptosporidiosis. 4 patients died. **Conclusions:** Almost a quarter of patients were co-infected with HIV-MTB, 63.1% had pulmonary localization. We noticed a higher mortality among those with co-infection. The majority also had co-infections with hepatitis B (34.2%). MTB co-infection is a risk factor for opportunistic infections, aggravating the immunosuppression, requiring multiple prolonged and expensive hospitalizations.

**Keywords:** HIV, MTB, co-infection

## INTERNAL MEDICINE

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### NONFUNCTIONAL PANCREATIC NEUROENDOCRINE TUMOR

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**Background:** Pancreatic neuroendocrine tumors (PNETs) are rare tumors and constitute about 2 to 10% of all pancreatic tumors. Non-secretive neuroendocrine tumors are difficult to diagnose at an early stage because they have no symptoms. **Material and methods:** We present the case of a 66-year-old urban patient with no clinical symptoms, diagnosed incidentally following an ultrasound examination for another pathology. The patient was then investigated by computed tomography (CT) and nuclear magnetic resonance (NMR). It was a pancreatic corpus tumor with cystic component of 33,2mm and no metastases. The patient underwent a biopsy of pancreatic tissue and then a chemotherapeutic treatment and radiotherapy. **Results:** Microscopic examination correlated with the immunohistochemical profile of the pancreatic resection specimen diagnosed a moderately differentiated neuroendocrine tumor (NET G2). Immunohistochemical examination revealed Chromogranin A- intensely positive, Synaptophysin- intensely positive, CK5(Cytokeratin-5)-negative, Ki-67 (proliferation index) appreciated at 12% in tumor proliferation, Chymotrypsin-negative, CK19 positive. **Conclusions:** Because these tumors do not produce hormones they do not cause significant symptoms, they can grow quite large before they are found. Curative treatment is usually surgical. Studies show that the 5-year survival rate for people with PNET is 54%.

**Keywords:** neuroendocrine tumor, immunohistochemistry, metastases

### STUDY OF THE CHARACTERISTICS OF THE PATIENTS WITH SARS-COV-2 INFECTION AMONG THE PATIENTS HOSPITALIZED IN MEDICAL CLINIC NR 1 OF SCJU TARGU MURES

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**Background:** COVID-19 is an acute respiratory infectious disease caused by the highly pathogenic human coronavirus SARS-CoV-2. The aim of the paper is to study the characteristics, complications, results of chest CT, comorbidities and to identify the prognostic factors among the patients with SARS-CoV-2 infection. **Material and methods:** This is a retrospective study which included 131 patients with COVID-19 disease (confirmed with RT-PCR test) and 122 patients with pulmonary illness without COVID-19 disease, hospitalized in the Internal Medicine Clinic nr.1 of SCJU Târgu Mureş, between 2020 November - 2021 April. We analyzed and compared the demographic, clinical, paraclinical characteristics, the results of chest CT, comorbidities. For the statistical treatment we used the SPSS program. **Results:** Among the patients included in the study the severe form of SARS-CoV-2 infection was present in 55%. The average age in both groups was around 69 years, the distribution according to sex was similar. The interstitial pneumonia and the bronhopneumonia were more frequent among the Covid-19 positive patients ( $p=0,006$ ), the lobar pneumonia in the Covid-19 negative group ( $p=0,000$ ). The temperature above 38 Co, irritating cough, dyspnoea, fatigue, asthenia, muscle pain were statistically significant more frequent in the Covid-19 positive group. There was no statistically significant difference between the two groups about pulmonary embolism and deep vein thrombosis. The acute respiratory failure was statistically significant more frequent in the Covid-19 positive group. The frosted glass look, interstitial infiltrate on the chest CT and the lymphopenia showed statistically significant differences between the two groups. The arterial hypertension, heart failure, chronic kidney disease, type 2 diabetes and obesity are important negative prognostic factors in the prognosis of the SARS-CoV-2 infection. The death rate was similar in both groups. **Conclusions:** The unfavorable prognostic factors of COVID-19 disease are the age over 60 years, the severe damage of the lung and the presence of comorbidities.

**Keywords:** SARS – COV – 2 , COVID-19, infection, prognostic factor, chest CT, comorbidities

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## ANEMIA IN INFLAMMATORY BOWEL DISEASE-A SINGLE CENTER EXPERIENCE

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**Background:** Inflammatory bowel diseases (IBD) are represented by ulcerative colitis (UC) and Crohn's disease, which are disorders characterized by chronic inflammation. **Material and methods:** This cross-sectional study will evaluate the demographics, prevalence, etiology, risk factors, of anemia in patients with IBD investigated in the Gastroenterology Clinic of the County Clinical Hospital in one year (November 2021-November 2022). The UDCAI and CDAI scores were used to determine the activity of UC and Crohn's disease, and the Montreal classification was used to quantify the location. Anemia was classified according to WHO recommendations. **Results:** 92 patients were included in the study (42 with Crohn's disease and 50 with UC). Among them, 15 patients with Crohn's disease and 24 with UC presented anemia, with an average of 38%. Severe disease activity (OR: 3.17, 95%, CI 1.01-3.64), CPR value (OR: 2.71, 95%, CI 1.05-4.64) and hypoalbuminemia were associated with the degree of severity of anemia ( $p \leq 0.001$ ) and the duration of hospitalization ( $p \leq 0.0001$ ). The detected etiologies were iron deficiency (85%), anemia of chronic disease (65%), B12 deficiency (6%) and iatrogenic (due to the administration of Azathioprine, 6%), without statistically significant differences between the 2 groups. **Conclusions:** Anemia was a frequently detected complication. Its etiology can be varied and multifactorial.

**Keywords:** anemia, ulcerative colitis, Crohn disease

## MEDICAL PSYCHOLOGY

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### DOES PERSONALITY-RELATED SELF-CONCEPT HAVE AN IMPACT ON PERCEIVED HEALTH ANXIETY?

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**Background:** Individual experiences of health status and perceived anxiety are strongly determined by differences in the state of mind, coping, emotions, and life goals. Components of the personality including Self-image influence the evaluation of our perceived health and can explain the differences in the reported health-related anxiety. A more negative self-image can predict greater health anxiety, opposite to a more self-confident person, who reports less anxiety due to adequate control and coping strategies in overcoming health-related challenges. Health anxiety causes inner discomfort, along with several psychological and physical symptoms, such as insomnia, stomach pain, and muscle tension. **Material and methods:** The study set as a goal the analysis of associations between components of Self-image and perceived health anxiety in a non-clinical sample. The instruments were the Short Health Anxiety Inventory (Salkovskis et al., 2002), Core Self-Evaluation Scale (Judge et al., 2003), and the Health Self-evaluation Questionnaire. Participants: 147 adults completed the questionnaires through Qualtrics online platform. The respondents belonged to the 18-73 age group (mean age 37.5), concerning gender, they were 31 male and 116 female. **Results:** We found relevant differences in total scores and subscales' scores of the health anxiety scale depending on the positive self-evaluation ( $F=4.42$ ,  $p<0,01$ ). Linear regression analysis shows that increased self-confidence was responsible in a proportion of 46% for better-perceived health status and lower reported health anxiety. The most important predictors of the model were self-image, self-evaluation of health status, and age. **Conclusions:** A high Self-Evaluation can explain a better-perceived state of health and lower health anxiety. The construct of Self-image, with different components, such as self-evaluation and health evaluation actuate as predictors of differences in psychological and physical symptoms of health-related anxiety. Individuals who are satisfied with their lives and simultaneously report positive Self-Evaluation demonstrate better physical health functioning, facing in proper way emotional and physical demands.

**Keywords:** health anxiety, personality, self-evaluation

# NEUROLOGY

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## THERAPEUTIC PLASMA EXCHANGE USING OPTIA APHERESIS SYSTEM IN PATIENTS WITH NEUROLOGIC DISORDERS

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**Background:** PE using Spectra Optia Apheresis System is a therapeutic intervention which separates the blood cells using a cell separator machine, removes plasma that contains inflammatory cytokines, circulating autoantibodies, immune complexes, toxins and replace it with a 5% albumin solution or/and fresh frozen plasma preventing damage that results in different organs. **Material and methods:** The blood cells (platelets, red blood cells and white blood cells) are returned to the patient together with the replacement fluid that is used. PE is performed in alternate days because some clotting factors (especially fibrinogen) are also removed and this could cause problems. TPE is used for many diseases, the most important indications for neurologic diseases being according to ASFA guidelines GBS, CIDP, MG, MS and NMOSD, autoimmune encephalitis, stiff man syndrome. The anticoagulant used in the extracorporeal circuit is Citrate Dextrose Solution A which binds the ionized Ca<sup>2+</sup> in plasma and prevents the activation of coagulation cascade. Calcium is administered on the outlet line through a calcium gluconate solution to prevent citrate overdosing and coagulation properties are restored when the blood returns to patient. The patients require a good vascular access which can be a central venous access or peripheral veins when suitable to support the blood flow. **Results:** We present two cases with GBS and CIDP with a very good evolution that we consider to be suggestive and illustrate the usefulness and the importance of plasmapheresis in our neurology clinic. **Conclusions:** TPE is generally reserved for severe cases with rapid evolution in which other therapies have failed being a short-term treatment until improvement followed sometimes by immunosuppression. In certain situations, it may be needed as a maintenance treatment.

**Keywords:** Spectra Optia Apheresis System, Therapeutic plasma exchange, CIDP

## OBSTETRICS AND GYNECOLOGY

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### ALOBAR HOLOPROSENCEPHALY, PROBOSCIS, HYPOTELORISM AND ANOPHTHALMIA. A CASE REPORT

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**Background:** Alobar holoprosencephaly is a rare brain malformation characterized by failure of the prosencephalon to divide into right and left hemispheres. It is associated with median facial anomalies and occurs in early embryogenesis. We report a case of a 22-year-old pregnant patient who delivered an alive fetus with alobar holoprosencephaly, proboscis, hypotelorism, anophthalmia, arrhinia. **Material and methods:** A pregnant patient, gravida 7, para 6 was admitted in our hospital at 37 weeks of gestation in advanced labor. She had't antenatal care, so she did not undergo screening for chromosomal abnormalities in the first trimester of pregnancy. **Results:** Because of fetal bradycardia at cardiotocography recording, the patient delivered by an urgent cesarean section. The male neonate weighing 2640 g and 46 cm length had umbilical cord round his neck and macrocephaly, large anterior fontanelle, proboscis, hypotelorism, anophthalmia, arrhinia and was diagnosed with alobar holoprosencephaly by ultrasound examination. He had respiratory distress syndrome. After intubation and mechanical ventilation the newborn was transferred to Neonatal Intensive Care Unit to continue specialized care. Despite the treatment, the neonate died after 35 hours of life. **Conclusions:** We described a case of alobar holoprosencephaly associated with facial anomalies diagnosed at 37 weeks of gestation after cesarean section performed for severe bradycardia. The pregnant patient hadn't prenatal screening for fetal malformations. This case underlines the importance of early obstetrical and early ultrasound examinations of pregnant women and recommendation, with the patient's agreement, for termination of pregnancy in case of alobar holoprosencephaly because of poor prognosis of the newborn with this malformation.

**Keywords:** Alobar holoprosencephaly, proboscis, hypotelorism, anophthalmia, case report

### CORD ENTANGLEMENT AND PERINATAL OUTCOME IN A MONOAMNIOTIC TWIN PREGNANCY. A CASE PRESENTATION

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**Background:** The monoamniotic monochorionic twin pregnancy has an incidence of 1% of all monozygotic twins and the division of the egg-cell into two cells take place in the 8th day after fecundation. The monoamniotic twins have a high fetal death rate from cord entanglement, congenital anomalies, preterm birth, twin-twin -transfusion syndrome. **Material and methods:** The patient MK, 31 years of age was admitted to the Obstetrics-Gynecology Clinic no.2 in Târgu Mureş with the diagnosis:gravida2, para2, monoamniotic, monochorionic twin pregnancy, 37 weeks of gestation. The first fetus in cephalic presentation, alive and the second fetus antepartum deceased, in cephalic presentation, membranes ruptured. The patient had the first prenatal visit at 10 weeks of gestation, the diagnosis was established by an obstetrician, than, during pregnancy she had prenatal visits only at GP. **Results:** After 25 minutes from admission in our hospital the patient had vaginal deliveries, the first fetus was in cephalic presentation and alive, weighing 2400g, Apgar score 8/1' and after 5 minutes the second fetus was delivered also in cephalic presentation, was dead, macerated, 2350 g weight, 46 cm length. After placenta's delivery we noticed umbilical cord entanglement, that explained the second fetus death. **Conclusions:** If the patient had had serial ultrasound examinations of fetuses growth, Doppler examinations of the umbilical cords, continued hospitalization of the mother after 28 weeks of gestation, and fetuses hearts monitoring, if fetal distress had been noticed, a prompt delivery by C-section could have saved the second newborn.

**Keywords:** monoamniotic/monochorionic pregnancy, twins, cord entanglement, fetuses ultrasound, fetuses surveillance



## OPHTHALMOLOGY

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### INTERDISCIPLINARY CORRELATIONS IN HOSPITALIZED PATIENTS WITH CORNEAL DISEASES IN TGMUREȘ OPHTHALMOLOGY CLINIC

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**Background:** Keratitis are corneal diseases of infectious, viral, autoimmune etiology with disabling potential on vision and implicitly on the patients' quality of life. **Material and methods:** We conducted a retrospective, observational study in which we included patients hospitalized with keratitis in the TgMureș Ophthalmology Clinic over a period of 2 years. **Results:** 7.37% of hospitalized patients were diagnosed with infectious/non-infectious keratitis. We did not observe significant differences in terms of ocular surface damage from the point of view of age, sex or environment of origin. 32.78% underwent outpatient treatment prior to hospitalization. Most patients had no associated systemic pathology. 67.21% had ocular predisposing factors. **Conclusions:** The visual prognosis of patients with corneal diseases depends to a large extent on the clinical-etiological correlations, on the initiation of a targeted treatment according to the laboratory results and implicitly on the interdisciplinary collaboration between the ophthalmologist-laboratory physician-infectious disease specialist.

**Keywords:** autoimmune disease, infectious disease, keratitis, ocular surface

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### OCULAR SURFACE DISEASE IN PATIENTS WITH EYELID LAXITY

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**Background:** Eyelid laxity syndrome is a condition of eyelid static with an incidence of 3.8% in the general population, frequently encountered in middle-aged and obese patients. The laxity causes palpebral eversion and complications due to exposure of the ocular surface, such as chronic papillary conjunctivitis and corneal disease than can lead to perforations with loss of vision of the patients. **Material and methods:** We performed a prospective, observational study in which we included 13 patients. The OSDI (Ocular Surface Disease Index) score was evaluated by completing the questionnaire. The biomicroscopic examination of the ocular surface was performed with and without vital dyes. Qualitative and quantitative tests to determine changes in the tear film were applied to each patient included in the study. **Results:** Patients with eyelid laxity had symptoms and signs of ocular surface damages, respectively dry eye. We noticed an increase of dry eye signs and symptoms in 8 patients and conjunctival and corneal changes in 5 cases. In our study we recorded the qualitative and quantitative alterations of the tear film highlighted by the Schirmer test (less than 10 mm, mean 8.5 mm), the tear film break-up time (less than 10 sec, mean 7.3 sec), the corneal staining and the changes of the meibum produced by the Meibomian glands. **Conclusions:** In patients with eyelid static disorders, the qualitative and quantitative changes in the tear film led to damage to the ocular surface. The visual prognosis of these patients depends on the early diagnosis of dry eye and the applied therapy, respectively on the patients' compliance with a careful and thorough monitoring of ocular surface and tear film changes.

**Keywords:** dry eye, eyelid laxity, ocular surface

## MEDICONTACT: A WEB-BASED PLATFORM FOR TELE-EXPERTISE

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**Background:** In clinical practice, doctors frequently ask for colleague opinion when dealing with challenging medical cases. Often, a key opinion leader's advice or the help of a doctor from a different specialty is necessary to manage the pathology. Also, studies have shown that approximately a third of patients are seeking second opinion after the first medical assessment, in order to confirm a diagnosis. To set up an internet-based platform that facilitates contacting doctors with previously collected medical data, and ease communication of analyzed or re-assessed medical information to patients and fellow doctors as a medical second opinion (tele-expertise). **Material and methods:** MEDICONTACT was designed and is permanently improved by an interdisciplinary team of doctors. The platform was developed using Javascript, Mysql and Linux. React.JS and Nest.JS provided the tools for the user interface and backend. The infrastructure of MEDICONTACT is powered by Amazon Web Services for security and data privacy of users. **Results:** MEDICONTACT provides tools to set up profiles for doctors and patients and integrates search instruments. Users may choose doctors according to their expertise presented in profile information and may communicate and share medical information to doctors through a secured web channel. A doctor can accept or reject the request for data interpretation, and can provide response free of charge or surcharge, set individually by each doctor. **Conclusions:** MEDICONTACT is a user-friendly digital option for patients and doctors to obtain medical second opinion (tele-expertise). It spares doctors to re-do time- and fund consuming medical examination when the data is already available and gives more time to physicians to re-assess and reflect on investigated cases, indicating necessary further steps. Hopefully, making tele-expertise digitally available, difficult clinical cases will easily benefit from expert opinion when necessary.

**Keywords:** second opinion, tele-expertise, ophthalmology

## ORTHOPEDICS

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### EARLY COMPLICATIONS AND LENGTH OF HOSPITAL STAY FOLLOWING TOTAL VERSUS UNICOMPARTMENTAL KNEE ARTHROPLASTY

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**Background:** Patients with advanced osteoarthritis of a medial knee compartment may be candidates for unicompartmental knee arthroplasty (UKA). This procedure is less invasive than total knee arthroplasty (TKA), and it enables patients to recover more quickly. Our study aims to compare the postoperative complication rate and hospital stay between UKA and TKA. **Material and methods:** We included seven studies that examined the difference between TKA and UKA treatment in patients with knee arthritis for the length of stay in hospital and early complications after surgery. Two studies included large databases, the first was the National Joint Registry for England and Wales with 101,330 matched patients and the second from the United States with 91,335 matched patients. **Results:** According to the findings of all seven studies, TKA has a higher risk of postoperative problems than UKA. These complications include the need for a blood transfusion, wound complication, stroke, thrombosis, and myocardial infarction. In addition, patients who had UKA were found to have spent an average of one less day in the hospital, according to four of the studies. **Conclusions:** Patients suffering from osteoarthritis in a medial knee compartment may find success with UKA as a treatment option. Risks associated with each surgical treatment choice should be clearly explained to patients, especially if one of the options has fewer complications and requires less time spent in hospital.

**Keywords:** UKA, TKA, Length of hospitalisation, Complications rate

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### PERICOLLAPSE STAGE IN OSTEONECROSIS OF THE FEMORAL HEAD, AN ANALYSIS OF CURRENT LITERATURE

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**Background:** Osteonecrosis is a debilitating disease that is associated with a high mortality rate. Once the process of necrosis begins, measures need to be taken to reverse the flow of osteonecrosis in order to prevent cartilage degeneration in the acetabulum and eventually secondary osteoarthritis of the hip. We aimed to review the significance of the pericollapse stage of osteoarthritis and emphasize its importance in diagnosis and treatment of osteonecrosis of the femoral head. **Material and methods:** A wide search of studies was performed from online resources in PubMed, Cochrane Library, Embase up to august 2022 using the terms "osteonecrosis", "treatment", "collapse", "prognosis". We found a total of 26 eligible studies. We prioritized searching for clinical signs, symptoms, various signs of osteonecrosis on imaging procedures. **Results:** During the evolution of femoral head osteonecrosis, pericollapse stage refers to the period of time between the apparition of the subchondral fracture and early collapse (2 mm) total hip arthroplasty is still the preferred treatment. **Conclusions:** With distinct clinical and imaging characteristics, the pericollapse stage provides a good so called "last chance" for the use of joint-preserving techniques. We considered it necessary to separate the pericollapse stage when evaluating the progression of osteonecrosis of the hip, so that it is possible to select an appropriate treatment for the patient.

**Keywords:** Osteonecrosis of the femoral head, Pericollapse, Treatment, Joint-preserving techniques

## RAPIDLY PROGRESSIVE OSTEOARTHRITIS OF THE HIP AND INTRA-ARTICULAR STEROID INJECTION – SCOPING VIEW OF A HARD CORRELATION.

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**Background:** Rapidly Progressive (Destructive) Osteoarthritis of the Hip (RPOH) is a phenomenon not fully understood. RPOH occurs more often in female category, in 6 - 7th decade of life, most frequently located unilaterally, its onset being similar with that of other hip pathologies. Due to Lequesne findings, the accepted diagnosis criteria of RPOH are: a joint space loss occurring at a rate greater than 2 mm per year or more than 50% of joint space loss in one year, without the association of other forms of destructive arthropathy. Risk factors leading to RPOH have included acetabular labrum inversion, osteoporosis, osteopenia, idiopathic chondrolysis, increased posterior pelvic tilt or intra-articular steroid injections. **Material and methods:** This search was conducted in Google scholar and PubMed databases with a timeframe from 2000 to 2022. Titles and abstracts were significantly lower in volume than other topics, so evaluation for this scoping view included every study from literature review. **Results:** Intra-articular steroid injection is now considered a common practice in early stage of hip osteoarthritis, at the same time use of long term topical and systemic steroids may lead to avascular necrosis of the femoral head. Based on studies carried out so far, patients undergoing steroid injection and developed RPOH did not differ from control groups, even more there were no signs of pain improvement after use of steroid injection, and did not prolong the time to arthroplasty. **Conclusions:** The use of intra-articular steroid injection and developing RPOH may be causal or coincidental and is not clear, therefore additional studies are needed to define a true relationship.

**Keywords:** Rapidly Progressive Osteoarthritis of the Hip, RPOH, Osteoarthritis, Steroid Injection

## USE OF ANTIBIOTIC CONTAINING BONE CEMENT IN PRIMARY TOTAL HIP ARTHROPLASTY

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**Background:** A significant issue following primary total hip arthroplasty (THA) is infection of the surgical site. Bone cement containing antibiotics is widely used in the treatment of periprosthetic infections, but its use in primary THA is still debated over. Studies pertaining to clinical trials and intraoperative protocols are scarce. This study aims to review the current literature regarding the use of antibiotic cement in primary THA. **Material and methods:** We performed a systematic search of available literature in Medline, Embase, PubMed and Cochrane Library databases in accordance with PRISMA guidelines. Articles detailing the use of bone cement containing antibiotics in primary THA were eligible for inclusion. **Results:** A total of 17 articles were included with a cumulative number of 374 cases. Indications for using antibiotic bone cement were mostly preventing infection following THA. The overall data showed that use of bone cement containing antibiotics decreased the risk of deep infection, although, risk of superficial infections appeared to be higher when using this type of cement. Different antibiotic contents were also examined, bone cement containing cefuroxime showed no change in the prevalence of deep infections, while those containing gentamicin showed significantly reduced deep infection rates. The use of systemic antibiotics in addition to the cement further decreased the risk of infection. **Conclusions:** Use of bone cement containing specific antibiotics in primary THA may significantly reduce the risk of deep infection in patients who undergo total hip arthroplasty. The addition of systemic antibiotics in conjunction with the antibiotic containing bone cement may also further decrease the risk of infection.

**Keywords:** Antibiotics, bone cement, total hip arthroplasty, infection

## CHARACTERISTICS OF ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION IN PATIENTS OLDER THAN 45 YEARS: A SCOPING REVIEW.

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**Background:** Anterior cruciate ligament (ACL) rupture is among the most common sports injuries. Nowadays, ACL reconstruction (ACLR) has become an extremely popular arthroscopic procedure. Patients usually are young, athletic and expect a quick recovery. Last 50 years, quality of life and life expectancy has increased so much that middle-aged people are more and more involved in physical activities like fitness, skiing, tennis, yoga, etc. In past few decades, middle-aged and older patients required more ACLR for maintaining their previous activities, however, the question of its effectiveness remains open. **Material and methods:** A systematic literature review from Pubmed, Google Scholar, Scopus and Cochrane electronic databases from 2002 to 2022 comparing the outcomes of ACLR performed on older than 45 years and younger than 45 years. Associated knee and other pathology, postoperative evolution and type of preinjury sports/activities were significant criteria considered in this scoping review. **Results:** According to twenty studies involving a total of 6000 patients, there aren't many differences in the treatment options between older and younger patients with ACL rupture. Associated mild knee osteoarthritis (Ahlback 1) or without osteoarthritis, delay (less than one year) from accident, symptomatic knee instability were mandatory particularities deciding on surgical procedure, while features as gender, meniscal damage, type of sport/activity practiced, type of initial laxity, have no significance for patients' triage. **Conclusions:** Middle-aged and older patients, as much as younger ones, do not want to lose the ability to do usual activities as they used to do before the ACL rupture, mainly because these hobbies are the ones that improve their quality of life. ACLR can be safely performed on older patients with good outcome. Due to this fact, orthopedic surgeons can easily decide on procedure regardless of patient's age.

**Keywords:** Anterior cruciate ligament (ACL), Anterior cruciate ligament reconstruction (ACLR), scoping review, 45 years old

## ASSESSMENT OF POSTOPERATIVE EFFECTIVENESS OF CONTINUOUS PASSIVE MOTION AFTER UNILATERAL TOTAL KNEE ARTHROPLASTY IN PATIENTS WITH PRIMARY OSTEOARTHRITIS

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**Background:** Continuous passive motion (CPM) in addition to physiotherapy as an early post-operative auxiliary method of rehabilitation after total knee arthroplasty (TKA). The objective of this study is to evaluate the effectiveness of early post-operative CPM applied to patients diagnosed with primary knee osteoarthritis who underwent unilateral TKA. **Material and methods:** We selected a number of 100 patients from the Orthopedic and Traumatology Clinic in Târgu Mureş who underwent unilateral TKA. The patients were divided into two groups: a study group who benefited of CPM in addition to physiotherapy and a control group who only underwent physiotherapeutic treatment. All patients mean active range of motion (AROM) was evaluated, clinical and functional status was assessed using Knee Society Score (KSS) and Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC). **Results:** Mean value of AROM for the study group was  $88.6^\circ \pm 11.1$  and  $72.4^\circ \pm 13.2$  for the control group. Mean KSS score value for the study group was  $142.6 \pm 21.3$  and  $140.8 \pm 19.8$  for the control group. KSS score values for both groups revealed a  $p = 0.008$ , a statistically significant difference. A subjective assessment of knee function, elasticity and pain also revealed a statistically significant difference between the study group,  $41.2 \pm 16.5$  points and for the control group,  $24.2 \pm 17.8$  points. **Conclusions:** Although there was no difference between groups regarding range of motion after CPM, a statistically significant difference between groups regarding function assessed with KSS score and WOMAC score and also for self assessed function, joint elasticity and pain level.

**Keywords:** total knee arthroplasty, continuous passive motion, function

## POSTOPERATIVE COMPLICATIONS FOLLOWING KNEE AND HIP ARTHROPLASTY IN SMOKERS AND NONSMOKERS PATIENTS.

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**Background:** One of the major preventable risk factors in any postoperative complication is smoking. Studies show that smokers experience greater postoperative issues than nonsmokers. This study aims to investigate the relationship between smoking and postoperative outcomes following Total Hip Arthroplasty (THA) and Total Knee Arthroplasty (TKA). **Material and methods:** Five studies comparing complications in TKA and THA in relation to smoking as a risk factor were analyzed. The studies included were gathered from the resources available on PubMed and Embase. **Results:** Different aspects of the postoperative complications of THA and TKA patients were investigated. Compared to non-smokers, smoking individuals showed an increased complications rate for wound healing. Also, the physical activities of smokers were also shown to be reduced, with these patients showing difficulty with stair climbing and long walks. **Conclusions:** According to this study, smoking could present an increase in postoperative risk of complications after TKA or THA. Further studies on the long-term effects of smoking on implant problems and survival are required.

**Keywords:** Total hip arthroplasty (THA), Total knee arthroplasty (TKA), Smoking, recovery

## ADVANTAGES AND DISADVANTAGES OF KEBLISH LATERAL APPROACH IN PATIENTS WITH SEVERE VALGUS KNEE UNDERGOING TKA - A SCOPING REVIEW

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**Background:** Keblish's lateral approach is recommended in knees with more than 15 degrees of valgus. The occurrence of severe valgus deformity where the angle is greater than 20 degrees reaches 5% in patients with valgus knee who need primary total knee arthroplasty (TKA). Maintaining the soft tissue balance is challenging in TKA performed on a severe valgus knee. We aim to identify the clinical outcomes of Keblish's lateral approach in patients undergoing TKA with severe valgus knee. **Material and methods:** We analyzed 15 scientific works from "Pubmed", "EMBASE" and "Journal of arthroplasty" websites. The criteria for inclusion in this scoping review were the following: studies containing a lateral approach in a well-defined group of patients with severe valgus knee undergoing TKA and studies analyzing different approaches for treating severe valgus knees in TKA, including the Keblish's lateral approach. **Results:** Keblish's lateral approach allows the preservation of patellar blood supply and prevents lateral patellar subluxation, but it also has disadvantages such as difficulty in inverting the patella medially and it may require tibial tubercle osteotomy. Revision rate was 4-5% with lateral approach which was higher than revision rate of medial approach (1-2%) in severe valgus knee undergoing TKA. Studies revealed superior KSS score, VAS score, postoperative ROM, and knee flexion, when there was performed the lateral approach. **Conclusions:** Based on clinical outcomes, Keblish's lateral approach is considered to be a better option in treating patients with severe valgus knee deformity undergoing TKA, where the valgus angle is greater than 15 degrees, based on a shorter surgery time, a higher postoperative KSS score, VAS score, postoperative ROM, and knee flexion.

**Keywords:** Keblish lateral approach, lateral approach, total knee arthroplasty (TKA)

## COMPARISON BETWEEN THE USE OF TRANEXAMIC ACID OR NON TRANEXAMIC ACID IN PATIENTS WITH FEMORAL NECK FRACTURES WHO UNDERWENT TOTAL HIP ARTHROPLASTY

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**Background:** Tranexamic acid is a synthetic analog of amino acid lysine which serves as an antifibrinolytic in major surgeries. The

efficacy of Tranexamic acid in trauma patients undergoing total hip arthroplasty was rarely studied, and it is not well established. The purpose of our study, was to observe if intraoperative use of Tranexamic acid for intracapsular femoral neck fractures was efficient and safe for patients who underwent total hip arthroplasty. **Material and methods:** This is a cohort study that was carried out in our medical center between 2011 and 2019 with one year follow-up in patients with femoral neck fractures who underwent total hip arthroplasty. Patients were selected in two groups, with or without Tranexamic acid as intraoperative treatment. Blood loss, short and long term mortality, readmissions and peri and postoperative complications were compared between the two groups.

**Results:** We selected 533 patients who suffered femoral neck fractures and underwent total hip arthroplasty, 198 of them were included in "Tranexamic acid" group and the other 335 were included in "non-Tranexamic acid" group. The use of Tranexamic acid reduced significantly the 30-day mortality (4.6% vs 7.3%, respectively,  $p < 0.046$ ) and perioperative blood loss indicated in hemoglobin levels, measured before and after surgery ( $\Delta - 1.38$  gr/dL vs  $\Delta - 1.76$  gr/dL,  $p < 0.001$ ). Administration of allogenic blood transfusion was as well evaluated and let us observe important changes (17.5% vs 44.4%,  $p < 0.001$ ). **Conclusions:** The use of Tranexamic acid as treatment in patients with femoral neck fractures undergoing total hip arthroplasty led to an important reduction in postoperative blood loss, in 30-day mortality and in the proportion of patients who required allogenic blood transfusions.

**Keywords:** hip hemiarthroplasty, postoperative blood loss, perioperative complications

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## ASSESSMENT OF POSTOPERATIVE ANTERIOR REMANENT KNEE PAIN AFTER TOTAL KNEE ARTHROPLASTY IN PATIENTS WITH PRIMARY OSTEOARTHRITIS

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**Background:** Total knee arthroplasty (TKA) is the elective and most successful surgical procedure performed on patients with severe osteoarthritis with the aim of restoring knee biomechanics and relieving pain. Despite the fact that surgical techniques are improving, there is still a group of patients with a low level of satisfaction after TKA in regard to anterior remanent knee pain. The objective of this study is to evaluate the prevalence, level of pain, functionality and predictive agents who lead to persistent knee pain following TKA. **Material and methods:** 120 subjects who were followed-up in the 1st and 2nd year after TKA. We used Western Ontario and McMaster Universities Index of Osteoarthritis (WOMAC), Knee Society Score (KSS) and a subdivision of KSS score to determine function, presence and pain level. As predictive factors, we chose patients demographic data, associated diseases, implant type. **Results:** KSS and WOMAC scores showed progressive improving functional outcomes. 1st year postoperative, 20.8% were experiencing anterior knee pain and 16.2% are still having pain after 2 years. As a predictive factor, subjects with heart diseases were prone to experience anterior knee pain and also had unsatisfactory functional outcome. Genre distribution revealed that males and posterior stabilized knee type prosthesis have a better outcome in regard to knee function. **Conclusions:** Even if there was a majority of patients satisfied after TKA, more than a quarter of subjects still experience knee pain after 1st and 2nd year, implant knee type, presence of heart diseases and genre make patients susceptible to develop anterior knee pain and have a poor functional outcome. Determining predictive factors that lead to knee pain after TKA leads to a better management of patients expectation.

**Keywords:** total knee arthroplasty, function, anterior knee pain, predictive factor

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## FIRST REPORTS OF TRANSARTERIAL PERIARTICULAR EMBOLIZATION FOR THE TREATMENT OF KNEE OSTEOARTHRITIS.

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**Background:** A novel procedure called transarterial periarticular embolization (TAPE) of genicular artery branches has shown promise in postponing invasive knee surgery in patients with knee osteoarthritis (OA). Patients with significant risk factors can have an alternative for invasive major surgery in mild to moderate OA with this procedure. Our goal is to evaluate how TAPE can affect clinical outcomes in people with degenerative knee OA in a 12 months period. **Material and methods:** The study included 17 patients treated with TAPE who were diagnosed with knee osteoarthritis. Every patient was examined clinically at various intervals



using the Knee Injury and Osteoarthritis Outcome Scores, Western Ontario and McMaster Universities Arthritis Index, and 36-Item Short Form Survey (KOOS, WOMAC and SF-36) **Results:** At the one-month follow-up, KOOS and WOMAC scores increased from 46.613.2 (range 27.3-78.2) to 56.513.9 (range 32.3-78.4;  $p=0.023$ ) and 49.513.2 (range 29.3-82.3) to 59.812.6 (range 39.8-83.5) respectively. Physical SF-36 scores increased from 42.17.75 (range: 30.3-57.3) to 50.59.9 (range: 35.6-67.9) ( $p=0.032$ ). At three, six, and twelve months following TAPE, no significant score changes were detected; **Conclusions:** TAPE provided early pain relief and a significant increase in quality of life without complications in patients with moderate to severe knee osteoarthritis.

**Keywords:** Transarterial periarticular embolization (TAPE), knee osteoarthritis (OA), Quality of life

## IDENTIFYING RISK FACTORS FOR THE DEVELOPMENT OF HETEROTOPIC OSSIFICATIONS FOLLOWING PRIMARY TOTAL HIP ARTHROPLASTY

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**Background:** Heterotopic ossification (HO) is a process where bone forms through an abnormal method in soft tissues. There are several known factors for the development of HO, namely: male sex, trauma, spinal cord injury, trauma and surgery. This study investigated additional risk factors for the appearance of HO following total hip arthroplasty (THA). **Material and methods:** A retrospective study was performed of 257 patient records for those who underwent hip arthroplasty from January 2016 to December 2021 at the Mures County Clinical Hospital orthopaedic and traumatology clinic. We analyzed demographics, medications and comorbidities of the patients, to help us identify any factors that may have contributed to the apparition of HO.

**Results:** A total of 257 patients underwent THA during the time period which we observed (109 men and 148 women, mean age at the time of THA was  $67,31 \pm 12,1$  years). We identified a total of 8 cases of HO following the procedure (3%). A number of patients who presented HO following the procedure suffered from type 1 or 2 diabetes ( $P<0.001$ ), Vitamin D deficiency ( $P<0.001$ ), postmenopausal status ( $P<0.011$ ), parathyroid disorders ( $P<0.001$ ) and osteoporosis ( $P<0.001$ ). We observed that some patients also had low estrogen ( $P=0.013$ ) and also had preexisting osteoporosis ( $P=0.001$ ). All patients received nonsteroid anti-inflammatory drugs following the procedure. **Conclusions:** Although we had a limited number of patients to analyze, we believe that the presence of low estrogen and preexisting osteoporosis may be relevant to the apparition of HO following THA.

**Keywords:** heterotopic ossification, total hip arthroplasty, osteoporosis, risk factors

## DEFINING IN VITRO BIOCOMPATIBILITY TESTING: OPTIMAL NUMBER OF OSTEOBLASTS CELLS REQUIRED FOR COMPARATIVE SUBSTRATE ANALYSES

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**Background:** Human bone derived osteoblasts (HBDO) obtained from mesenchymal stem cells (MSCs) have a great capacity to adapt based on the substrate they are in contact with. Nowadays, HBDOs are widely used in studies involving biocompatibility analyses. Compared to in vivo, cell kinetics in vitro are settled and body biofluids have no impact on their behavior. Cell morphology and spreading over the entire tested surface of a substrate are influenced by the number of cells initially deposited. The aim of this study was to establish an optimal amount of HBDO cells required to be seeded onto substrates in biocompatibility in vitro testing. **Material and methods:** Ethical approval for handling human tissue was obtained from two local committees. HBDO cells were harvested from a male patient aged 86. They were differentiated from MSCs harvested from residual bone fragments during total hip replacement surgery. Cells were deposited on a biologically inert material in different numbers ( $3 \times 10^4$ ,  $6 \times 10^4$  and  $1 \times 10^5$ ) and were incubated in a humidified atmosphere (37°C, 5% CO<sub>2</sub>) for different timeframes (one, three and seven days). Inverted optical microscopical analysis was performed at each timeframe analyzing: cell morphology, behavior, proliferation status and cell length. **Results:** Based on optic microscopy, HBDO proliferation requires robust intercellular communication. Two main types of proliferation and behavior of HBDO could be identified on the optical field: relaxed areas and



confluent areas. These two zones were directly proportional to numbers of seeded cells. Cells seeded in  $6 \times 10^4$  suspension shown peak morphology with a median length of  $10.4 \mu\text{m}$  at 10 days of incubation. **Conclusions:** For in vitro biocompatibility analysis, a suspension of about  $5 \times 10^4$  HBDO is optimal. If a study seeks to analyze the mineralization phase, with incubation periods of more than 3 weeks and substrates with varied tribological properties, a suspension with a lower number of cells is recommended.

**Keywords:** Biocompatibility, orthopedic basic science, mesenchymal stem cells, in vitro testing, osteoblasts biocompatibility

## IS TIGHTROPE A GOOD SOLUTION FOR SYNDESMOSIS FIXATION?

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**Background:** The ankle is one of the most common joints affected by traumatism. Injuries of the syndesmosis can occur isolated, or in conjunction with localized fractures. Treatment of these fractures is done using cortical screws. This method presents both advantages and disadvantages. The fixation it provided was stable, but micro-movements of the ankle joint ceased as a result, patients were unable to put weight on their ankle for a long period of time. There is an everpresent risk of the screw failing, and in due time it had to be removed. Tightrope eliminates these risks and disadvantages. The aim of this study was to present our experience using Tightrope in ankle traumatism. **Material and methods:** A retrospective study was performed of the patients treated in our clinic between 2018 and 2020. **Results:** A total of 11 patients were examined in this time period. All of them had traumatism of the distal syndesmosis, and a portion (7 patients) had an associated malleolar fracture. Regular follow-ups were performed for 7 months using the AOFAS score, as well as using X-rays taken before and after the intervention. In 3 of the cases we noted the failure of the Tightrope system. **Conclusions:** Despite having a small number of patients and the use of a relatively simple surgical technique, we can conclude that patients were able to put their body weight on the affected limb at a much earlier date, the implant does not need to be extracted. The failure in 3 of the cases makes us cautious in recommending this technique for ankle traumas.

**Keywords:** ankle, trauma, Tightrope, fixation, implant

## MOSAICPLASTY RESULTS FOR KNEE CARTILAGE DEFECT-A RETROSPECTIVE STUDY

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**Background:** Clinical and radiological evaluation of the mosaicplasty procedure in the patients with cartilage defects between-2014-2020 made in our unit. **Material and methods:** Between 2014-2020 36 patients were operated for osteochondral defect of the femoral condyle using the mosaicplasty procedure. Mean age of the patient at the time of surgery was 36 years old (22-48 years). 20 patients were male and 16 were female. All practice sport activity at the amateur level-fitness, tennis, football, etc. All cases were investigated and diagnosed with the clinical, MRI and arthroscopic procedures. In 14 cases the mosaicplasty procedures were made arthroscopically and in 22 cases with mini-open procedures. We make mini-open procedures in the cartilage defects large than 5 cm square. The grafts were harvested from the lateral femoral condyle from the non-bearing area with dedicated instrumentation. Postoperatively all cases were investigated with MRI and underwent a second look arthroscopical. In all cases the grafts cover the all defect surface or at least 90 %, and present good biological integration. The patients start the next days the passive motion and the full weight-bearing was permitted after 6 weeks. **Results:** The follow-up study was for 1,2,3,4 years and showed an improvement in the IKDC score from 45 to 87. All second look arthroscopy showed a good articular surface and the biopsy demonstrated regenerated hyaline cartilage, even if some structural difference occurred. All patients returned to their previous professions as well to sports activities after a rehabilitation programme. **Conclusions:** Mosaicplasty seems to be a successful alternative for the treatment of knee cartilage defects and can be made mini-open or arthroscopical but need a specific instrumentation for harvest the bone cylinder and impacted in the defect area.

**Keywords:** Mosaicplasty, Cartilage defect, Knee

## PATHOLOGY

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### HISTOLOGICAL CHARACTERISTICS OF VEZICULLOBULOUS LESIONS

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**Background:** The vesiculobullous pattern represents the presence of vesicles or bullae in the epidermis (at various levels) and dermis. These lesions are the result of a defect in the adhesion of keratinocytes, which can be congenital or acquired. **Material and methods:** We selected three cases from patients with vesiculobullous lesions diagnosed in the Pathology Department of the Clinical County Hospital Mureş. The patients were diagnosed with the following: pemphigus vulgaris, pemphigus foliaceu and bullous pemphigus. **Results:** Male patient, 77 years old, presented with a lesion on the thorax. On the H&E stain, we observed epidermis lined by squamous epithelial cells with a split below the basal layer and abundant eosinophilic infiltrate in the dermis. Female patient, 67 years old, presented with a lesion on the lumbar area. On the H&E stain we observed epidermis lined by squamous epithelial cells with a split in the depth of the squamous layer and abundant inflammatory infiltrate in the dermis, composed by histiocytes, macrophages and eosinophils. Male patient, 68 years old, presented with a lesion on the flank area. On the H&E stain we observed epidermis lined by squamous epithelial cells with a split below the corneus layer, along with abundant inflammatory infiltrate in the dermis, composed mostly by lymphocytes. **Conclusions:** Vesiculoobullous lesions are rare lesions which cover a large area of diseases which can be only differentiated in histological examination. Pemphigus and pemphigoid lesions are unique by their morphological appearance but also by the impact they may develop on the patient.

**Keywords:** pemphigus, Pemphigoid, vesiculobullous

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### CONTRIBUTION OF CELL-BLOCK AND IMMUNOHISTOCHEMISTRY IN THE DIAGNOSIS OF MALIGNANT PLEURAL EFFUSION: CASE SERIES OF BREAST CANCER METASTASIS

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**Background:** Achieving an accurate cytological interpretation of pleural effusion fluids is essential for the management of cancer patients. The most common pleural metastases are from the lung in men and from the breast in women. **Material and methods:** We present a series of 5 cases, previously diagnosed with breast cancer, which were admitted to the Pneumology clinic for respiratory failure and pleural effusions. Following thoracentesis, the pleural effusion fluids were sent to the Department of Pathology for examination. **Results:** Normal or reactive mesothelial cells were identified on conventional smear. Also, a second population of cells with marked atypia was identified, with enlarged, irregular, hyperchromic nuclei, arranged in three-dimensional aggregates in the form of "cannonball". On cell-block H&E slide reactive mesothelial cells and the second cell population arranged in glandular, nested or isolated structures, were identified. The diagnosis of Category V - Malignant smear was established in all five cases. Supplementary, immunohistochemical reactions were performed to exclude mesothelial or secondary pulmonary origin and to confirm the primary origin in breast. All cases showed positivity for immunostaining with anti-GATA3 and anti-ER antibodies and were negative for immunostaining with anti-TTF1 and anti-Calretinin or anti-WT1 antibodies. **Conclusions:** Cell-block represents an easy technique, with a huge contribution in establishing the diagnosis of malignant smear. Moreover, performing immunohistochemical reactions on the cell-block plays an essential role in identifying the primary origin of tumour cells.

**Keywords:** Cell-block, Cytology, Pleural Effusion

## THERAPY RESISTANT DOUBLE-HIT HIGH-GRADE B-CELL LYMPHOMA (HGBL) IN A 53-YEAR-OLD PATIENT

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**Background:** High-grade B-cell lymphoma (HGBL) with MYC and BCL2 and/or BCL6 rearrangements is an aggressive mature B-cell lymphoma that harbours a MYC and BCL2 rearrangement (double-hit lymphoma), and/or BCL6 rearrangement (triple-hit lymphoma), that for biological and clinical reasons, it should not be classified as diffuse large B-cell lymphoma (DLBCL), NOS, or as Burkitt lymphoma (BL). **Material and methods:** We report the case of a 53-year-old male who was admitted to the Department of Haematology for the first time in 2021 with submandibular and axillary adenopathy. Based on histopathologic examination of the axillary lymph node and incomplete immunophenotyping (BCL2+, CD10+, BCL6+ without MYC determination, but high Ki67 proliferation index) HGBCL was suspected. Three months after his first unsuccessful chemotherapy treatment, the patient underwent emergency surgery with an infiltrative, solid and ulcerative lesion in the right axilla, which invaded the axillary vein, pectoralis major, minor and latissimus dorsi muscles, with approximately 110x160 mm in size. Surgical excision of the tumour was performed, with right axillary lymphoid dissection and resection of infiltrated muscles, preserving the vasculature of the axilla. The surgical specimen was thoroughly sampled, sections from the tumour mass and the surrounding tissue were submitted for standard histological procedures. Immunohistochemical staining was also performed. The diagnosis was established after the microscopic evaluation and after discussing the differential diagnostic criteria. In addition, FISH analysis was performed. **Results:** The tumour cell morphology and immunophenotype was similar to previous results. Relying on the FISH determination, the pathological diagnosis of High-grade B-cell lymphoma with MYC and BCL2 rearrangements (double-hit lymphoma) was defined. Chemotherapy was continued according to the R-CHOP scheme, but the evolution was unfavourable, the patient passed away. **Conclusions:** The presented case emphasizes the necessity of cytogenetic techniques to establish the precise diagnosis of an aggressive lymphoma and providing the patient with the correct and personalised treatment.

**Keywords:** lymphoma, double-hit, B-cell, cytogenetics

## SARCOCYSTIS-INDUCED SUDDEN DEATH: AN UNUSUAL CASE

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**Background:** Introduction: Sarcocystosis is a parasitic infection produced by the genus *Sarcocystis*. Humans can act as both intermediate and definitive hosts, depending on the species of *Sarcocystis*. The objective of this paper is to describe the morphology of the parasite which was incidentally found in a sheep. **Material and methods:** Material and methods: During an experimental study, one of the sheep suddenly died and autopsy was performed to understand the cause of death. **Results:** Results: The autopsy revealed no significant macroscopic changes, except pulmonary dystelectasis. Under microscope, hyaline membranes were seen in the lungs, as indicator of a shock. In the myocardium, we have incidentally discovered the parasitic cysts. They were sporocysts containing bradyzoites of the *Sarcocystis* spp., suggesting the sheep was acting as an intermediate host. **Conclusions:** Results: The autopsy revealed no significant macroscopic changes, except pulmonary dystelectasis. Under microscope, hyaline membranes were seen in the lungs, as indicator of a shock. In the myocardium, we have incidentally discovered the parasitic cysts. They were sporocysts containing bradyzoites of the *Sarcocystis* spp., suggesting the sheep was acting as an intermediate host.

**Keywords:** sarcocystosis, sporocysts, myocardium

## MORPHOLOGICAL AND IMMUNOHISTOCHEMICAL FEATURES OF GASTRIC NEUROENDOCRINE TUMORS: A CASE REPORT

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**Background:** Gastric neuroendocrine tumors (gNETs) are neoplasms originating from enterochromaffin type cells of gastric mucosa and are inserted in a larger group named gastric neuroendocrine neoplasms (gNENs), together with neuroendocrine carcinomas (gNECs) and mixed adenoneuroendocrine carcinomas (gMANECs). Although gNENs are uncommon, their incidence increased over the past decades and it is crucial to discriminate between different types, because the treatment and prognosis differ significantly. **Material and methods:** We present a case of a 64 year old male patient with multiple comorbidities, who was admitted at hospital for upper gastrointestinal bleeding. A gastroscopy with biopsy was performed, that revealed a G1 well differentiated neuroendocrine tumor in the subcardial region of stomach, for that the patient underwent surgical treatment.

**Results:** Macroscopically, the resection specimen consisted of a nodular mass, lined by focally ulcerated gastric mucosa. On cut section, the tumor was well delimited, with yellowish, grayish and whitish areas, with greatest diameter of 50 mm. Histologically the tumor was composed of monomorphic and medium sized tumor cells with regular shape and round nuclei in a trabecular and solid arrangement, invading the subserosal layer. On immunohistochemical examination tumor cells were positively stained with Chromogranin A, Synaptophysin and CD56. Based on the histologic aspect, immunohistochemical staining, mitotic rate (10 mitoses per 2 mm<sup>2</sup>) and Ki67 proliferation index (12%), we put the diagnosis of well differentiated G2 NET. The overlying mucosa showed chronic inactive gastritis with intestinal metaplasia and atrophy, feature that is characteristic for type 1 gastric NETs, which present a better prognosis. **Conclusions:** Our case emphasise the role of a detailed pathological assessment of histological differentiation, proliferative grade and other prognostic factors in differentiating several types of NENs, appreciating tumor behavior and in adopting the optimal therapeutic decision.

**Keywords:** gastric neuroendocrine neoplasms, gastric neuroendocrine tumors, gastric neuroendocrine carcinomas, Ki67, Mitotic rate

## SOX11 NEGATIVE MANTLE CELL LYMPHOMA: A CASE REPORT

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**Background:** Mantle cell lymphoma is a mature B-cell neoplasm composed of small to medium-sized monomorphic lymphoid cells that exhibits several morphological subtypes and variable immunohistochemical profile that also determines the clinical course. Aberrant immunophenotypes of CD5, Cyclin-D1, CD10 or bcl-6 expression have been described. SOX-11 is the most sensitive monoclonal antibody, positive in more than 90% of cases. In rare cases SOX-11 can be negative associated with increased Ki67 index. **Material and methods:** We examined a lymphadenectomy specimen of a 73-year-old male patient diagnosed with multiple inguinal and axillary adenopathies with suspected lymphoma based on clinical examination and paraclinical and imaging findings.

**Results:** Histopathological examination of the lymph node suggested a tumor proliferation with mature B lymphocytes. The architectural and histological appearance in addition with immunohistochemical profile were compatible with mantle cell lymphoma (positive for CD20, PAX-5 CD5, Cyclin-D1 respectively negative for CD10, bcl-6). The immunohistochemical panel performed was also supplemented with SOX-11 reaction, which was negative. Based on the above mentioned tumor immunophenotype we classified this lesion as mantle cell lymphoma, SOX-11 negative. **Conclusions:** The relevance of SOX-11 in nodal MCL is unclear, for this, it is necessary to enlarge the immunohistochemical and/or molecular panel. This subtype of lymphoma is rare, with mutation of IGHV gene, SOX11-negativity may correspond to a subtype of the disease with more indolent behavior.

**Keywords:** SOX11, Mantle cell lymphoma, Immunohistochemistry

## ADULT-TYPE GRANULOSA CELL TUMOR OF THE OVARY – A CASE REPORT

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**Background:** Ovarian sex cord stromal tumors include many of the most morphologically fascinating ovarian neoplasms, with granulosa cell tumors (GCTs) being a special, extremely rare type that accounts for approximately 5% of all malignancies in this category. TCG is subclassified into two separate categories: adult-type and juvenile-type TCG. The adult form reaches its peak incidence during the peri- or early postmenopause period, with patients being diagnosed most frequently between 50 and 55 years of age. **Material and methods:** 57-year-old female patient, presented herself at the Obstetrics-Gynecology Clinic of the Mureș County Clinical Hospital, complaining of intense vaginal bleeding. Following the investigations, a laparoscopic subtotal hysterectomy with bilateral adnexectomy was performed. Later, the surgical piece was examined in the Pathology Department.

**Results:** Macroscopically, a right ovarian encapsulated mass, measuring 90x70x40 mm in size, which on section showed solid grey white to yellow tumor with cysts ranging in size from 4 to 41 mm, some of them filled with blood. On histopathological examination, mass revealed tumor cells arranged in a variety of growth patterns: trabecular, macrofollicular, and at places, microfollicular pattern with the presence of Call-Exner bodies. Individual tumor cells have a monomorphic appearance, round to oval with reduced cytoplasm, vesicular nuclei, and nuclear grooves. The architecture of the tumor is well differentiated, the lack of p53 oncoprotein overexpression confirming the degree of tumour differentiation (G1). **Conclusions:** Adult-type granulosa cell ovarian tumors are low-grade tumors with a recurrence rate dependent on the stage of the disease, which is the most important prognostic factor. The particularity of this case resides precisely in the diversity of patterns found in the examined tumor.

**Keywords:** granulosa cell tumor, sex cords, immunohistochemistry

## MELANOMA INTESTINAL METASTASIS - A CASE REPORT

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**Background:** The incidence of melanoma has continued to rise steadily for several decades and remains one of the most complex pathology, being responsible for the majority of deaths caused by skin neoplasms. Distant metastases occur in skin, liver, lung, central nervous system, and gastrointestinal tract, particularly the small intestine. Most metastases are detected several years secondary to a primary lesion and have a poor prognosis. **Material and methods:** We describe a case of a 72-year-old patient who presented with non-specific symptoms and iron deficiency anemia, previously diagnosed with cutaneous melanoma, excised 4 years ago. Following clinical and imaging investigations, a tumoral mass located in the small intestine was identified, for which a double resection of the small intestine is performed along with the adenopathic block. The specimen was sent further for histopathological examination. **Results:** Grossing showed a vegetative tumor with multinodular aspect, measuring 90x105x35 mm. At microscopy a tumor proliferation with a solid architecture, that infiltrates the intestinal wall up to the subserosal layer, was observed. It consists of medium and large size tumoral cells arranged in nests, placards and polygonal cords, with abundant eosinophilic cytoplasm, large, vesicular nuclei with marked pleomorphism, prominent eosinophilic nucleoli, and numerous atypical mitoses. An increased amount of melanic pigment is observed in the cytoplasm of the tumor cells, and extensive areas of hemorrhage and necrosis are present around the proliferation. Tumor cells showed positivity for immunolabeling with anti-SOX-10 and anti-Melan-A antibodies. **Conclusions:** Organs with a predilection for melanoma metastasis include the skin, liver, lungs, central nervous system, and gastrointestinal tract. The particularity of the case is given by the melanoma's intestinal metastasis, without the involvement of other organs.

**Keywords:** melanoma, skin, small intestine, metastasis

## IMMUNOHISTOCHEMISTRY IN LUNG BIOPSIES – A FRIEND IN NEED

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**Background:** Lung carcinomas are represented mainly by the non-small carcinomas (NSCC) and small cell carcinoma. The histopathological diagnostic of the non-small carcinomas on lung biopsies must be established by the morphological characteristic and with the help of immunohistochemistry. The aim of this study is to demonstrate the necessity of immunohistochemistry and its implications on the diagnostic of lung non-small carcinomas. **Material and methods:** We have performed a morphological and iconographic study, based on the cases from the Pathology Department of Mures Clinical County Hospital. The slides are stained with Hematoxylin-Eosin or immunohistochemistry and have the histopathological diagnoses of non-small cell lung carcinoma. **Results:** We have included five cases of non-small cell carcinoma (adenocarcinoma and squamous cell carcinoma) provided from lung biopsies. The diagnostics were most of them of non-small cell carcinoma in favor of adenocarcinoma or squamous cell carcinoma. The histopathological diagnoses were established in accordance with the latest WHO classification of thoracic tumors 2021. **Conclusions:** On small biopsies, the morphological aspect of the lung biopsies may vary. To establish a correct histopathological diagnosis, immunohistochemistry is needed for setting the correct profile of each lung tumor. This can lead to a personalized treatment and better outcome for the patient.

**Keywords:** lung, non-small cell carcinoma, biopsy, immunohistochemistry

## PEDIATRIC BENIGN SOFT TISSUE TUMORS: CASE SERIES

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**Background:** Vascular, neurogenic, fibrous myofibroblastic, and myogenic tumors account for the majority (70% to 85%) of all soft-tissue neoplasms in children. Most of these tumors are benign (60% to 70% of cases) where there is a predilection for the trunk, extremities, and head and neck region. **Material and methods:** The 3 cases were processed in the Department of Pathology, Tîrgu-Mureş Emergency County Hospital. **Results:** Case 1: 9 years old female with patient who presented a mass localised subcutaneously in the upper part of the inferior member. Macroscopic: multiple fragments, white-tan and elastic consistency. Microscopic: sweeping fascicles of uniform, bland, elongated spindled fibroblasts interspersed with collagen fascicles. Immunohistochemistry:  $\beta$ -catenin-nuclear positive, vimentin positive, SMA focal positive and CD36 negative. Case 2: 12 years old female patient with a small mass localised subcutaneously in the forehead. Macroscopic: polypoid tumor measures 6x3x2 mm, grey colour. Microscopic: biphasic pattern with myxoid nodules with stellate cells with eosinophilic cytoplasm and increased cellularity areas with spindled cells and branched vascular structures. Immunohistochemistry: vimentin, SMA, F XIII and caldesmon positive and CTK, S100, desmin, myogenin negative, Ki67 under 1%. Case 3: 17 years old female patient with index macrodactyly. Macroscopic: sausage-shaped mass measured 85x23x12 mm, yellow-white tissue. Microscopic: adipose tissue and fibrous tissue infiltrate around and between nerve branches, with perineurial fibrous thickening and "onion bulb" intraneural hyperplasia. Immunohistochemistry: nerve branches are S100 and neurofilament positive. **Conclusions:** Due to similar aspect but different origin, recurrence rate and prognosis, the importance of immunohistochemistry in diagnosing has been emphasized.

**Keywords:** pediatric soft tissue tumors, immunohistochemistry, prognosis



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## TESTICULAR SEMINOMA - A CASE REPORT

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**Background:** Testicular seminoma is a malignant tumor which represents the most common type of germ cell tumor of the testis. Usually it appears as a solitary and unilateral tumor, targeting male patients with a median age about 40 years old, most of them symptomatic and has a good prognosis even on senior adults with advanced stages. **Material and methods:** Our case is that of a 29-year-old patient underwent orchiectomy due to imagistic findings of a testicular tumor. **Results:** Histologic evaluation confirmed the presence of a tumor measuring 20 mm at its greatest dimension. Microscopically, the tumor revealed a solid, nested and corded architecture with fibrous septae containing lymphocytes and plasma cells, composed of large monomorphic cells, with distinct cell boundaries, with abundant clear cytoplasm and a central round-shaped nucleus with visible nucleoli. The tumoral cells showed positivity for PLAP and CD117. Based on the tumor features our final diagnostic was that of testicular seminoma. **Conclusions:** Testicular seminoma is the most common type of germ cell tumor of the testis, with distinct histological and immunohistochemical features and should not be mistaken with other malignant pathologies of the testis. Knowledge of a wide spectrum of pathologies in association with immunohistochemistry is essential for an accurate diagnosis.

**Keywords:** malignant tumor, germ cell tumor, testis, immunohistochemistry

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## NEPHROGENIC ADENOMA: MIMICKER OF MALIGNANCY

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**Background:** Nephrogenic adenoma (NA) is a benign lesion that occurs most commonly in the urinary bladder following urinary injury. Due to morphologic variability, NA can be misdiagnosed as malignancy and consecutively overtreated. **Material and methods:** A 64-years-old male patient presented to the Urology Department for follow-up after transurethral resection (TUR-V) of a high-grade urothelial papillary carcinoma, stage pT1 six months ago. Cystoscopy revealed a tumor about 5 cm in diameter. A suspicion of bladder cancer recurrence has been raised for which a TUR-V was performed. **Results:** Microscopically, the fragments sent to the Pathology Department revealed papillary and small tubular structures lined by a single layer of cuboidal cells, in some areas with prominent central nucleoli and hobnail appearance. These cuboidal cells expressed PAX8, CK7, and focally AMACR. According to the histological aspect and immunohistochemistry, the histopathological diagnosis was NA of the urinary bladder. **Conclusions:** In the presented case, NA may be due to previous urothelial damage during TUR-V for urothelial papillary carcinoma. NA often simulates a urological malignancy on cystoscopy, hence pathologists must be aware of the polymorphisms of the histological aspect of this lesion and distinguish it from urothelial or prostate malignancies.

**Keywords:** nephrogenic adenoma; histology; immunohistochemistry.

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## THE SPECTRUM OF MIXED EPITHELIAL-MESENCHYMAL BREAST TUMORS FROM FIBROADENOMA TO MALIGNANT PHYLLOID TUMOR – A CASE SERIES

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**Background:** Breast fibroepithelial tumors are biphasic lesions and their spectrum includes fibroadenoma and benign, borderline

and malignant phyllodes tumor, as well. Fibroadenoma occurs in both adolescent and adult women and is described as palpable, mobile and painless masses. Phyllodes tumor occurs mostly in women aged between 40 and 50-years-old, often symptomatic and large in size due to its early rapid growth. The distinction between fibroadenoma and phyllodes tumors is made based on the areas of demarcation, stromal atypia and mitotic activity. **Material and methods:** We present a series of four cases of patients aged between 20 and 72-years old. **Results:** Macroscopically, the appearance of the tumoral masses were nodular, well-defined in case of the fibroadenoma and benign phyllodes tumor, with pushing edges in case of the borderline phyllodes tumor and with infiltrative edges in case of the malignant type. Microscopically, the fibroadenoma revealed a pericanalicular and intracanalicular pattern, with a hypocellular mesenchymal component, without atypia or mitotic figures. The phyllodes tumors revealed dilated ductal structures, represented by intraluminal leaf-like projections, lined by bistratified epithelium. The malignant phyllodes tumor revealed a hypercellular mesenchymal component, with marked pleomorphism, 23 mitoses/10 HPF, and areas of necrosis. Tumor cells were positive for c-kit/ cluster of differentiation 117 (CD 117), negative for Desmin, S100, cluster of differentiation (CD 68), with a Ki-67 proliferation index of 30%. The borderline variant expressed minimal atypia with a number of 7 mitoses/10HPF. In case of the benign variant, atypias were absent with 1 mitosis/10HPF. **Conclusions:** The distinction between these entities is very important, given that the malignant variant can spread systemically and has a marked potential for recurrence.

**Keywords:** fibroadenoma, phyllodes tumor, leaf-like projections, mixed epithelial-mesenchymal breast tumors

## SCROTAL SQUAMOUS CELL CARCINOMA: A CHALLENGING DIAGNOSIS AND STAGING

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**Background:** Scrotal tumors are an extremely rare pathology with an incidence of 1 in 1,000,000 men per year, squamous cell carcinoma being the most common scrotal malignancy. In the past, this pathology was considered a condition associated with exposure to soot, but over the centuries, the etiological factors have changed, including poor hygiene or HPV infection. **Material and methods:** A 45-year-old patient, known with flaccid paraplegia since 2015, wearing a urinary catheter, presents in August 2022 to the Urology department with a wound dehiscence at the level of the perineum, which was clinically diagnosed as an abscess. A biopsy was performed for a histopathological diagnosis. **Results:** The diagnosis for the biopsy specimen was scrotal squamous cell carcinoma. The patient returned in October to the Urology department for surgical treatment and they performed emasculation. The specimen was sent to our laboratory for final diagnosis and staging. Microscopically, a tumoral proliferation was observed starting from the level of the scrotal epithelium, infiltrating into the dermis, the Dartos muscle, and the cavernous bodies of the penis. The tumor presented solid architecture, consisting of islands of tumor cells. The cells are large, with clearly visible cell borders, abundant eosinophilic cytoplasm, and enlarged, pleomorphic, vesicular nuclei, with visible nucleoli and numerous mitotic figures. Invasion of the surgical resection margin could not be determined with certainty due to the fragmentation of the tumoral block. **Conclusions:** The management of patients with scrotal squamous cell carcinoma is not well established in the literature due to the limited number of cases. The treatment of choice is surgical excision of the tumor with free surgical resection margins. The prognosis is determined by the histological grade, pathological stage, and adequate treatment.

**Keywords:** scrotal, squamous carcinoma, malignancy

## A CHALLENGING CASE OF PRIMARY CUTANEOUS AGGRESSIVE EPIDERMOTROPIC CYTOTOXIC CD8 POSITIVE T CELL LYMPHOMA

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**Background:** Primary cutaneous aggressive epidermotropic cytotoxic CD8 positive T cell lymphoma it's a rare and uncommon disease with aggressive clinical behavior, which by definition is characterized by proliferation of epidermotropic CD8+ cytotoxic T cells. Most patients are adults who present with rapidly progressing cutaneous lesions with nodular, papular, verrucous, hemorrhagic or ulcerated macroscopic aspect. Histologically these lymphomas are characterized by an infiltrate of pleomorphic T



cells, often with epidermo-, syringo- and folliculotropism. We present you the case of an 41 year old male patient with atopic dermatitis antecedents who presents at the dermatology department for the sudden appearance of multiple pruriginous firm, nodular lesions on the lower limbs which became more prominent and disturbing in conditions of stress. **Material and methods:** Formalin-fixed and paraffin-embedded tissue was examined in H.E. sections and the lesions cyto-morphologic features were interpreted alongside with multiple immunohistochemistry reactions. **Results:** H.E sections showed a lentiginous proliferation of atypical lymphoid infiltrate in the epidermis, with periandexal and perivascular distribution in the adjacent dermis. Tumor cells display varying cytology but are often large sized with enlarged hyperchromatic nuclei with cytotoxic T cell phenotype (CD3+, TIA1, Granzym B, CD7+) with the loss of CD4, CD2 and CD5 expression and high proliferation index. **Conclusions:** Based on morphological and immunophenotypic characteristic the diagnosis of primary cutaneous CD8 positive aggressive epidermotropic cytotoxic T Cell lymphoma was made. The disease progression is relentless with visceral metastases and high mortality. The particularity of this challenging case is the rarity of the lesion itself, the clinical aggressiveness and reserved prognosis.

**Keywords:** Cutaneous, Lymphoma, cytotoxic, epidermotropism, aggressive

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## AN UNUSUAL CASE OF THREE SYNCHRONOUS SCHWANNOMAS WITH EXTENSIVE DEGENERATIVE CHANGES: PITFALLS AND KEYS TO DIAGNOSIS

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**Background:** Although schwannomas are known to appear sporadically and solitary, in patients with genetic conditions such as neurofibromatosis type 1 and 2 and schwannomatosis multiple tumors can be encountered. Our purpose is to highlight the key features for a proper diagnosis and follow-up of patients with multiple schwannomas. **Material and methods:** A 57-year-old male patient was admitted for lumbar pain and weight loss. Computed tomography showed a well-defined 60x65x75 mm retroperitoneal mass, with compression of the mesenteric vessels. High serum levels of creatine kinase, ALT and AST were also detected. As the biopsy examination highlighted a tumor with neural differentiation, surgical excision was decided. **Results:** Intraoperatively, the tumor mass proved to be accompanied by another two similar retroperitoneal tumors. The three encapsulated tumors (160, 130 and 60 mm in diameter) were removed, with free resection margins. Macroscopically, solid light-tan appearance with yellowish areas were seen on cut surface, without necroses or hemorrhagic areas. Under the microscope, highly cellular areas (Antoni A) proved to alternate with myxoid features (Antoni B). Unusual presence of wide groups of foamy cells were identified in the Antoni B areas. No atypical cells or mitotic figures were spotted. Immunohistochemically, the neoplastic cells showed nuclear and cytoplasmatic positivity for S100 protein which indicated the diagnosis of synchronous schwannomas. The foamy cells were marked by CD68 and CD31, as indicators of macrophage-like differentiation or hibernoma-like cells. No immunostaining was proved for CD34, CD10, H-Caldesmon, Desmin and smooth muscle actin (SMA). **Conclusions:** As schwannoma is an uncommon lesion of the retroperitoneal area, its diagnosis might be even more difficult in patients with synchronous tumors with aberrant differentiation.

**Keywords:** ancient schwannomas, foamy histiocytes, S100 protein, hibernoma

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## FAMILIAL GASTROINTESTINAL POLYPOSIS SYNDROME – A RARE BUT CHALLENGING DIAGNOSIS AND THERAPEUTIC MANAGEMENT

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**Background:** Familial polyposis syndromes, though rare, are the second most common cause of hereditary tumors of digestive tract. Due to the relatively low incidence, such cases might be difficult to recognize. **Material and methods:** We have retrospectively analyzed all digestive tract malignancies diagnosed in our department during the last 12 months to establish whether

they were polyposis-associated tumors or not. **Results:** 304 cases of colorectal carcinoma were diagnosed, from which only 6 cases associated polyposis, of either classic or attenuated subtype. Only 33 cases of gastric carcinoma were registered, none of them associating polyposis. Likewise, any of the 9 esophageal carcinomas diagnosed during the last year were polyposis associated-tumors. The most recent case of colorectal carcinoma developed on polyposis was a 30 year-old female diagnosed endoscopically with colorectal polyposis 2 years ago, but at that time, she refused any intervention, knowing the familial history of her condition. At last presentation, malignant transformation of one of the sigmoid polyps, with multiple lymph node and liver metastases were diagnosed, reason why total colectomy was performed. The patient died 4 days after the surgery. **Conclusions:** Although infrequent association of polyposis can be encountered in patients with gastrointestinal tract malignancies, familial predisposition is a rare but still challenging issue. *This work received financial support from G. E. Palade University of Medicine, Pharmacy, Science and Technology, Tirgu Mures, Romania, project no. 10127/13/17.12.2020, project director Satala CB*

**Keywords:** gastrointestinal polyposis, polyposis associated-carcinoma, hereditary colorectal carcinoma

## CENTRAL NEUROCYTOMA OF THE LATERAL VENTRICLE - CASE REPORT

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**Background:** Central neurocytoma is a rare neoplasia of neuronal differentiation located in the cerebral ventricular system. This tumor typically affects young adults and presents a relatively good prognosis. Early recognition and diagnosis are essential for a favorable outcome. The first step in the diagnostic route is a magnetic resonance imaging (MRI) study, then histopathology for confirmation. Total surgical resection is the best treatment but is not often feasible. Sometimes must be completed with adjuvant radiotherapy and/or chemotherapy. **Material and methods:** We present a case of a 19-year-old female patient with intraventricular neurocytoma, who presented symptoms of increased intracranial pressure in the last months. She was diagnosed with an intraventricular tumor located in the frontal horn and the body of the left lateral ventricle, with important dilation of the left lateral ventricle. After the neurosurgical resection histopathological examination was performed with an immunohistochemical study to highlight the differentiation of the tumoral cells. **Results:** Histopathology revealed multiple fragments of neoplastic tissue, composed of uniform round cells with small/intermediate sizes. These cells were arranged in sheets around arborizing blood vessels. The individual tumoral cells had scant cytoplasm and relatively uniform, centrally located nuclei with finely speckled chromatin. Mitotic figures or necrosis were not identified. Immunohistochemical stains showed positivity for synaptophysin; GFAP, Olig2, NFP, and EMA were negative, and the Ki 67 proliferation index was low. These features suggest central neurocytoma, CNS WHO grade 2. **Conclusions:** Neurocytoma is a relatively rare central nervous system tumor, which typically affects young adults. Total resection of the tumor remains the treatment of choice, offering the most favorable treatment outcomes.

**Keywords:** CNS tumor, central neurocytoma, intraventricular tumor

## MAIN OUTCOMES OF THE PLACENTA ACCRETA SPECTRUM (PAS): A CASE SERIES

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**Background:** Placenta accreta spectrum (PAS) is a potentially life-threatening obstetric condition which requires a multidisciplinary approach to the management of the cases, with main complications due to it's massive obstetric haemorrhage which leads to maternal morbidity and mortality. The etiology of placenta accreta spectrum is related to a defect of the endometrial-myometrial interface which leads to failure of normal decidualization process in the area of an uterine scar, allowing to the placental anchoring villi and trophoblast infiltration to deeply anchorate. **Material and methods:** We aim to report a series of three cases of placentas included in the placenta accreta spectrum (PAS). The reported patients underwent peripartum hysterectomy. **Results:** Within the hysterectomy specimens, in case of accreta, we observed the placenta adherent to the uterine wall, with a not thinned myometrium. In case of increta, the placenta was observed as being extended to the uterine wall, with a thinned myometrium. In case of percreta, the placenta penetrated the uterine wall, protruding placental tissue on external surface. Microscopically, in case of

placenta accreta, the chorionic villi implanted directly to the surface of the myometrium, without intervening decidua. In case of increta, the chorionic villi were observed within the myometrium. Furthermore, in case of percreta, no residual myometrium was observed. **Conclusions:** Peripartum hysterectomy remains the life-saving procedure over conservative methods for postpartum hemorrhage secondary to an abnormal placental invasion.

**Keywords:** abnormal placentation, accreta, increta, percreta, placenta

## RETROAURICULAR DERMATOFIBROSARCOMA PROTUBERANS – A CASE REPORT AND LITERATURE REVIEW

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**Background:** Dermatofibrosarcoma protuberans represents a very rare tumor of the soft tissue, usually developed at the level of the trunk, and a very small incidence at the head and neck, with an characteristic aggressive aspect but only locally, another important characteristic is the high rate of reoccurrence. **Material and methods:** We describe the case of a 50-year-old patient, with the clinical diagnosis of a skin tumor with progressive evolution, which has enlarged and also started presenting ulceration. After removal the specimen was send to the pathology department for further investigations. **Results:** On the macroscopic examination we observed on the surface of the skin a nodular tumor, of 80x70 mm, showing hairs and ulcerations. The tumor was whitish-gray in color, firm consistency. On sections, the appearance of the tumor was fasciculated. On the microscopic investigation we observed a keratinized stratified squamous epithelium, which presented an underlying tumor proliferation with a solid architecture, made up from bundles of tumor cells that intersect and give the lesion a storiform appearance. Tumor cells show elongated shape, moderate eosinophilic cytoplasm and single, centrally located, enlarged, pleomorphic nuclei. 25 mitoses /10 HPF were observed. Areas of necrosis were present. Areas with a "honeycomb" appearance were highlighted (fat cells arranged in groups or isolated in the lower part of the tumor). Immunohistochemistry the tumoral cells were positive to CD 34 and vimentin with a very high value of Ki67. The final diagnosis was of dermatofibrosarcoma protuberans, with the the mention that the tumor infiltrates the deep resection margin. **Conclusions:** These tumors are characterized by a very high recurrence rate (greater than 50%), and a low metastatic rate. The recurrence rate is even higher for tumors in the head area, due to this distinctive storiform appearance and their growth pattern to which the tumor is often incompletely excised.

**Keywords:** dermatofibrosarcoma, tumor, recurrence

## THE IMPACT OF PREEXISTING PATHOLOGIES IN THE EVOLUTION AND OUTCOME OF SARS-COV-2 INFECTION

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**Background:** Although many patients died as result of Covid-19 infection, the comorbidities can influence the severity and outcome. They include cardiovascular diseases, diabetes, advanced age, obesity, and other pulmonary pathologies. The aim of this paper was to present two representative cases of patients whom preexisting pathologies exacerbated the Covid-19 infection manifestations. **Material and methods:** Two patients were simultaneously admitted to the Emergency Department of Clinical Emergency Hospital of Targu-Mures, Romania, with respiratory failure and tested positive for SARS-CoV-2 infection. In the first case, a 22-year-old male, two days of progressive dyspnea, acute respiratory failure, viral pneumonia, stage three secondary hypertension, chronic glomerular nephropathy, secondary anemia, and obesity, were associated. The second patient, a 88-year-old female, vascular with epilepsy, primary hypertension, ischemic cardiomyopathy, and aortic stenosis, was hospitalized with septic shock and multiple-organ failure syndrome. Both patients died in first 48 hours after hospitalization and autopsies were done. **Results:** In both cases, the desquamative interstitial pneumonia, with foci of bronchopneumonia, was proved to be associated with myocardiosclerosis, left ventricular hypertrophy, acute tubular necrosis, glomerulosclerosis, and nephrosclerosis. Congenital hypertrophic cardiomyopathy was diagnosed in the young male, where diffuse concentric hypertrophy was the morphologic sign for the elderly female. Both patients died as result of multiple-organ failure syndrome. SARS-CoV-2 positivity was proved from

blood but also from lung tissue, post-mortem. **Conclusions:** Despite the significant age difference between the patients, a pre-existing cardiovascular disorder can be triggered by an acute SARS-CoV-2 infection.

**Keywords:** congenital cardiomyopathy, SARS-CoV-2, multiple-organ failure syndrome

# PEDIATRICS

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## JAUNDICE – A TRICKY SIGN IN INFANT

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**Background:** Jaundice is a common sign rather in newborns, but not in infants, and therefore its presence above the age of 2 months requires further imagistic investigations in all cases. Thus, establishing the cause of jaundice in infants might represent a life saving step in certain cases. **Material and methods:** We present the case of a 10-month-old female infant, admitted to our clinic for jaundice, white stools and elevated liver transaminases. **Results:** The laboratory test performed after admission pointed out severely elevated liver enzymes, especially the gamma glutamyl transferase which reached up to 1500 U/L in evolution. Moreover, the bilirubin level increased progressively from approximately 2 mg/dl on the 1st day of admission up to more than 7 mg/dl on the 7th day. The abdominal ultrasound revealed a giant cystic tumor in the liver, transonic, hypoechoic, with well delimited margins, of approximately 7 cm diameter raising the suspicion of biliary ducts malformation. Further, we performed magnetic resonance cholangiopancreatography which confirmed the ultrasound aspect suggesting a potential cyst of the common bile duct or a bilioma due to the communication between this cyst and the common bile duct. In spite of the administered treatment consisting of aminoacids and ursodeoxycholic acid, the liver enzymes and bilirubin level continued to increase during the admission. Therefore, we referred the patient to a specialized center for surgical intervention. **Conclusions:** Jaundice of obstructive cause is relatively rare in infants and the proper management and early diagnosis remain essential for the patient's best outcome.

**Keywords:** jaundice, infant, obstructive cause

## ANTIBIOTICS IN PEDIATRIC PRACTICE - A DAILY CHALLENGE

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**Background:** Antibiotic resistance represents a global public health problem. Unjustified use of antibiotics is frequent in paediatric practice, both through their prescription in viral infections and the excessive use of broad-spectrum antibiotics. The purpose of the study was to evaluate the use of antibiotics in hospitalized paediatric patients, the antibiotic resistance, the use of laboratory investigations and the effectiveness of antibiotherapy. **Material and methods:** We performed a retrospective study on 495 patients hospitalized in 2017 in Paediatric Clinic I Târgu Mureș diagnosed with respiratory infection, urinary tract infection or sepsis. We assessed the indication and type of antibiotherapy, the cultures made, the antibiograms and the evolution of laboratory parameters. The statistical analysis was performed using Microsoft Office Excel and Graphpad utility. **Results:** We found that respiratory infections were the most common (83%), followed by urinary tract infections (9%) and sepsis (6%). One third of the patients received antibiotics before admission: from the family doctor (50%), pediatrician (31%), or by parents without medical recommendation (9%). The family doctors used penicillins (45%), 2nd generation cephalosporins (24%), 3rd generation cephalosporins (10%) and macrolides (12%). Cultures were collected only in 28% of patients: urine culture (39.45%) and hemoculture (34.59%). The positivity rate of urine cultures was 56.16% and 10.93% for hemocultures. The most common in urine cultures were *E. coli* (60.97%) and *Klebsiella* (14.83%). Hemocultures were positive for *Staphylococcus aureus* (42.85%) and *E. coli* (28.57%). *E. coli* was resistant to Ampicillin (62.5%), Amoxicillin (29.16%); *Klebsiella* to Amoxicillin, Ampicillin, Cephalosporins (83%). Monotherapy was used in 77% of patients (2nd Generation Cephalosporins 35.52%, Lincosamides 24.47%) and 23% received combined antibiotic therapy (III Generation Cephalosporins + Aminoglycosides). **Conclusions:** Antibiotics are used in excess in outpatient services. The use of broad-spectrum antibiotics is not always justified. The use of laboratory investigations is deficient. Management strategy should be implemented to improve antibiotic use.

**Keywords:** antibiotics, resistance, children

## MYELITIS – AN UNPREDICTABLE CHAMELEON IN PEDIATRICS

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**Background:** The etiology of myelitis in children comprises a wide-spectrum of pathologies, and it is commonly triggered by an infectious factor. Nevertheless, each case has its peculiarities and the outcome depends mostly on the etiology. **Material and methods:** We report by comparison two cases of myelitis, a 15-year-old and a 4-year-old males, admitted in our clinic with the diagnosis of myelitis. **Results:** The 15-year-old patient complained of sensorial and motor deficit of the lower limb with the impossibility to stand for approximately 24 hours associated with bladder and bowel dysfunction, while the 4-year-old patient present with left upper limb motor deficit. The personally history in the first case revealed anti-SARS-CoV-2 vaccination approximately 6 weeks prior to admission, while in the second case the anamnesis highlighted COVID-19 in the grandmother 2 weeks before the child's admission in our clinic. The routine laboratory tests were normal in both patients, without any signs of systemic inflammation. The MRI of the spine pointed out a longitudinally extensive impairment of the spinal cord (C2-C5, Th2-Th5 şi Th7-Th11), while in the small child revealed the diffuse inflammation of the cervical spine (C2-C7, Th1). The specific laboratory test showed in the teenager positive anti-myelin oligodendrocyte protein (MOG) antibodies as compared to the small child who was found only with positive anti-SARS-CoV-2 antibodies. We initiated pulsed methylprednisolone in both patients, but the evolution was outstanding in the older child, who was able to stand the 3rd day of admission in comparison to the smaller patient who recovered progressively the motor deficit of the upper limb, but still incompletely after 1 month associating also anomalies at the electromyography exam. **Conclusions:** Myelitis is a challenging disorder which might trick the clinician if the patient is not thoroughly investigated.

**Keywords:** Myelitis, children, challenging disorder

## THE IMPORTANCE OF IMAGING PROCEDURES IN THE EARLY DETECTION OF UROGENITAL SYSTEM DISORDERS - CASE REPORT

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**Background:** Herlyn-Werner-Wunderlich syndrome is a congenital disorder affecting the urogenital system, which develops as a result of improper development of the Müllerian tube and mesonephric tubules. This very rare disorder is characterized by a trifecta that includes uterine didelphys, obstructed hemivagina, and ipsilateral renal agenesis. **Material and methods:** The authors present the case of a 10-year-old girl, in whom during intrauterine ultrasound they have discovered a cystic, afunctional ectopic right kidney, which was already confirmed following the patient's birth by imaging procedures. During the annual follow-ups, a ureterocele on the right side was also discovered. Furthermore, during the repeated MRI examination made in Cluj Napoca in the interest of monitoring the already known urological issues, the presence of a complex uterine and cervical malformation has been described. As a result of the surgical correction of hydrometrocolpos, the patient's vaginal secretion showed the presence of *Enterococcus* spp., which was accompanied by fever. **Results:** Following this incident, the patient was admitted to the Bucharest Emergency Clinic for a laparoscopy, recommended by the specialist, during which time the communication between the two uterus was successfully resolved and which contributed to the early detection of a very rare disorder, the Herlyn-Werner-Wunderlich syndrome. **Conclusions:** In the case of our patient, we managed to diagnose a rare disorder relatively early, which requires follow-ups in the interest of detecting and treating any possible future complications as early as possible. As we can see from our case, imaging procedures and their periodic repetition, following the patient's progression, as well as the cooperation of specialists all play a key role in detecting rare disorders.

**Keywords:** Herlyn-Werner-Wunderlich, congenital disorder, uterus, hydrometrocolpos, ureterocele

## SEVERE REFRACTORY IMMUNE THROMBOCYTOPENIA IN A 5 YEAR OLD MALE PATIENT

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**Background:** Chronic thrombocytopenias are challenging pathological conditions defined as a platelet count below the normal values for more than 6-12 months, with or without mucocutaneous bleeding. Single or combination therapies are recommended for treatment. **Material and methods:** We report a case of severe refractory ITP that was unresponsive to multiple agents including high-dose steroid, IVIG, azathioprine, mycophenolat mofetil, so complete remission was not achieved. **Results:** Serology testing confirmed chronic EBV infection with high IgG titer, genetic testing for immunodeficiency is positive. The patient is asymptomatic, does not present active bleedings, or cutaneous purpura, however platelet count continuously maintains between 6-14000 G/l. After repeating the bone marrow aspiration Eltrombopag is the new treatment option with moderate favorable response. **Conclusions:** After repeating the bone marrow aspiration Eltrombopag is the new treatment option with moderate favorable response.

**Keywords:** thrombocytopenia, child, purpura

## CHEMOTHERAPY RESISTANT HIGH-GRADE B- CELL LYMPHOMA IN A CHILD (CASE REPORT)

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**Background:** Burkitt lymphoma (BL) is a highly aggressive B-cell non-Hodgkin lymphoma. The sporadic form usually involves the small bowel, mesentery, kidneys, ovary/testis, bone marrow, or central nervous system (CNS). The "leukemic" presentation described as L3-type acute lymphoblastic leukemia (ALL) is classified as BL. BL has a high proliferative rate and favors the appearance of tumor lysis syndrome (TLS). **Material and methods:** Case report: Eight-years old female patient was admitted to the hospital because of a recent left cervical lymph node enlargement. Biopsy revealed Burkitt lymphoma with a high proliferation index (Ki67- 100%). Based on imagistic tests, which showed space-occupying lesions in the left cervical region as well as in the thorax and retroperitoneum, she was classified as having stage III disease. The cerebrospinal fluid and bone marrow were negative at presentation. However, the bone marrow became infiltrated with tumor cells during intensive chemotherapy. Laboratory tests were acceptable at diagnosis but with pancreatic involvement and positive D-dimers. During intensive chemotherapy, the general health of the patient deteriorated, there appeared BL leukemia and a severe tumor lysis syndrome which led to a fatal outcome despite the correct prophylactic treatment. **Results:** Discussion: TLS is an oncologic emergency when large amounts of potassium, phosphate, and uric acid are released from tumor cells into the systemic circulation. The metabolic abnormalities produce anorexia, vomiting, diarrhea, lethargy, hematuria, heart failure, cardiac dysrhythmias, seizures, muscle cramps, syncope, and sudden death. **Conclusions:** We presented an 8-year-old patient with chemotherapy-refractory BL with severe tumor lysis syndrome and a fatal outcome. The reason to chose this case was to seek a viable solution that these patients have access to timely hemodialysis with hematologic resuscitation in an intensive care unit which may save the life of a part of them.

**Keywords:** Lymphoma, B-cell, child, tumor lysis, Burkitt

## CERVICAL LYMPH NODES IN CHILDREN – PITFALLS IN ULTRASONOGRAPHY

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**Background:** Palpable or visible neck masses are common in children, and the clinician who perform an ultrasound examination has to find answers to several question, in order to narrow the area of suspected pathology: Cystic versus solid? If solid, is this a



lymph node or something else? If lymph nodes: it is an reactive, infectious or malignant lymph node? **Material and methods:** Neck lymphadenopathy is very common in children and more than 1/3 of otherwise healthy children may have palpable or even visible enlarged lymph nodes. As ultrasonography is, no doubt, the first choice when it comes to imagistic examination of neck masses in children, we proposed a holistic approach of this pathology, focused on enlarged lymph nodes. The authors described some eye-catching lymph node's features, suggestive for aetiology, but also the difficulties of ultrasound examination in children and some sources of error. **Results:** In order to achieve a correct examination, followed by a report as accurate as possible, there are some important steps to follow: a good knowledge of neck anatomy, complete history and a thorough general examination, local examination. An ultrasound examination of the neck should take into consideration possible causes, and also sources of error, pitfalls for suspected lymph nodes. It is essential to be aware of the limitation of neck ultrasonography. Saving the examination for a second opinion and comparison of results may increase the chances for a correct ultrasound diagnosis. The pictorial is based on examinations performed in paediatric department by doctors in the last 10 years. **Conclusions:** Ultrasonography has a well deserved place in imagistic examination of neck masses in children. Enlarged cervical lymph nodes are common in children, and US has a important role in diagnosis. A reliable report of lymph node examination should be based on ultrasound features, but a holistic approach of the patient is required.

**Keywords:** ultrasound, children, adenopathy, neck



## PHARMACY

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### CURRENT STATISTICAL DATA ABOUT ANTIBIOTICS AND BACTERIAL RESISTANCE IN ROMANIA, EUROPE AND WORLDWIDE

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**Background:** The resistance of bacteria to antibiotics threatens the prevention and treatment of severe infections caused by bacteria. Improper or excessive prescribing of antibiotics accelerates the natural resistance process of bacteria. As a result, the antibiotics become ineffective, endangering the patient's life. The main objective of this work was to identify and analyse some consolidated statistical data about antibiotics, bacterial resistance to antibiotics and other related data from Romania, Europe and worldwide. **Material and methods:** The paper data is based on statistics, reports, opinions and infographics identified with the help of the Statista database (Statista.com) using the keywords "antibiotics", "antimicrobials", "antibacterial agents", "bacterial resistance", "antimicrobial resistance", "antibiotic consumption", and "antibiotic discovery". These keywords have been combined with other related and relevant keywords. The information from the search that included current data regarding the main topic was selected and analysed. **Results:** Among the most important statistical data and predictions identified from the Statista database are the following: deaths from drug-resistant infections, consumption of systemic antibiotics, the discovery of new types of antibiotic classes, number of non-traditional antibacterials in the clinical pipeline worldwide, the number of developers of antibacterial agents worldwide, opinions of the patients regarding knowledge of antibiotics, antibiotic-resistant germs, and trustworthy information on antibiotics. **Conclusions:** The identified consolidated statistical data frame the consumption of antibiotics and their low development in correlation with growing bacterial resistance. Clinicians and pharmacists should address complete and correct counselling to patients who use antibiotics. Urgent measures and action plans are needed at the national, regional and global levels to stop the growing bacterial resistance to antibiotics. Unfortunately, the bacterial resistance is similar to a slow-motion car crash that has already started.

**Keywords:** antibiotics;; antibacterial agents;; bacterial resistance;; antibiotic consumption;; antibiotic discovery;

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### RECENT PROGRESS IN CHIRAL CAPILLARY ELECTROPHORESIS. WHERE DO WE STAND NOW?

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**Background:** Chiral capillary electrophoresis (CE) has emerged as a powerful alternative for liquid chromatographic in chiral separations. In most cases, the direct approach is used, by simply dissolving the chiral selectors in the background electrolyte. Undoubtedly, cyclodextrins (CDs) are the most widely used selectors in chiral capillary electrophoresis, and modulating selectivity of the separation system is made possible by the high number of CD derivatives available on the market. The present work offers insight into the research and recent results obtained in our department regarding cyclodextrin-mediated enantioseparations in CE. **Material and methods:** The presentation offers an overview of the results obtained in the last few years, regarding enantioselective CE method development for a number of molecules. In all cases, CD derivatives were used as chiral selectors, and issues such as enantiomer migration order (EMO) reversals, and structure-selectivity relationships are also discussed. **Results:** In two of the presented cases, after other options were ruled out, the required EMO reversal was only achievable using coated capillaries. In the case of apremilast, dynamic coating-, while in the case of mirabegron, covalently coated capillaries were used to achieve this goal. The use of a dual selector system is also discussed in relation to the enantioseparation of ozanimod. In the case of structurally related oxazolidinone analogs, the relationship between the structural characteristics of the analytes, and chiral selectors and its impact on selectivity and EMO are discussed. The use of newly synthesized ionic liquids and tetraalkylammonium salts of CDs are also discussed. **Conclusions:** CE-based chiral separation methods are still widely researched as they can deliver not only fast

methods for the quality control of enantiomeric drugs, but, together with other hyphenated techniques can offer molecular basis for chiral recognition mechanisms. The inherent possibility of EMO reversal and a large number of chiral selectors available make this method highly desirable for enantioseparations.

**Keywords:** cyclodextrins, enantiomer migration order, enantioseparation

# PUBLIC HEALTH

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## GLUCOSE MEASUREMENT USING AN INTERSTITIAL GLUCOSE MONITORING BIOSENSOR

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**Background:** About 422 million people worldwide suffer from diabetes and the numbers are constantly increasing. That's why we considered it very important to know what happens in our own body after eating various macro-nutrients, to observe the pre- and post-prandial glycemia pattern, to be able to make correlations between glycemia values and the macro-nutrient percentages ingested, respectively between glycemia and hunger scale. **Material and methods:** The self-monitoring was carried out on a healthy person, between 25.05.2018-07.06.2018 and consisted of applying the biosensor and scanning it 502 times in the mentioned 14-day interval. During the recording period, the subject lived on the territory of 2 countries: Romania and England. The meals consumed were carefully monitored: the calories related to each were calculated and were broken down into the 3 macronutrients. Glucose levels were recorded pre-prandial and later after each meal, but also between meals, mainly following the hyperglycemic peaks (how many minutes after ingestion it appears and how long it lasts depending on which macronutrients were consumed), but also the pattern blood sugars after this peak. **Results:** The average glycemia recorded was 6.3 mmol/l (113.4 mg/dl). 5 hypoglycemia events were recorded, all asymptomatic. Of these, 2 events were recorded during 2 days of a hypocaloric diet. The lowest blood sugar recorded was below 2.2 mmol/l (39.6 mg/dl), and the highest 18 mmol/l (324 mg/dl). In 80% of the monitored period the blood sugars were normal. The most frequent hyperglycemic spikes were recorded in England. We couldn't clearly identify a correlation between low-glycemia and the feeling of hunger, respectively high-glycemia and the feeling of satiety, hunger and satiety being subjective, individual and highly variable sensations. **Conclusions:** The use of biosensors for interstitial glucose monitoring brings benefits both in the case of people suffering/predisposed to diabetes/obesity, and also in the monitoring of diets and their individualized composition, under safe conditions.

**Keywords:** biosensor, glycemia, self-monitoring, macronutrients

## SURGERY

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### COMPUTED TOMOGRAPHY GUIDED PERCUTANEOUS DRAINAGE OF LIVER ABSCESS. CASE PRESENTATION

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**Background:** Percutaneous drainage of liver abscess represents a more and more frequently used treatment method considering the recent development of diagnostic imaging techniques. Percutaneous drainage has the advantages of avoiding general anesthesia, lower morbidity and lower costs compared to surgical drainage. Drainage can be performed under ultrasound and/or computed tomography guidance. **Material and methods:** We present the case of a 68-year-old female patient, who, after a surgery for sigmoid diverticular abscess, presented a 150/75/65 mm abscess at the level of V-VI liver segments. We performed CT-guided puncture of the abscess under local anesthesia, followed by drainage, inserting a 32 Ch tube into the abscess cavity. **Results:** The bacteriological examination confirmed *Serratia marcescens* and *Escherichia coli*. Antibiotherapy was initiated, the patient became afebrile on the 3rd postinterventional day. From day 10 there are no secretions drained through the tube, on day 14 the drain is suppressed, and on day 16 the patient is discharged. **Conclusions:** Percutaneous drainage became an alternative to open drainage; radiological intervention is the pillar of modern treatment. In combination with targeted antimicrobial therapy, percutaneous drainage techniques are now the main treatment, offering equally high success rates, but with the advantages of a minimally invasive approach. Percutaneous drainage is represented by simplicity, effectiveness, and fewer complications.

**Keywords:** liver abscess, percutaneous drainage, computed tomography guidance

# TRAUMATOLOGY

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## ANALYSIS OF THE MAIN SPORTS INJURIES OCCURRING TO HIGH-PERFORMANCE ATHLETES AFFILIATED TO THE ROMANIAN KARATE FEDERATION

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**Background:** The assiduous desire for performance, the increasingly high level of training, as well as the new standards imposed by international committees make the incidence of sports trauma increasingly high. **Material and methods:** This cross-sectional study was performed on 60 professional athletes and members of the Romanian National Karate Team. The volunteers answered a 39-item questionnaire, targeting 3 main sections: biological and functional parameters, the branch they practiced, and the injuries that occurred during their professional training. The survey was conducted in Google Forms and the analysis was performed using Microsoft Excel and Medcalc, using a 0.05 level of significance. **Results:** The age group in which the first most important sports injury occurred was 16-18 years old, with an average maximum incidence of 17.55 years old. The maximum incidence of the first major trauma during the training period of our study group is centered between 6 and 18 years, having 2 peaks (6-10) and (14-18). The occurrence rate of sports injuries highlights the first major trauma. Fractures have the highest incidence (27%), followed by sprains (18%) and meniscus conditions (12%). The most common anatomical region of the first major trauma that occurred is the knee (20%), followed by the ankle (16%) and foot (16%), namely: athletes who participated in both branches (25%-spine injury); in kata (40%-knee injury); in Kumite (19.44%-knee, foot and ankle injuries). **Conclusions:** There is an important age interval (16-18) which should be carefully taken into consideration whenever preparing the physical training plan, in order to avoid injuries. Taking into consideration the experience counted in years of activity, the groups that should be carefully analyzed are the ones between 6-10 and 14-18 years, being the ones who were the most prone to injuries. The most common injuries were located on the lower limb. This aspect signifies the importance of improving dynamic training on the development of the lower limb and further assessment.

**Keywords:** Sports trauma, lower limb injuries, karate athletes

## UROLOGY

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### INCIDENCE AND TREATMENT MODALITIES IN SECONDARY BLADDER STONE DISEASE

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**Background:** Based on the doctoral thesis " Stadiul actual al tratamentului litiazei vezicale " elaborated in 1998, which treats organ bladder stones, mainly the secondary ones found at the Urology Clinic of Târgu-Mureş over a period of 10 years, 1989-1998 , the authors proposed a comparative analysis for the years 2020-2021, studying the incident and the treatment of this disease. **Material and methods:** The cases of "secondary" bladder lithiasis treated by cystolithotomy and bladder lithotripsy in the period 2020-2021 were analyzed, and the data obtained were compared with those from the previously mentioned period. The case series from 1989-1998 included 1215 men and 28 women. The recently studied data was consisted from 123 men and 14 women. **Results:** If the doctoral thesis analyzed 1215 men and 28 women over a 10-year period, in the recent study we found 123 men and 14 women over a period of 2 year. Extrapolating, we see half of the number of cases from 1989-1998. The main etiology of bladder lithiasis in 1998 was the intravesical foreign body as a result of gynecological interventions in women, but currently this pathology has completely disappeared. The statistical analysis of the main etiological factors of bladder lithiasis shows the following trend in men: benign prostatic hyperplasia: 68%/50.4%, urethral stricture 12%/8.13%, ADKP 6%/7.31%, cervical sclerosis 7%/0.81%. Except for ADKP, the rest of the etiological factors has decreased. In both women and men, a new etiological factor appeared: calcification of the distal loop of autostatic ureteral stent, being present in 9 (64.2%) cases in women and in 12 (9.75%) persons among men. **Conclusions:** 1. The incidence of secondary bladder stone decreased by 50% in both sexes. 2. Bladder stone on non-resorbable wire has disappeared in women. 3. A new etiological factor appeared: calcified ureteral stent. 4. Bladder lithotripsy remains the main modality of treatment for bladder lithiasis, 96.4%, cystolithotomy having clear indications in 3.6%.

**Keywords:** bladder lithiasis, cystolithotomy, bladder lithotripsy, incidence, treatment

### ADVANTAGES OF THERMOCHEMOTHERAPY

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**Background:** Although non-muscle invasive bladder tumor has a 5-year survival rate of 70%, this is offset by a high 5-year recurrence rate (50-70%). The standard treatment for non-muscle invasive bladder tumor consists of transurethral resection of the entire visible tumor (TUR-V), followed by intravesical instillations of chemotherapeutic agents such as anthracyclines (epirubicin) or anthraquinones (mitomycin) or with the immunostimulatory bacillus Calmette-Guérin (BCG). Radical cystectomy may be indicated when there is no response to BCG immunotherapy. **Material and methods:** Thermochemotherapy offers benefits from a microscopic as well as a macroscopic point of view, increasing the effectiveness of the treatment, hyperthermia having the purpose of accentuating the effect of chemotherapy at tumor level. Various in vitro studies demonstrate that the non-physiological high temperature changes the properties of the cell membrane by increasing its permeability, increasing the plasma concentrations of chemotherapeutic agents, inhibiting the synthesis of nucleic acids and mitotic activity, which leads to the inhibition of tumor growth. **Results:** According to recent clinical studies, no tumor recurrence after 2 years was reported in 83% of the patients who followed thermochemotherapy when compared to 74% of patients who were treated only with the chemotherapeutic agent. Concerning mortality, thermochemotherapy patients had an inferior rate ( 21.42 % ) when compared to chemotherapy only ( 31,31 % ). **Conclusions:** In conclusion, thermochemotherapy presents advantages over instillational chemotherapy, with a lack of tumor recurrence of 83% versus 74% and a decrease in the mortality rate from 31.31% to 21.42%.

**Keywords:** thermochemotherapy, instillational chemotherapy, non-muscle invasive bladder tumor

## THE EVOLUTION OF LAPAROSCOPIC TREATMENT IN RENAL TUMOR PATHOLOGY AT THE UROLOGY CLINIC OF TÂRGU MUREȘ IN THE PERIOD 2016-2022

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**Background:** The objective of this study is to examine the evolution of laparoscopic treatment in renal tumor pathology at the Urology Clinic of Târgu Mureș in the period 2016-2022. **Material and methods:** Open and laparoscopic nephrectomies were comparatively analyzed 5 years ago, over a period of one year, when laparoscopic surgical activity was introduced and nephrectomies performed between January 2021 and January 2022. During October 2016 - October 2017, 79 open nephrectomies (61 total and radical nephrectomies, 10 partial nephrectomies, 8 nephroureterectomies) and one laparoscopic total nephrectomy were performed. Between January 2021 and January 2022, 77 surgeries were performed, of which 42 open (29 total and radical nephrectomies, 8 partial nephrectomies, 5 nephroureterectomies) and 35 laparoscopic (24 total and radical nephrectomies, 8 partial nephrectomies, 3 nephroureterectomies). **Results:** In contrast to October of 2016 from October of 2017, when 98.75% of all nephrectomies were performed open, (76.25% total and radical nephrectomies, 12.5% partial nephrectomies and 10% nephroureterectomies), and 1.25% of all nephrectomies were performed laparoscopically, there was a significant increase in laparoscopic nephrectomies in the period January 2021 - January 2022: 45.45% were laparoscopic procedures (31.16% total and radical nephrectomies, 10.38% partial nephrectomies, 3.89% nephroureterectomies). **Conclusions:** From the data obtained, we can see that during this 5-year period, laparoscopic nephrectomies in the Urology Clinic of Targu Mures for oncological pathology have experienced a scale, which promises to increase in the future these percentages as close as possible to 100%.

**Keywords:** Laparoscopy, Renal tumor, Nephrectomy

## EFFICACY OF TRANSURETHRAL RESECTION OF THE MEDIAN LOBE AMONG PATIENTS WITH CHRONIC URINARY RETENTION

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**Background:** Benign prostatic hyperplasia is one of the most common pathologies encountered in aging men. The incidence of BPH increases approximately 10% for each decade of age after the age of 50, reaching 80% by the age of 80. About 30% of those who reach the age of 80 will require surgical treatment. **Material and methods:** This paper work presents a study carried out over a period of three years (2019-2022) and data were collected from a group of 60 patients: 30 were treated by TUR-P and 30 by transurethral resection of the median lobe. The inclusion criteria were represented by patients over 50 years diagnosed with BPH (intravesical evolution - median lobe) documented by ultrasound examination, but who also presented chronic complete retention of urine or with incomplete retention of urine and post-void residual volume greater than 100 ml urine and reduced Qmax. Our study aims to demonstrate that in selected cases a partial resection of the prostate (median lobe and posterior commissure) can be more efficient comparable to a complete resection of the prostate tissue. This minimally invasive intervention is addressing to patients with important comorbidities or advanced ages. The efficacy of the surgical act was evaluated after TUR-P by flowmetry and by ultrasound measurement of the post-void residual volume. **Results:** Among the 30 patients in which transurethral resection of the median lobe was performed, 29 of them (96.6%) presented very good results, spontaneous mictions, an average urinary flow over 15 ml/sec, without post-void residual volume. Only 1 patient (3.4%) had a post-void residual volume more than 100 ml, that required complete resection of the prostate. **Conclusions:** Transurethral resection of the median lobe is a minimally invasive endoscopic surgery with better postoperative results in compare to the complete resection of prostate adenomatous tissue. This type of surgery is preferred especially for patients with important comorbidities or advanced ages because it significantly improves the quality of life.

**Keywords:** HBP, Transurethral resection, Median lobe

## VARIA

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### PRAYER BETWEEN DOCTOR AND PATIENT

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**Background:** Involvement of prayer in the physician-patient versus patient-physician relationship is a new approach of the way that is necessary to maintain a viable balance between body and soul, starting from the mysterious power of words. **Material and methods:** Included in the communication and relationship between physician-patient versus patient-physician prayer, whether accepted or not, often shows that trust as well as security of success, which the two actors need, complementing each other **Results:** Starting from a simple thought and all the way to the complex Christian behavior, prayers intensify feelings, attitudes and behaviors. Being present at the patient's level, at the physician's and also as a binder among these two, prayer becomes in some situations the bridge between: what I do, what I say, what I think and what I can succeed. **Conclusions:** What does prayer do? It reassures and gives hope as well as security both to the doctor and to the patients who are finding themselves in a welcome and blessed word communion, which unites them at a certain moment and leads them to fulfil together an "earthly and spiritual" work

**Keywords:** prayer, physician, patient, relationship, acceptance



## **SCIENCE AND TECHNOLOGY**

## FINANCE

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### A CRITICAL REVIEW OF FINANCIAL AND NON-FINANCIAL CONDITION FOR BOND ISSUERS LISTED ON BSE. CASE OF VIVRE DECO

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**Background:** The paper aims to tackle some issues regarding the particular financial and non-financial conditions in case of bond issuers, based on a mix of quantitative and qualitative factors that may rise questions in conjunction with their ability to meet prospectus liabilities. Study case is built around Vivre Deco, a bond issuer listed on Bucharest Stock Exchange (BSE), recently engaged in a preventive conciliation procedure as a response to the inability to sustain bond payments. A critical review of the annual and interim financial statements is a valuable source of information for the objective of measuring the bond issuers' financial sustainability. We planned a score function analysis based on classic Altman, Anghel and Conan Holder ratios, to assess insolvency risks and creditworthiness prior to 2022. Also, we considered a qualitative analysis aimed at assessing business risks that could point out any irrationalities with negative impact on the issuer ability to meet its obligations towards the bondholders. Our analysis will not ignore the independent auditors' report, in conjunction with the bond issuer's financial statements, which could also deliver precious conclusions regarding the integrity of the financial reporting function and other related major risks. We expect our results to provide early signals of financial distress that could have helped investors in forming a basis of negative conclusions towards any purchase of Vivre Deco bonds. Relevant conclusions will be based on the results obtained after performing the research activity. Research output will be published in UMPHST Journal - Acta Mariensis. Seria Oeconomica 2022.

**Keywords:** bond issuer, creditworthiness, business irrationalities, financial distress, professional skepticism

# LAW

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## BRIEF ANALYSIS ON CONSUMER PROTECTION. THE ISSUE OF ABUSIVE CLAUSES CONTAINED IN CONTRACTS CONCLUDED BETWEEN PROFESSIONALS AND CONSUMERS

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**Background:** The issue of abusive clauses contained in contracts concluded between professionals and consumers incites increasingly the interest of the theoreticians, and even more of the legal practitioners, as it contributes significantly to the development of a new contractual justice, respectively, to the modification of the function of the law of equity of consumer contracts. The present paper aims to carry out a brief analysis of the matter of consumer protection under the auspices of Directive no. 93/13/CEE regarding abusive clauses in contracts concluded with consumers, transposed into our law by Law no. 193/2000, considering the jurisprudence continuously developed by the Court of Justice of the European Union.

**Keywords:** consumer, professional, contractual mechanism, unfair terms, Directive 93/13/CEE

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## CONSIDERATIONS REGARDING THE NOTION OF FAMILY RESIDENCE

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**Background:** The current civil code regulates the family home in art. 321, para. 1 as being the joint residence of the spouses or, failing that, the residence of the spouse where the children are. Without the written consent of the other spouse, none of the spouses, even if they are the exclusive owner, can dispose of the rights over the family home, nor can they conclude documents that would affect its use. Likewise, a spouse may not move the goods that furnish or decorate the family home from the residence and may not dispose of them without the written consent of the other spouse. These legal provisions are likely to protect the family, appreciating that its harmony depends to an important extent on the existence of a place that enjoys stability. Also, to the same extent, the non-owner spouse of the property intended as a family home is also protected. The present study aims to analyze the legal framework, namely the way in which the legislator understood to regulate this institution, in the light of the current doctrine and jurisprudence.

**Keywords:** the family home, use, written consent, the spouses, the children

## LAW AND PUBLIC ADMINISTRATION

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### INDEPENDENCE OF THE NATIONAL SUPERVISORY AUTHORITY FOR PERSONAL DATA PROCESSING - CRITERIA OF ACHIEVEMENT AND IMPORTANCE

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**Background:** The National Supervisory Authority for Personal Data Processing (ANSPDCP) is the competent authority at national level in the field of personal data protection. The work of this authority is mainly carried out under Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals with regard to the processing of personal data and on the free movement of such data and repealing Directive 95/46/EC (General Data Protection Regulation - GDPR) but also under national regulations. Starting from the role of these authorities in the Member States and the way this role is regulated in the GDPR, one can only conclude that such a supervisory authority must be an independent authority and that national law must ensure criteria of independence in the work carried out by the authority. The law on the organisation and functioning of the authority, Law 102/2005, republished, sets out criteria for achieving independence, focusing on the appointment of the chairperson and deputy chairperson of the authority. The competition conditions are presented in a general way (e.g. solid professional competence, high civic probity, good reputation) which may lead to an arbitrary appointment and may lead to exactly the opposite result, i.e. to the impairment of independence

**Keywords:** law, independence, public administration

## NEW TRENDS IN HUMANITIES

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### LANGUAGE IS NEVER INNOCENT – THE RHETORIC OF OBESITY

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**Background:** For people suffering from obesity, the obesity public discourse is inescapable and replete with messages concerning the risk and warnings that they embody to themselves and to society by virtue of their size. According to medical humanities research, bias and stigma are frequently associated with obesity, such people being perceived as weak-willed, unattractive, awkward, and lazy (Foster, 2003). We performed a content analysis of obesity discourse in Digi24 online news headlines between 2017-2022 in order to find out how obesity is framed through metaphors and what the subsequent stereotypes and stigma in the expression of excessive body weight are at linguistic, as well as imagery level. The latter, while anchoring text meanings, reflect dehumanisation, and, sadly, perpetuate stigma.

**Keywords:** linguistics, content analysis, metaphor, obesity

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### AMERICA IN POSTWAR TIMES AND ITS REFLECTION IN T.CAPOTE'S

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**Background:** Josephine G. Hendin's "Introducing American Literature and Culture in the Postwar Years" reflects the creative ferment in America after WWII that surged in new directions and played with both tradition and innovation. This essay speaks to those directions in literature and film in postwar America. These new directions help us see ourselves in a larger context, a political and moral one. As reflected in books and films, postwar American literature and culture are about diversity. They speak about individualism, identity, and discrimination and eventually emerge into what we know today as postmodernism. The psychological struggle between the need for stability and the desire for freedom, and the search for an individual identity seen in the time's women's civil rights movement are perhaps the central concerns of Truman Capote's postwar novella "Breakfast at Tiffany's."

**Keywords:** postwar times, postwar literature and film, tradition and innovation, diversity, postmodernism

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### INTERDISCIPLINARITY IN SPECIALIZED DISCOURSES

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**Background:** The paper "Interdisciplinarity in Specialized Discourses" has the main objective of creating the conceptual framework in which the domain of English professional discourses are created and used by the discourse communities. The authors are English language instructors with relevant experience in teaching English for Specific Purposes (ESP) for students with various domain-specific backgrounds. In this capacity, the interdisciplinary aspect of this approach has been a constant feature of their didactic and research activity. The study has the following specific objectives: to identify and analyze the concepts pertaining to the interdisciplinary aspect of ESP; to compare the degree of interdisciplinarity entailed by the study of ESP in different domains; to analyze the benefits and possible disadvantages of the interdisciplinary approaches to ESP; to suggest a model of combined approach (language and content-specific information) which could be implemented in an ESP class so that students' specific needs are accurately met.

**Keywords:** Specialized discourse, English for specific purposes, interdisciplinarity, language education

## FAMILY AND ITS ROLE IN ENCOURAGING YOUNG CHILDREN'S READING HABITS

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**Background:** One of the key activities that has shaped and will continue to shape the identity of future members of society is reading. Literature has been seen as a key element that helps in the proper development of a young person's character. Each child has a unique personality, which is defined by emotions, feelings, but also by the way that young person sees and understands the world around him/her. Reading plays a significant educational role in preschool and primary school education because it gives children the possibility to learn about the natural world, including facts about plants, animals, history, geographical discoveries, and more. Reading fosters imagination and creativity, arouses a range of strong emotions in children (love and hate, friendship etc.) and exposes them to a variety of experiences and reveals characters whom they occasionally identify with. Additionally, reading helps children develop critical thinking skills, fosters language and vocabulary development, and induces creative problem-solving. For this reason, choosing the right books to be read by young learners is crucial. The purpose of the present study is to highlight the role family plays in cultivating the love for reading in young children. By means of an online questionnaire, this paper also intends to provide information on the types of books primary school children usually read and whether they read for pleasure or out of obligation.

**Keywords:** family role, primary school children, reading habits, literacy education, vocabulary development

## THE NOVEL AS LUCIDITY AND INTERROGATION. AUGUSTIN BUZURA

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**Background:** Augustin Buzura's novels (*Absenții*, *Orgolii*, *Fețele tăcerii*, *Vocile nopții*, *Drumul cenușii*, etc.) are important landmarks of post-war Romanian literature. In these narratives one can observe the prevalence of the ethics of truth over aesthetics, in a deep, complex and disturbing epic structure, with the tragic imprint of the Individual-History equation and, above all, the demanding appeal to the responsibility of individual or collective memory. Throughout the process of searching for their own identity, the protagonists of the novels retain their lucidity, even if their interrogations run up against the wall of alienation, indifference and fear, Buzura's novels tenaciously follow this adventure of the heroes' search for the meaning of truth, resulting in a true transfiguration of their destiny.

**Keywords:** Romanian literature, novel, lucidity, interrogation, destiny

## THE NECESSITY OF DEVELOPING INTERCULTURAL COMPETENCE OF ESP STUDENTS

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**Background:** This article explores the ways intercultural competence is integrated in the ESP curricula and argues that ESP classes can become one of the most effective venues for developing both language and intercultural skills. The increasing internationalization of higher education within the context of globalization has generated the need of rendering graduates that have the necessary skills to act and engage globally. Intercultural competence, also called intercultural literacy, should become a fundamental element in the ESP course design and teaching methods because, after all, university graduates have to be not only aware of cultural differences, but they also have to interact and communicate efficiently with people from different countries and cultures. ESP courses can incorporate intercultural competence in the development of skills such as listening, analyzing, critical thinking and observing. Intercultural competence can also be developed by promoting openness, discovery, respect, curiosity, as well as by addressing culture-related issues such as identity, self-awareness, beliefs and values. Finally, intercultural literacy can be explored and promoted at the level of different types of communication- verbal, non-verbal, written, visual or listening. Once equipped with this broad toolkit, ESP students have enriched not only their communication competences, but also the way they

view the world, and thus, their attitudes and actions are geared towards bridging cultural differences, a prerequisite for effective global communication.

**Keywords:** intercultural competence, ESP, teaching methods, communication skills, global

## PRODUCTIVITY OF DIMINUTIVE SUFFIXES

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**Background:** In the contemporary Romanian language, suffixation is an important linguistic process of forming new words. The diminutive suffixes are largely used in the spoken and written language. We will discuss the difference between derivation and inflection related to diminutive suffixes in Romanian, the situation of those diminutive suffixes that are productive (*-uţ*, *-el*, *-ic*) or less productive (*-ice*, *-işcă*), according to their frequency, and also the revival of others (*-ache*), in different language registers (such as slang). We are also interested in the possibility of some diminutive suffixes to express affection or different semantic values when added to the same base word.

**Keywords:** suffix, derivation, productive, vocabulary, frequency

## NEW COMPETENCES IN TEACHER' S FORMATION NOWDAYS

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**Background:** The sustainability of a teacher professional profile can be considered from the dual perspective of its ability to both demonstrate characteristics of durability, resilience, and transformability throughout the teacher's career and correspond to global and local realities and learner needs in an increasingly complex, volatile, and uncertain world. General aims to promote sustainable professional development at the level of individual teachers, the schools they teach in, and the educational systems in which they build their careers. This means that each of these three must be mutually sustaining. Moreover, the professional development of teachers must be sustainable for the societies in which they play a vital role. Thus, the sustainability of a given teacher's professional profile in the context of overall professional and school development depends on its ability to intersect with all aspects of human and planetary eco-socio systems in an interdependent and interconnected world. We take account of several important recent documents to encompass as wide a range as possible of current perspectives on learner needs and teacher competences. These needs and competences are seen in terms of four intersecting global dimensions, each of which is based on values and attitudes concerning consciousness and awareness of the nature and importance of that dimension, and for which key transversal and specific skills that should be the focus both of teacher action and of teacher professional development are identified.

**Keywords:** formation, teacher' s training, mentor, competences, wellbeing state

## ON LINGUISTIC TREATS: THE BEAUTY AND THE BEAST IN POLITICAL CORRECTNESS

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**Background:** Language is the playfield of thought in action. According to the Sapir-Whorf hypothesis, the speakers' perception of reality is determined by their thought processes, which are influenced by the language that they are using. The paper examines the versatile and rather contested linguistic phenomenon of political correctness, in an attempt to observe the language user's dual attitude towards using it, i.e., acknowledgment of its necessity and also, of its manipulative power of deceit. Language is so powerful that it is able to build or burn bridges, influence and manipulate, win or lose wars, to support its users into action, reaction and interaction.

**Keywords:** linguistics, political correctness, versatility

## MODERN APPROACHES TO COMMUNICATIVE COMPETENCE IN TEACHING ESP

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**Background:** With the current astonishing and dynamic progress of science and technology, the concept of specialized languages has gained considerable importance. Specialized language is seen as a means of communication, used in various different contexts. As such, specialists focus on the lexical aspect, noting that the most important differences in specialized languages are to be found on the lexical level, in the specific terminology, as terminologies have different degrees of specialization, depending on the field and the level of perception. Our investigation is diverse. Firstly, as a subcategory of language, terminological language comprises a specialized linguistic system designed to serve the needs of information, communication and collaboration in a particular specialized field, the basis of which is terminology. Secondly, we will also focus on the linguistic aspect that involves the selection of authentic materials, which implies, on the part of the students, not only language skills, but also knowledge in the field of the future specialty, thus contributing both to the development of the communicative competence, and to their professional competence. Thirdly, we also aim to prove that the combination of communication skills in a foreign language and professional skills demonstrates that every work situation is in fact a communication situation whose elements contribute to the success or failure of the work.

**Keywords:** specialized, skills, lexical, linguistic, communication

## HOW TO TRANSLATE POETRY?

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**Background:** Often declared untranslatable, poetry translation has been successfully practiced throughout the centuries by poets. Hence the first question: does one necessarily have to be a poet in order to translate poetry? The personal experience of transposing three volumes of poetry into Romanian or French refuted this postulate for me, but it revealed some constitutive aspects of this type of exercise: the concern for the accuracy of meaning does not exclude the search for rhythm and respect for the form of the poem. If the translation must respect the polysemy of certain texts or culturemes, it does not refuse the choice of an interpretation and the recreation of the meaning-sound union that characterizes poetry. The translator of a poem therefore imposes a compromise between fidelity to the meaning and the search for aesthetic effect.

**Keywords:** translate, untranslatability, sound, meaning, form

## STORYTELLING AS A TOOL FOR ESTABLISHING IDENTITY AND CONNECTING WITH ALTERITY

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**Background:** Storytelling is ubiquitous, serving a multitude of purposes. The paper aims to provide an analysis of the purpose of the narrative in connection with the concepts of identity and alterity, highlighting that the story as a vital part of life found fertile ground and sanctuary in literature and cinematography. We intend to foreground how the storytelling device offers one the possibility to manage one's own life, to define one's own cultural, social and professional identity, to regulate the global feeling of one's being in the world, as well as to relate to otherness. As support in our disquisition, we use the examples provided by the writer Elif Shafak about and in her 2006 novel *The Bastard of Istanbul*, as well as the example of storytelling proposed in *Life Itself* by the scriptwriter and director Dan Fogelman.

**Keywords:** storytelling, narrative, identity, alterity, personal history



## THE EASTERN LIMES OF ROMAN DACIA: ARCHAEOLOGY, HERITAGE AND EDUTAINMENT.

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**Background:** The Eastern Limes (Frontier) of Roman Dacia represented one of the most important parts of the defence system of the province. Its fortifications were thoroughly researched through archaeological excavations, the discoveries were described, put in museums. Nowadays one of the major challenges is, the way its heritage should be not kept, but promoted through various means which exceeds the limits of classical presentation of the archaeological heritage. The paper has as aim to present a few aspects concerning the innovative methods through which this heritage could become part of public conscience, by raising public awareness toward the traces of Roman life in this part of Dacia.

**Keywords:** Archaeology, Heritage, Roman, Limes, public

## (FALSE) IDENTITY IN STORYTELLERS DISCOURSE

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**Background:** All around we are reading/ listening that we all are storytellers and everything is and/ or can be a story. This study has two parts and you will know my opinion if this sentence is it true or false and will know about books and stories that inspired me (The Storytellers Animal, by Jonathan Gottschall and, Mc Kee's book, Story: Substance, Structure, Style, and the Principles of Screenwriting). Firstly, accepting the premises of Mc Kee's book, that communicators can engage listeners through a whole their nature of being if they learn to tell good stories on one hand, and that stories "fulfill a profound human need to grasp the patterns of living - not merely as an intellectual exercise, but within a very personal, emotional experience.", on the other hand, I'll relate about my first experience as a "film director" and a story about how I got my start as screenplayer. Throughout my research I was looking to identify and to distinguish between my reflections vs. students reflections, what kind of stories they might want to tell/ to listen on one hand, and about some aspects of cultural paradigms and/ or (false) identity that any storyteller's discourse can (re)produced, on the other hand. For examples and applications we will looking for storytellers who are writing DoR articles/ <https://www.dor.ro/>, especially regarding relations between real vs false identity constructed by storytelling, and we will show how the students values and moral attitudes are reflected in their preferences to express emotions like empathy, compassion, joy, enthusiasm and/ or opposite attitudes and values in their (digital) stories. Applications were made by the students engaged at Communication and Public Relations/ Communication and Emerging Media, throughout a two courses (Digital writing and/ or Storytelling in digital media) during last two years.

**Keywords:** values and attitudes, preferences and (i)moral choices, borders of (false) identity discourse, script, screenplay, shot list

## OPINIONS AND STEREOTYPES CONCERNING CORRUPTION IN ADMINISTRATIVE COMMUNITIES. CASE STUDY

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**Background:** The work captures and records perceptions of a negative social phenomenon, namely corruption, and regarding the ability to promote values such as honor, honesty by civil servants and citizens. **Methods:** The method used consisted of a survey based on a questionnaire, applied to two target groups, namely 210 civil servants and 150 citizens. Looking at the activity of civil servants, personal ethics and professional values were analyzed, framed in the organizational context (organizational culture, communication, transparency, code of conduct and ethics). **Results:** According to the answers in the study, the factors that trigger corruption are considered to be inadequate pay, deficient legislation, faulty management, the behavior of corrupt officials

being determined by the lack of their own conscience, the influence of the mass media and colleagues. The fact that both officials and citizens answered in a very high percentage that in order to solve a problem more quickly and efficiently they would resort to paying attention to an official shows that although they want to live in a society without corruption, they do not assume a behavior to counteract this phenomenon. Citizens still live with the stereotype that the official must be "pleased, sensitized" for everything to go well. Conclusions: By involving citizens, in addition to civil servants in this research, we demonstrated that citizens are not just passive recipients of public services and that public institutions can permanently engage in a dialogue with citizens.

**Keywords:** public administration, corruption, stereotyped behavior, countermeasures

## BEFORE AND AFTER 1922: THE ROMANIANS HISTORIANS AND THE MONARCHY

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**Background:** The Alba Iulia coronation of king Ferdinand and queen Mary in November 1922 had a profound impact on the public opinion of Romania. Historians played a part in building the positive image of the royal couple. Thus, the present study aims to identify the most important historical contributions of the beginning of the 20th century on the history of the Romanian monarchy and to highlight the changes in the historical discourse after 1922. The reading of the many books and press articles conducted to a typological approach which is being demonstrated by the relevant sample quotations. Many of contributors had been previously active in the scientific life, the most famous was Nicolae Iorga.

**Keywords:** Romanian Monarchy, historiography, critical thinking, Subjectivity, the history of ideas

## THE EVOLUTION OF THE COMMUNICATION TECHNOLOGY, BETWEEN THE SUCCESS OF THE ONLINE NETWORKING AND THE DANGERS TO DEMOCRACY, HUMANITY

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**Background:** As a whole, the Internet and the development of hardware, software technologies, of specific applications, the success of electronic social networks, that facilitate online communication, have reduced physical and geographical distances between people, turned out to be beneficial to interactions, helped us be better informed. At the same time, where democracies are functional, digital technology enhanced the possibilities of expression of the fundamental liberties, especially in public communication, created new economic, social, cultural, political opportunities, implicitly stimulated the accelerated evolution of mass media. There is, however, the other side of the coin regarding electronic communication, digital multiplication and transmission of information. Unknown algorithms, invisible to the usual users of the social networks and electronic communication platforms, are handled from opaque sources of power and they sometimes nurture, through manipulation, propaganda and disinformation, a fake, mystified, distorted reality of the public space. We are witnessing a competition of technological "arming" in which both democratic countries and societies as well as their opponents with authoritarian political regimes, China and Russia, confront for supremacy. Human civilisation has moved into the virtual space and the digital communication platforms control by the powers behind them the interactions of billions of people. Where are we heading to and what kind of dangers are we to confront in this respect?

**Keywords:** digital communication, technological development, social networks, electronic platforms, dangers

## THE IMAGE OF THE HUMAN BODY IN RENAISSANCE CULTURE

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**Background:** By developing the cultural premises of Humanism, the Renaissance made man the centre of the Universe. Renaissance was a period of deep innovations in political, economic, social and cultural fields. The secularization of culture was one

of the main characteristics of the new Renaissance civilization. As a result, the image of the human body underwent radical changes, becoming one of the key elements of the new cultural paradigm. Through different sources (artistic, literary, medical, etc.), this presentation aims to highlight the way in which the Renaissance represented the human body as a metaphor for the new man, seen as the architect of his own destiny.

**Keywords:** Renaissance, Body Image, Cultural History

## "NEW PIECES CAME INTO PLAY .../ ACTION CAN BE A FLICKER (DAN LUNGU)

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**Background:** The novels of the prose writer Dan Lungu are a challenge for the reader. Based on the relativity and ambiguity of human things, the novel is not a confession of the author, but an exploration of what human existence represents in the trap that has become the world. Focusing on the enigma of the character, who moves through a contrasting time, eras loaded with history, the novelist organizes his material with the system of confusions as the topic, the system of symbolic thinking that is the basis of any behaviour, individual or collective. The novel's existential code is given by the identity paratopias that contain the character's code built on key words of existence that suddenly change their meanings by emerging from the vortex of confused states. The complexity of the paratopia works at the level of the narrative chronotope as well: temporal paratopia, active both by returning to the consumed time, accessing the mnemonic technique, not as repulsion, but as finding the reference that can be chosen as a landmark in the new temporal order, as well as a return/coming back from the future projected as a possibility, and finally the balancing of the past and the future, of the selection of relevant elements in the configuration of a saving present. Spatial paratopia surprises with the empathetic manner of the imagery faithful to Romanian realities, belong either to the city or to the village. From the arsenal of the novelistic discursive tools, we note the meditative interrogation and humour, obvious signs for the artistic style of Dan Lungu, the novelist who, far from being a historian or a prophet, remains an explorer of existence.

**Keywords:** Dan Lungu, identity paratopias, meditative questioning, humour

## "SO CLOSE TOGETHER AND STILL SO FAR APART!". IMAGES OF TRANSYLVANIA IN THE INTERWAR ROMANIAN PRESS

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**Background:** In 1918, in an atmosphere of great enthusiasm, the Romanians from Transylvania, Bucovina and Bessarabia expressed in their national assemblies the desire to become part of the Romanian Kingdom. Under the influence of the principle of national self-determination promoted by Woodrow Wilson, the Paris Peace Conference recognized the union and Great Romanian was born. However, the enthusiasm of these moments was soon challenged by the reality of the integration of different areas with different social and cultural backgrounds. For a long time, the Great Union has been mostly addressed from the perspective of its national significance, as the moment when Romanians who had lived under foreign rules were brought together in their mother land. Nonetheless, in the last years, the Romanian historiography became more interested in the difficulties and challenges of the aftermath of the Union. The present study follows this direction and analyses the image of Transylvania as part of Romanian Kingdom, shaped by the Romanian press in the first interwar decade, from the perspective of the challenges of its integration.

**Keywords:** Great Union, Transylvania, Integration, Nation, Cultural Diversity

## THE TRANSLATION OF THE MONEY IS A LIQUID METAPHOR INTO ROMANIAN

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**Background:** The present paper highlights the extensive use of the MONEY IS A LIQUID conceptual metaphor in economic

journalistic discourse and investigates the translation from English into Romanian of the metaphorical expressions which instantiate it. Therefore, it is based on the application of corpus approaches to the study of metaphor and makes a comparative analysis of source and target economic texts to investigate the procedures employed for the translation of this conceptual metaphor by integrating some of the recent developments in both metaphor research and metaphor translation. The examples selected for our analysis belong to a corpus which consists of 80 articles which appeared in *The Economist* between 2011 and 2013, and was compiled to investigate the translation of metaphors into Romanian.

**Keywords:** conceptual metaphor, metaphorical expression, corpus analysis, cognitive approach, translation studies

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## NARRATIVE NODAL POINTS IN ANURADHA'S ROY THE EARTHSPINNER

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**Background:** In weaving the story of the potter and his terracotta horse, Anuradha Roy's latest novel addresses identity-(de)constructive themes that transgress the barriers of time and space: the self and the other; the artist and the act of creation; change versus tradition; loss and exile and memory. The present paper follows the nodal points of the narrative thread, the means of auctorial interconnectedness which A. Roy uses in building an intricate discourse constituted as a metaphor for social and cultural realities of contemporary times. The fluid unfolding of the narrative embraces a double chronotope which parallels past and present, the West and the East, while the reader becomes the medium of connection.

**Keywords:** nodal points, artist, narrative techniques, tradition, self

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## MIHAELA MANCAŞ AND THE STYLISTICS OF THE LITERARY TEXT

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**Background:** The present study aims to highlight Mihaela Mancaş' role of in the research of the literary text from a stylistic perspective. A life dedicated to the selection of the corpus that illustrates the stylistic/figurative valences decipherable in the work of the great Romanian writers, to the analysis and interpretation of the language and style phenomena extracted by the researchers. As usual, Mihaela Mancaş does not insist in her linguistic work on the theoretical component, which is considered tedious to present. We notice that she prefers the applied study, with a focus on the construction and meaning of the literary text, on the (figurative) mechanisms of its production. The unitary thematic sphere of her research is the stylistics of the literary text, and the basic method, the (con)textual analysis, carried out from a stylistic priority perspective. Through this article, we aim to demonstrate that stylistics is still provocative, and by using the modern means at its disposal, through the multiple interdisciplinary relationships, this field has broadened its horizons, refining itself with the passage of time.

**Keywords:** Stylistics, Literary text, Stylistic valences, Stylistic valences, contextual analysis

## SCIENCE AND TECHNOLOGY

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### INTELLIGENT MANAGEMENT SYSTEM FOR UNIVERSITY CAMPUSES BUILDINGS WITH OPTIMAL INTEGRATION OF SOLUTIONS BASED ON RENEWABLE ENERGY SOURCES FOR ELECTRICITY DEMANDS

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**Background:** The aim of this study is to provide some directions regarding the opportunity of implementing a renewable sources based electricity production structures into university campus buildings. Comprehensive studies are performed, starting from the renewable energy sources local energy potential such as solar photovoltaic, biomass, wind etc. to the structure of electricity consumers, that lead to the design of a possible technical solution to be adopted in order to increase the energy efficiency and to reduce costs. Also the possibilities of energy storage and transferring it to the public power network are analysed. The management of the production structure is performed by using deep learning techniques, namely long short-term memory (LSTM) neural networks. Also, for energy management decision support a mathematical model is proposed to allow the optimization of the investment in renewable solutions and of the electricity production structure. A case study for two buildings of UMFST GEP of Targu Mures is performed for testing and validation purposes. Acknowledgement: This work was supported by the University of Medicine, Pharmacy, Science and Technology "George Emil Palade" of Târgu Mureş Research Grant number 512/2 / 17.01.2022.

**Keywords:** renewable energy, smart management, optimization, smart university campus, deep learning

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### MORPHOLOGY OF NANOSTRUCTURED OXIDE LAYERS DEVELOPED ON TITANIUM BASED BIOMATERIALS

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**Background:** Surfaces of medical implants have to withstand corrosion while in contact with human tissues. Titanium based alloys are widely used as biomaterials, due to their biocompatibility, which is the result of a very thin compact TiO<sub>2</sub> layer naturally occurring on their surface. Increasing the thickness and modifying the morphology of this oxide layer to become nanotubular/nanoporous results in further enhancing of material properties by promoting a better osseointegration when used in orthopaedic and dental applications. **Material and methods:** Samples of Ti6Al4V, the most used titanium based biomaterial, was subjected to their surface modification by electrochemical anodization (EA) in a two electrode type custom made laboratory setup, using aqueous electrolyte (1M H<sub>3</sub>PO<sub>4</sub> + 0.5 wt% HF) and organic electrolyte (0.5 wt% NH<sub>4</sub>F + 2 wt% H<sub>2</sub>O in ethylene glycol), and different anodization potential (U = 20, 40, 60 V). Electrical parameters were controlled and monitored by Nanosource2 software. Morphology of developed oxide layers was evaluated by scanning electron microscopy (SEM) and nanostructures features were measured using graphical image processing software. **Results:** Our results show the development of nanotubular TiO<sub>2</sub> layer with 40-100 nm internal diameter of nanotubes, by using aqueous electrolyte, at an anodization potential of 20 V. In organic electrolyte the morphology of the modified layer is a nanoporous one, with pores openings depending on anodization potential as follows: at 20 V - 30-40 nm, at 40 V - 40-80 nm, and at 60 V - 60-120 nm. **Conclusions:** Present work shows successful development of nanostructured TiO<sub>2</sub> layer on Ti6Al4V biomedical alloy, using electrochemical anodization in aqueous and organic electrolytes. The internal diameters of nanopores/nanotubes are in the range of 30-120 nm, depending on anodization process parameters. Studies revealed that these nanostructures were proved to promote bone cell adhesion, proliferation, and differentiation, enhancing material's bioactivity and osseointegration.

**Keywords:** Ti6Al4V, nanostructured TiO<sub>2</sub>, electrochemical anodization, medical implants

## SOCIAL SCIENCES

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### IS IT EASY TO INHERIT DIGITAL ASSETS?

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**Background:** It is undeniable that our lives, from personal to professional, have become in the past few years extremely digital, and so have our possible assets. These particular types of assets, such as bitcoin, non-fungible tokens, domain names that host personal blogs or webpages, are becoming more and more common and, therefore, have to be taken into consideration as part of an inheritance - so called digital inheritance. The nature of these assets and the systems that lay behind them make them a bit more challenging to inherit. For example, cryptocurrency is usually stored on a blockchain and people use either a public or a private key to transact with this currency. Therefore, in this case, before applying the rules of inheritance, first of all you need access to transfer these assets and access, lacking information about the key, may prove impossible or illegal. We will analyze the nature of some of these digital assets and the possible ways of overriding the difficulties in inheriting them. We need to know more about these particular types of goods if we want to prevent the possibility of these funds being lost online and not inherited, according to the rules of legal inheritance or according to a will.

**Keywords:** digital assets, inheritance, cryptocurrency, will

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### THE ROLE OF ADMINISTRATIVE APPROACH IN FIGHTING ORGANIZED CRIME

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**Background:** The administrative approach applied or coordinated with the traditional instruments held by the criminal law has proven to be a potentially powerful and relevant tool for preventing and repressing serious forms of crime and organized and subversive crime. It is an approach based on the principle that institutions and organizations with administrative powers play an important role in preventing and fighting criminality. In this paper we will expose and analyze the main elements that the administrative approach combines in achieving its goal. First of all, the administrative approach prevents and/or combats the facilitation of illegal activities by preventing the use of legal administrative structures for illegal purposes. Also, the administrative approach involves the application of pertinent administrative regulations to prevent and combat illegal activities, but also the coordination of interventions, by using administrative tools along the rules of criminal law, to prevent, combat and repress serious forms of crime and of organized crime. Because serious forms of crime and organized crime have cross-border connotations, in order to prevent and combat them, at the EU level have been adopted measures and priorities, just as pilot projects have been created regarding the administrative approach of this phenomenon.

**Keywords:** administrative approach, organized crime, criminal law

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### THE LEGAL NATURE OF GOVERNMENT ORDINANCES

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**Background:** The provisions of Article 115 of the Romanian Constitution regulate, on the one hand, the institution of legislative delegation, which allows the legislative authority, the Parliament, on the basis of a special law enabling the Government to issue ordinances in areas not covered by organic law, on the other hand, regulates the possibility of the Government to issue emergency ordinances, based on the regulatory power it has, but only in extraordinary situations the regulation of which cannot be postponed, except for the limits expressly mentioned in the same article. The fact that a body belonging to the central public administration

regulates in the area dedicated to the legislative power has raised ample debate in doctrine and jurisprudence on the legal nature of these types of acts.

**Keywords:** the Constitution, legislative delegation, administrative act, normative act

## HEALTHCARE FINANCIAL MODELS FOR FINANCIAL SUSTAINABILITY. A SYSTEMATIC SCIENTIFIC LITERATURE REVIEW AND ANALYSIS FOR A FUTURE NATIONAL MODEL IN ROMANIA

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**Background:** Financial sustainability represents a nowadays subject of scientific debate, particularly regarding the healthcare systems, in the aftermath of the Covid-19 pandemic, which brings to attention the urgent need for national solutions. The study represents a continuation of the previous research of the author, which aims to find a future model to obtain greater financial sustainability for health at the national level. As shown by our recent research, the national financial policies scenarios in the world to overcome the pandemic have been very different, and different uncoordinated solutions have been applied with different results, at the government level. The present study begins from the conclusion of our previous research which reveals a wide variety of healthcare financing national policies, all over the world, with no specific funding model in place. The effects on national healthcare systems are also extremely different. **Material and methods:** With the aim to find the scientific base for a future common model to obtain greater financial sustainability for health, the present paper conducts a systematic review of the recent international scientific literature, found in scientific databases, to compare the financial models for healthcare systems, the financing mechanisms, the advantages, and disadvantages, for a sustainable healthcare financial model. **Results:** The study has identified and compared 10 different financial models for a sustainable national healthcare system, provided in scientific papers recently published, and categorized them on financial criteria and efficacy points of view. **Conclusions:** Although the need for financial sustainability of the healthcare systems is common, the solutions are very different at the government level and do not always have a scientific basis. However, the scientific literature provides sufficient information for drawing up an efficient and effective model that could be the basis of reform in the field of financing health services at the national level.

**Keywords:** Public Health Policies, Financial Sustainability, Financing Healthcare Systems, Financial Healthcare Model

## CHALLENGING THE LEGALITY OF THE TECHNICAL SUPERVISION MEASURE BY THE DATA SUBJECT

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**Background:** By CCR decision no. 244 of April 6, 2017, the Constitutional Court admitted the exception of unconstitutionality and found that the legislative solution contained in the provisions of art. 145 of the Code of Criminal Procedure, which does not allow the legality of the technical surveillance measure to be contested by the person concerned by it, which does not have the capacity of defendant, is unconstitutional. The Court found that, in the matter of the protection of the constitutional right to private life, the legislator has the obligation to regulate an effective means of appeal, which would allow the person subject to the measure of technical surveillance to obtain the appropriate reparation of the consequences of the contested violation. Given that even up to now the legislator has not fulfilled his regulatory obligation, in the absence of a legal text that expressly regulates the appeal that can be exercised by a person targeted by a technical surveillance measure, other than the defendant, in relation to which a solution of non-prosecution was ordered, the question arises as to what is the procedure to be followed in such situations, which is the competent court to resolve the request, and what effective remedy can such a prosecution offer.

**Keywords:** technical surveillance, interception, unconstitutionality, private life, criminal procedure



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## CRIMES COMMITTED WITHIN ECONOMIC INTEREST GROUPS

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**Background:** The economic interest group is a legal person with a patrimonial purpose, distinct from legal entities that associate for the joint exercise of economic activities. The activity of the economic group knows a number of legal limitations regarding its possibility to act. Law no. 161/2003 makes a series of criminalizations regarding the illegal conduct of the economic interest group. Commercial companies, in order to improve their activities, join forces in order to maximize market share and streamline their own financial processes. The group's activity must be limited to the economic activity of its members. The joint action of its members is necessary for correct economic conduct and the formation of a competitive economic market.

**Keywords:** economic interest group, legal person, economic activities, crimes, illegal conduct

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## ARBITRATION AS A REMEDY FOR MEDICAL MALPRACTICE CASES

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**Background:** The aim of the paper is to explore whether the national legal framework allows for the resolution of medical malpractice cases by means of arbitration. Arbitration is commonly used as a means of dispute resolution in commercial and international transactions but recently, it has been promoted as a means of dispute resolution among different professions. We shall discuss the advantages of arbitration in malpractice cases in comparison with regular legal proceedings. Also, we analyse the statutes in different countries in order to suggest *lex ferenda* provisions that would promote arbitration as a reliable means of dispute resolution in malpractice cases.

**Keywords:** Arbitration, Malpractice, Common proceedings, Comparative law, *Lex ferenda*

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## ROMANIA'S NATIONAL STRATEGY ON SOCIAL INCLUSION AND POVERTY REDUCTION BETWEEN OBJECTIVES AND THEIR ACHIEVEMENT

Brindusa Marian<sup>1</sup>

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**Background:** Background: National Strategy on Social inclusion and poverty reduction 2022—2027 was approved by Government Decision no. 440/2022 and it's adapted to the European and international reference framework. Romania's national strategy on social inclusion and poverty reduction for 2022-2027 proclaims objectives for a sustainable development of Romania, for ensuring a fair, dignified and prosperous life for its inhabitants. The objectives set out in the National Strategy on Social inclusion and poverty reduction for 2015-2020 have only been partially achieved. Methodology This paper aims at the objectives pursued and their degree of achievement by comparing the objectives set and the results achieved in the period 2015-2020.

**Keywords:** strategy, Social inclusion, poverty, analysis, objectives

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## MECHANISMS OF ESTATE AND SUCCESSION PLANNING FOR MARRIED COUPLES FROM A COMPARATIVE PERSPECTIVE

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**Background:** The article focuses on the interplay between different legal instruments used by the spouses during marriage in England, France and Romania. These mechanisms of estate and succession planning are set in place by the spouses individually or

jointly, to protect each their own assets and to determine the outcome for the surviving spouse, during the inheritance procedure. The choice of the matrimonial regime and the successive change in matrimonial regimes, the setup of matrimonial advantages, donations between spouses, the setup of trusts and the use of testaments and of agreements as to succession - will all of these lead to the projected outcome or to a mere house of cards?

**Keywords:** Matrimonial Property Regimes, Surviving Spouse, matrimonial advantages, Succession Planning, Matrimonial agreement

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## THE IMPACT OF DIGITALISATION ON THE INTENTIONS OF POTENTIAL MIGRANTS

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<sup>3</sup>Department of Finance and Accounting, UMFST Tîrgu Mureş

**Background:** Background: This research aims to analyze the profile of the Romanian medical graduates who intend to migrate after they finish their studies. Material and method: The analysis was performed using data from an online questionnaire applied to the Romanian medical graduates. This qualitative research used probit model analysis for our database, which consists of 400 responds. Results: Following the research, we found that the profile of the migrant student from the medical sciences specialization has the following characteristics: -the intention to migrate was found especially among female graduates; -graduates with a higher economic situation tend to migrate more than the poorest, even if the expected results were contrary; - the intention to migrate does not take into account the level of qualifications obtained; -residence has no influence on the intention to migrate. At the same time, among the destination countries preferred by Romanian medical graduates are those in Western Europe, especially Germany, Great Britain and France. Conclusions: This study contributes to the understanding of the importance of the sustainable migration policy, in order to keep the medical graduates in Romania, especially in the context of the COVID-19 pandemic and the phenomenon of globalization.

**Keywords:** Digitalisation, Migration, MObility

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## THE INFLUENCE OF OWNERSHIP STRUCTURE AND GENDER DIVERSITY OVER CORPORATE GOVERNANCE CONFORMITY IN AN EMERGING MARKET

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**Background:** Corporate governance practices are long studied as a solution to agency conflicts that arise when a separation between owner and manager roles exists. Also, ownership structure is considered an internal mechanism that suggests corporate governance quality. The aim of our paper is to study the importance of the ownership structure and majority capital in corporate governance conformity, to demonstrate the theories of corporate governance developed over time by various international researchers, applied in an emerging economy. Gender diversity is also addressed, both in terms of the number of women on boards of directors and the management of companies by women.

**Keywords:** corporate governance, ownership structure, gender diversity, performance, emerging markets

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## **MEDICINE AND PHARMACY**

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## BIOMONITORING ROPIVACAINE FROM PLASMA AND TISSUE

Mihaela Butiulca<sup>1</sup>, Lenard Farczadi<sup>2</sup>, Alexandra Lazăr<sup>1</sup>, Dragos Butiulca<sup>3</sup>

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**Background:** Ropivacaine is local anesthetic used in regional anesthetic practice such as nerve blocks or epidural anesthesia. Due to side effects associated with ropivacaine toxicity, biomonitoring studies are an essential tool for optimizing administration, which in turn necessitate accurate and sensitive quantification methods to correctly assess absorption, distribution, metabolization and elimination of ropivacaine. **Material and methods:** A LC/MS system consisting of an UHPLC coupled with a QTOF mass spectrometer was used to develop a suitable method for ropivacaine quantification. For analytical separation a Gemini-NX C18 type chromatographic column was used in combination with different types of aqueous formic acid and methanol as mobile phases in gradient elution. Detection was optimized and carried out in MS/MS mode after ESI positive ionization of analytes. **Results:** Ropivacaine quantification was carried out by monitoring transition  $m/z$  275.15→126.1, while for the metabolite 3-OH-ropivacaine the transition  $m/z$  291.2→126.1 was used. An isotopic internal standard was used and monitored through the transition  $m/z$  282.2→133.1. The method gradient was optimized to facilitate good separation of the analytes but at the same time a short run time of 10 minutes per sample. At the same time sample cleanup was performed using fast and simple protein precipitation of plasma and a one-step liquid-liquid extraction for tissue samples. The method was tested on spiked biological samples and was proven to determine ropivacaine and its main metabolite from these samples. **Conclusions:** Due to widespread use, the biomonitoring of ropivacaine is essential for understanding health risks to patients and improving treatment. The LC-MS developed, which will also undergo a full validation, was shown to be adequate for this task as it uses simple sample preparation techniques and has a short analysis time. It will be further optimized and used for such biomonitoring studies with the end goal of enabling the best treatment for patients undergoing surgical procedures.

**Keywords:** biomonitoring, LC-MS/MS, Ropivacaine, regional anesthesia

## EXTRACTION OF GENOMIC DNA FROM WHOLE BLOOD SAMPLES IN ARDS PATIENTS. A PILOT STUDY

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**Background:** Genetic testing is becoming more popular by offering possibilities for a personalized approach of therapeutic conduits. Genomic DNA isolated from whole blood is widely used for genetic epidemiological studies, as it provides a high-quantity and high-quality data. ARDS is a heterogenic condition which affects many of the critically ill patients. In the last two decades mortality rates remained significant. The objective of the study is to determine new therapeutic targets and new diagnostic methods. **Material and methods:** Whole blood samples were collected from ARDS patients admitted to ICU and stored in 5 ml tubes, with EDTA anticoagulant at -20°C. Genomic DNA was extracted using a solution-based extraction method and a fixed protocol with the PureLink Genomic DNA Mini Kit to determine correlations between clinical findings and DNA physical properties. DNA quality and purity were assessed spectrophotometrically using kinetic BioSpectrometer (Eppendorf) directly after extraction and before storage of DNA at -20°C for further genomic assessments. **Results:** At this stage of the study 16 patients diagnosed with ARDS were enrolled. The mean age of the patients was 59 years. The average purity of DNA based on the ratio of absorbance at 260 nm and 280 nm ( $A_{260}/A_{280}$ ) was in the expected limits for the used protocol ( $>1.8$ ), indicating that DNA is reasonably clean of proteins. DNA concentration mean was 157.91 ng/ml. We found a statistically significant positive correlation between leucocyte count and DNA concentration ( $p=0.03$ ), and positive correlations between C reactive protein level and DNA concentration ( $r=0.4$ ) and patients age and DNA concentration ( $r=0.003$ ). **Conclusions:** Quality of DNA was above the accepted value within the protocol, which permits further genetic studies like genotyping the samples to determine single nucleotide polymorphisms in ARDS patients. DNA concentration was elevated in most of the enrolled patients, probably due to the high leucocyte count, most of them being septic.

**Keywords:** extraction, DNA, whole blood samples, ARDS

## QUALITY OF LIFE ASSESSMENT IN POSITIVE COVID-19 CRITICALLY ILL PATIENTS: IS LONG-COVID A NEW MEDICAL CHALLENGE POST-PANDEMIC?

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**Background:** Research during COVID-19 pandemic focused mainly on hospitalized patients in the acute stage. Subsequent consequences are relevant, not only to improve treatment, but also to restore quality of life. The main objectives of our study were to assess the quality of life in critically ill patients diagnosed with SARS-CoV2 infection and long-COVID symptoms after discharge. **Material and methods:** We conducted a unicenter, observational and trasversal study to include COVID-19 positive critically ill patients hospitalized in the Anesthesia and Intensive Care Department of the County Emergency Clinical Hospital in Tîrgu-Mureş. Patients went through the WHOQOL-Bref Quality of Life Scale validated questionnaire and answered questions regarding symptoms post-COVID-19 infection. **Results:** Out of 886 patients screened for eligibility, 118 meet the inclusion criteria. 50 patients offered their consent to participate in the study. Patients included had a mean age of  $59.26 \pm 15.65$  (95%CI=54.81-63.71), 1/3 were woman, and were hospitalized totally for  $12.32 \pm 6.74$  days (95%CI=10.40-14.23) of which  $6.24 \pm 5.39$  days (95%CI=4.70-7.77) in ICU. All received oxygen therapy, 1/2 needed invasive mechanical ventilation for  $40.08 \pm 48.00$  hours (95%CI=26.29-53.87) and 1/3 needed non-invasive ventilation for  $37.59 \pm 41.72$  hours (95%CI=25.61-49.58). Inflammatory status was investigated and no statistically significant difference was noticed between admission and discharged moment (leucocytes  $p=0.08$ , CRP  $p=0.507$ , PCT  $p=0.612$ ). The follow-up of WHOQOL-Bref Quality of Life Scale was performed after a mean of  $431.69 \pm 161.88$  days, having a total of  $80.58 \pm 46.69$  points (95%CI= 67.31-93.85). The mean scores were as it follows: domain1= $50.64 \pm 40.34$  (95%CI=39.17-62.11), domain2= $23.18 \pm 14.56$  (95%CI=19.04-27.32), domain3= $9.88 \pm 4.90$  (95%CI= 8.49-11.27), domain4= $25.06 \pm 11.36$  (95%CI=67.31-93.85), with statistically significant difference between groups with less or more than 5 days stay in ICU (domain1  $p=0.002$ , domain2  $p=0.038$ , domain3  $p=0.120$ , domain4  $p=0.027$ ). Long COVID was characterized by profound fatigue 76%, dyspnea 60%, chest pain 30%, headaches 40% and arthralgia 56%. **Conclusions:** The findings of this study confirm that the WHOQOL-BREF Quality of Life Scale is a tool for measuring quality of life also for critically ill post-COVID-19 patients.

**Keywords:** COVID-19, critically ill patients, quality of life, WHOQOL-BREF Scale



## PLATELET-TO-LYMPHOCYTE RATIO AND NEUTROPHIL-TO-LYMPHOCYTE RATIO – PROGNOSTIC PREDICTORS FOR SEPSIS?

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**Background:** Sepsis, the archnemesis of intensivists worldwide, represents a challenge even today, identification of patients at high risk of poor outcomes is crucial for adequate intervention. The aim of this study is to identify efficient bedside tools to pinpoint towards the outcome of sepsis or septic shock by finding a correlation between the Platelet-to-Lymphocyte Ratio (PLR), the Neutrophil-Lymphocyte Ratio (NLR) and the severity scores SOFA and APACHE II. **Material and methods:** This is a prospective, observational, and ongoing study conducted on 61 patients admitted with sepsis or septic shock according to the SEPSIS 3 Consensus definition. We followed clinical and paraclinical parameters on day 1 and day 5 after meeting the inclusion criteria.

**Results:** On D1 we found a statistically significant positive correlation between NLR and PLR,  $r = 0.3755$ ,  $CI = 0.1291$  to  $0.5782$ , and between SOFA and APACHE II scores,  $r = 0.7287$ ,  $CI = 0.5841$  to  $0.8285$ . There was no correlation between NLR, PLR and the severity scores. Similar results were found on D5, with a statistically significant positive correlation between NLR and PLR,  $r = 0.4678$ ,  $CI = 0.1860$  to  $0.6785$  and between SOFA and APACHE II scores,  $r = 0.8105$ ,  $CI = 0.6671$  to  $0.8960$ . No correlation was found between NLR and the severity scores. We found a statistically significant negative correlation between PLR vs. SOFA,  $r = -0.4437$ ,  $CI = -0.6664$  to  $-0.1484$  and PLR vs. APACHE II,  $r = -0.4084$ ,  $CI = -0.6417$  to  $-0.1060$ . **Conclusions:** NLR and PLR could be utilized as bedside prognostic predictors in sepsis or septic shock in correlation with the severity scores regarding the evolution and clinical response to treatment. To increase their predictive strength, a correlation with other biomarkers is needed. This work was supported by the University of Medicine, Pharmacy, Sciences and Technology "George Emil Palade" of Târgu Mureş Research Grant number 10126/17.12.2020.

**Keywords:** Sepsis, Platelet-to-Lymphocyte Ratio, Neutrophil-to-Lymphocyte Ratio, APACHE II score, SOFA score

## BIOCHEMISTRY

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### EVALUATION OF SERUM URIC ACID LEVEL IN RELATIONSHIP WITH METABOLIC PARAMETERS IN OVERWEIGHT/OBESE TYPE 2 DIABETIC PATIENTS

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**Background:** Type 2 diabetes mellitus is one of the most common secondary causes of hyperlipidemia. Besides obesity, increased serum uric acid level promotes inflammation, which contributes to insulin resistance. **Material and methods:** The aim of the study was to evaluate the relationship between acid uric and other metabolic parameters in overweight/obese patients diagnosed with type 2 diabetes mellitus. Data collection recorded these cases admitted to the Diabetology Clinic of the Emergency County Hospital in Târgu Mureş during January-October 2022. Laboratory parameters, body mass index (BMI) and demographic data were collected. Statistical analysis was performed using the GraphPad InStat3 software. **Results:** The study involved 164 overweight/obese type 2 diabetic subjects hospitalized in this clinical section during the mentioned period, representing 80% of the 205 type 2 diabetic cases. The mean age of the studied patients was 70.5 years, half of them being females, 53% of the subjects were from rural environment. Positive correlation could be observed between the patients glycemia and glycated hemoglobin values. 33% of the subjects presented elevated values of serum uric acid, 58% had hypertriglyceridemia and 30% showed increased cholesterolemia.

**Conclusions:** Based on the obtained data we can conclude that less than one quarter of the type 2 diabetic patients having BMI exceeding 25 kg/m<sup>2</sup> presented uricemia and main lipid profile parameters in the normal range during hospitalization. Decreasing these laboratory values is a therapeutical challenge having important contribution to secondary prevention in these subjects. **Acknowledgement:** This work was supported by the University of Medicine, Pharmacy, Science and Technology "George Emil Palade" of Targu Mures, Research Grant number 294/6/14.01.2020.

**Keywords:** diabetes mellitus, obesity, uric acid, lipid profile

## COMORBIDITIES AND COMPLICATIONS PRESENT IN HOSPITALIZED TYPE 2 DIABETIC PATIENTS

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**Background:** Comorbidities and cardiovascular complications are very common in patients with type 2 diabetes mellitus (DM), especially in elderly subjects. Early diagnosis of these can contribute to a better management of the cases in ambulatory care and during hospitalization. **Material and methods:** The aim of the study was to evaluate the comorbidities and complications present in hospitalized type 2 diabetic patients. The study period was represented by the first ten months of 2022, information were collected from the database of the Diabetology Clinic of the Emergency County Hospital in Târgu Mureş. Statistics were made using the GraphPad InStat3 program. **Results:** The study involved 191 type 2 diabetic subjects having hypertension as a comorbidity (93% of the total cases with type 2 DM) and 14 diabetic patients without this pathology. The average age of the diabetic patients was 66 years, the mean evolution period of the disease was 13.27 years  $\pm$  11.22 (SD). 57% of the subjects were diagnosed with polyneuropathy, 54% with coronary heart disease, 51% were obese, and 19%-19% suffered from retinopathy and nephropathy. Peripheral arteriopathy was present in 25% of the studied cases, 8% of the diabetic patients underwent amputation. **Conclusions:** Cardiovascular comorbidities were very frequent in the studied type 2 diabetic patients, especially hypertension. Obesity, polyneuropathy, micro- and macrovascular complications were present in case of more than half of the subjects, some of these might be underdiagnosed. These complications have high impact on the quality of life and overall life expectancy. **Acknowledgement:** This work was supported by the University of Medicine, Pharmacy, Science and Technology "George Emil Palade" of Targu Mures, Research Grant number 294/6/14.01.2020.

**Keywords:** diabetes mellitus, hypertension, complications, comorbidities

## CARDIOLOGY

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### PREDICTIVE VALUE OF THE CHA2DS2-VASC SCORE FOR ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION-RELATED ARRHYTHMIC COMPLICATIONS IN THE ERA OF PERCUTANEOUS CORONARY INTERVENTIONS

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**Background:** Arrhythmic complications in ST-segment elevation myocardial infarction (STEMI) patients impose a significant cardiovascular burden, despite the use of primary percutaneous coronary interventions (pPCI). Prompt identification of patients who will develop STEMI-related arrhythmic complications would allow the implementation of more intensive follow-up and therapeutic strategies, improving the cardiovascular prognosis of these patients. Even if various risk factors have been validated to predict early mortality risk, these scores include predominantly components of the acute phase of STEMI. We aimed to evaluate the ability of the CHA2DS2-VASc score, a surrogate of cardiovascular risk factors burden, to predict STEMI-related arrhythmic complications. **Material and methods:** Data were collected from 839 consecutive patients treated by pPCI for STEMI. The CHA2DS2-VASc score was calculated for each patient, and its ability to predict new-onset atrial fibrillation (AF) and STEMI-related ventricular tachycardia/fibrillation was assessed in univariate and multivariate analysis. **Results:** New-onset AF and ventricular tachycardia/fibrillation occurred in 2.4% and 13.3% of patients, respectively. Compared with their non-arrhythmic counterparts, patients with STEMI-related AF were older, had higher CHA2DS2-VASc score, and were more likely to present chronic kidney disease (all  $p=0.01$ ). In multiple regression analysis, a CHA2DS2-VASc  $>2$  points independently predicted new-onset AF (OR 3.9, 95%CI 0.4-2.2,  $p < 0.01$ ). Patients who presented STEMI-related ventricular tachycardia/fibrillation had lower systolic blood pressure and left ventricular ejection fraction on admission compared to their non-arrhythmic counterparts (both  $p < 0.001$ ). However, in multiple regression analysis, the CHA2DS2-VASc score had no predictive value for ventricular tachycardia/fibrillation (OR 0.6, 95%CI 0.2-1.6,  $p = 0.37$ ). **Conclusions:** The CHA2DS2-VASc score was an independent predictor of STEMI-related AF, suggesting that it can be a useful tool for stratifying the risk of AF in this high-risk population. However, the CHA2DS2-VASc score had no predictive value for ventricular tachycardia/fibrillation, emphasizing the need for dedicated tools for adequate risk stratification of STEMI-related arrhythmic complications.

**Keywords:** atrial fibrillation, CHA2DS2-VASC score, prediction, ventricular tachycardia/fibrillation

## NEUTROPHIL PERCENTAGE TO ALBUMIN, NEUTROPHIL-TO-LYMPHOCYTE AND NEUTROPHIL-TO-MONOCYTE RATIO IN HEART TRANSPLANT PATIENTS.

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**Background:** Inflammation is strongly associated with the development and complications of cardiovascular diseases. Increased levels of inflammatory markers have been shown to have a predictive role in future cardiovascular events. Neutrophil percentage to albumin ratio (NPAR), neutrophil-to-lymphocyte ratio (NLR) and neutrophil-to-monocyte ratio (NMR) may be associated with severe outcomes in various diseases such as myocardial infarction, heart failure and cancer. We aim to assess the levels of these biomarkers before and after cardiac surgery. **Material and methods:** From May 2014 to January 2021, heart transplantation was made to 39 patients in the Cardiovascular and Transplant Emergency Institute of Tîrgu Mureș. One patient was excluded from the study because of insufficient data evidence. The NPAR was calculated as the neutrophil percentage divided by albumin concentration, NLR as the neutrophil count divided by lymphocyte count and NMR as the neutrophil count divided by monocyte count. The obtained scores were compared by using the Student's t-test or Wilcoxon test. The significance threshold was set to 0.05. **Results:** From our 38 patients included in the study, 4 of them were females (10.53%) and 34 were males (89.47%). Youngest patient had 10 years old at the time of the transplant, and the oldest was 61, with a mean age of 41.21 (SD 13.71). Mean value of pre-NPAR was 17.72 (SD 4.19) versus post-NPAR 27.19 (SD 6.17), pre-NLR 6.60 (SD 9.74) versus post-NLR 25.90 (SD 21.94), pre-NMR 11.96 (SD 20.31) versus post-NMR 21.51 (SD 18.02). NPAR, NLR and NMR levels were significantly increased after cardiac surgery ( $p < 0.0001$ ), with a mortality rate of 7.89% at two months after heart transplantation. **Conclusions:** The level of NPAR, NLR and NMR were significantly higher immediately after the cardiac transplantation. Further investigations will be performed in order to establish the correlation between the biomarkers and the apparition of complications in heart transplant patients.

**Keywords:** NPAR, NLR, NMR, Heart transplant, Inflammation

## QUALITY OF LIFE AMONG HEART FAILURE PATIENTS USING MINNESOTA LIVING WITH HEART FAILURE QUESTIONNAIRE

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**Background:** One of the most applied health-related quality of life (QOL) questionnaires in heart failure (HF) patients (pts) is the Minnesota Living with Heart Failure Questionnaire (MLHFQ) which assesses both scores for the physical and emotional components using a scale from 0 to 5, with higher values indicating more significant impairment. **Material and methods:** The study comprises data from a cohort of 64 patients (IQR: 26-84 years) admitted with chronic HF [NYHA class I (6 pts), II (27 pts), III (25 pts), IV (6 pts)] in an university-based hospital over a period of 8 months with an average of  $8.16 \pm 6.1$  days/admission. Patients were divided into 3 main subgroups according to the type of heart failure (HFrEF=13 pts, HFmrEF=16 pts, HFpEF=35 pts). The mean age was  $63.17 \pm 12.93$  years, 54.6% were from urban area and male subjects consisting of 51.15%. The mean value for NT-proBNP was  $4852 \pm 12177$  pg/mL. There were 9 newly diagnosed cases, 27 routine check-ups and 28 patients admitted for acute heart failure decompensation. **Results:** The average obtained score using MLHFQ for the three subgroups was HFrEF= $40.54 \pm 25.66$ , HFmrEF= $42.20 \pm 28.32$ , HFpEF= $39.59 \pm 22.59$ . The highest points related to QOL were given for physical impairment (dyspnoea, fatigability, admission). There was no significant statistical difference using one-way ANOVA test between the three subgroups ( $p=0.94$ ). Only patients with HFpEF treated with ARNI or SGLT2 inhibitors had significant MLHFQ score compared to the sample not using these drugs ( $p=0.03$ ). Diabetic HF patients did not present significant MLHFQ values regarding of HF phenotype. Linear regressions were not significant for: NT-proBNP-MLHFQ ( $p=0.19$ ,  $r^2=0.02$ ), MLHFQ-NT-proBNP ( $p=0.21$ ,  $r^2=0.02$ ), MLHFQ-days admission ( $p=0.57$ ,  $r^2=0.005$ ). **Conclusions:** The use of MLHFQ in patients with HF regardless of phenotype or medical therapy is a feasible method to assess quality of life. Further data validation on large local area population is required.

**Keywords:** Minnesota living with heart failure questionnaire, health related quality of life, NT-proBNP, ARNI, SGLT2 inhibitors

## LIVER AND KIDNEY DISORDERS IN PATIENTS WITH PULMONARY ARTERIAL HYPERTENSION

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**Background:** Pulmonary hypertension (PH) is a cardiopulmonary disease with high morbi-mortality. Current studies have shown that PH is not just a cardio-pulmonary pathology but is a multi-organ entity represented by dysfunction of the circulatory system, central and peripheral nervous system, kidney, liver, lipid metabolism, dysfunctions in the muscular system but also affecting the immune system. **Material and methods:** A retrospective study including 45 adult PH patients followed between September 2015 and January 2022, in the PH Center-County Emergency Clinical Hospital, Targu Mures, Romania, was completed. The inclusion criteria were represented by the diagnosis of pulmonary arterial hypertension (PAH) and chronic thromboembolic pulmonary hypertension (CTEPH), biochemistry (serum creatinine, total bilirubin TB, gamma-glutamyl transferase GGT and alkaline phosphatase). Nine patients who did not met the design study were excluded. Final statistical analysis included 36 patients aged  $46.61 \pm 18.01$  years (63.88% female) who met the inclusion criteria. All data was analyzed at diagnosis (T0), at 3 (T1), and 12 (T2) months, respectively. **Results:** The most common etiology of pulmonary hypertension was PAH (55.55%), followed by CTEPH (27.77% of cases). Patients (pts) with renal dysfunction (T0/T1/T2) were 5 (13.88%)/4 (11.11%)/8 (22.22%). 21 pts (58.33%) presented with liver dysfunction at T0, 16 pts (44.44) at T1 and 16 pts (44.44) at T2. At the time of inclusion in the national program (T0), mean value of creatinine was  $0.94 \pm 0.22$  mg/dL, at T1  $0.96 \pm 0.47$  mg/dL and T2  $0.98 \pm 0.40$  mg/dL. The value of TB was  $0.93 \pm 0.51$  mg/dL (T0),  $0.95 \pm 0.56$  mg/dL (T1),  $0.93 \pm 0.45$  mg/dL (T2), GGT was  $56.47 \pm 56.14$  U/L (T0),  $49.91 \pm 46.36$  U/L (T1),  $61 \pm 76.26$  U/L (T2) and alkaline phosphatase  $260.25 \pm 117.86$  U/L (T0),  $236.11 \pm 88.37$  U/L (T1),  $247 \pm 114.89$  U/L (T2). **Conclusions:** Liver dysfunction is frequent in PH patients and is characterized by a predominantly cholestatic enzyme profile. Similarly, chronic kidney disease is frequently found in PH patients at the time of diagnosis.

**Keywords:** pulmonary arterial hypertension, chronic thromboembolic pulmonary hypertension, chronic kidney disease, liver disfunction

## MYOCARDIAL INFARCTION WITH NON-OBSTRUCTIVE CORONARY ARTERIES – IS RECURRENT ACUTE MYOCARDITIS A PLAUSIBLE CAUSE?

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**Background:** Although non-ischemic myocardial injury is often associated with myocarditis, recurrence of acute myocarditis is considered a rare entity. **Material and methods:** We hereby describe the case of a 36-years-old male, who presented to the emergency department with sudden-onset chest pain. The patient recently finished prescribed course of antibiotics for bacterial tonsillitis. His past medical history also included myopericarditis 7 years prior. ECG showed ST-segment elevation in I, aVL, and precordial leads. Elevated levels of high-sensitivity cardiac troponin I were also detected. Echocardiographic findings included regional wall motion abnormalities in the territory supplied by the left anterior descending artery. The patient underwent urgent coronary angiography, which did not reveal obstructive coronary artery disease. Cardiac MRI confirmed the diagnosis of the clinically suspected acute myocarditis. **Results:** The patient received guideline-recommended therapy, and showed complete recovery. **Conclusions:** Recurrent acute myocarditis is an uncommon diagnosis. Furthermore, early diagnosis and appropriate management can greatly contribute to a quick recovery and prevent long-term cardiac sequelae.

**Keywords:** recurrent acute myocarditis, acute coronary syndrome, non-obstructive coronary arteries

## DENTAL MEDICINE

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### CARIES RISK ASSESSMENT METHODS USED IN S-ECC – A NARRATIVE REVIEW

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**Background:** Severe Early Childhood Caries (S-ECC) is a chronic infectious disease with multifactorial etiology, so far incompletely elucidated. Through its increased frequency and local and general implications, S-ECC represents a public health problem. Over time, specialists have developed caries risk assessment (CRA) tools that aim to identify children who present the highest risk of caries. These methods are destined to design and implement an adequate prevention protocol for these children. The aim of this study is to provide a comprehensive review of the most used CRA methods in S-ECC nowadays and their efficacy in current pediatric dentistry. **Material and methods:** This research was conducted by electronic searches in PubMed, Embase, and Scopus databases using the keywords caries risk assessment, severe early childhood caries, and prevention. Only original prospective longitudinal studies up to September 2022 were included. **Results:** The CAMBRA and Cariogram methods are very similar in caries risk prediction. The American Dentistry Association (ADA) method rated multiple cases at a level higher compared to CAMBRA and Cariogram. The AAPD method also rated multiple cases higher than the first two methods studied. Both ADA and AAPD methods lack the "very high caries risk" level from their assessment system. Cariogram was highly predictive for children's caries based on the caries risk assessment of their mothers in pregnancy. **Conclusions:** Pediatric dentists should use a combination of several CRA tools in establishing individualized caries management protocols for each patient. Metanalyses on this topic could provide comprehensive guidelines for choosing the right combination of CRA methods for the best care of young children.

**Keywords:** caries risk assessment, severe early childhood caries, prevention

### QUANTIFYING THE LEVEL OF ADULT PATIENT COMPLIANCE IN THE DENTAL OFFICE

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**Background:** The patient's adherence to therapeutic means that can improve his health is a parameter that can be studied in all its forms. It is necessary for the patient to understand and accept the need to monitor his health. Highlighting the level of compliance of adult patients in the context of their visits to the dentist. **Material and methods:** In this retrospective study, conducted between January 1 and October 31, 2022, on the patients who attended CMI Dr. Josan Lucian, a questionnaire was created and applied on a number of 129 adult subjects (79 females and 50 males). The questionnaires included four questions structured in such a way as to help us confirm or not the objective of the study. **Results:** Activation of compliance with the age categories of female subjects were: 20 - 29 years 88.89%; 30 - 39 years 88.89%; 40 - 49 years 90.74%. In the case of male subjects, the percentages were as follows: 20 - 29 years 68.18%; 30 - 39 years 66.67%; 40 - 49 years 79.17%. The percentages that illustrate goal confirmation, broken down by gender, are: 81.71% female and 68.67% male (compliant patient, adherent). **Conclusions:** The patient who complies with the dentist's instructions obviously improves his or her dental health.

**Keywords:** Patient behavior, Compliance, Oral health, Questionnaire



## DETERMINING THE PREVALENCE OF NOCTURNAL BRUXISM AND OTHER POSSIBLE ORAL PARAFUNCTIONS IN CHILDREN AND ADOLESCENTS

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**Background:** In the literature, there are described various methods of evaluating oral parafunctional activities such as bruxism, the use of a questionnaire represents the most frequent evaluation method. Their major advantage is that questionnaires can be applied to a large population, although informations about bruxism are subjective. **Material and methods:** To realise this prospective study, a self-designed questionnaire was used following similar studies from the literature. The questionnaires were distributed to a number of 210 children and adolescents (87 girls and 123 boys) aged between 5 and 25 years. To those involved in the study were given an intraoral and exo-buccal clinical examination. The questionnaire consists of 9 questions. With the questionnaire, information is obtained with reference to the presence of teeth grinding during the night, vicious oral habits, important life events that can increase the child's stress level, as well as the presence of pain in the oro-facial system. **Results:** The total number of questionnaires returned and taken into consideration in this study is 189, 78 girls (41.2%) and 111 boys (58.7%) with an average age of 11.87 $\pm$  4.056. The response rate is 90%. The hypothesis that there is no statistically significant association between bruxism and tooth sensitivity was disproved ( $p < 0.00010$ ). It has been shown that there is a highly statistically significant association between bruxism and occurrence of morning headaches ( $p < 0.0001$ ). By using the Chi-square test with a  $p = 0.0474$  it was demonstrated that there is a statistical association between bruxism and difficulty in falling asleep. **Conclusions:** In conclusion, bruxism symptoms appear during stressful periods and a decrease in them is observed during vacations or periods when children's life is in balance. In this study, it can be observed that parents do not notice the gravity of the parafunction, as they come to the check-up because of another dental disorder and not due to the symptomatology given by bruxism.

**Keywords:** sleep bruxism, children, adolescents, questionnaire

## COMPARATIVE STUDY ON TWO BRACKET SYSTEMS SHEAR BOND STRENGTH

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**Background:** Adhesion represents an essential aspect in dental medicine, whether applied in fillings, prosthetics or orthodontics. The subject is frequently explored and researched because enhanced materials and new adhesive techniques are developed by manufacturers regularly. Orthodontic treatments can not be conducted without convenient bond strength of the appliance components to teeth. The purpose of this research, in the vast context of conventional and self-ligating bracket systems, was to compare a conventional bracket system with a passive and an active one by performing a laboratory study on extracted human premolars. **Material and methods:** 84 premolar metal conventional, active and passive brackets were bonded on 84 extracted teeth. Shear bond strength testing was performed by means of an Lloyd LR5K Plus Dual-Column materials-testing machine that generated tensile strength and maximum load values. The data obtained was statistically analyzed in GraphPad Prism, statistical threshold  $p < 0.05$ . **Results:** Statistical significant results were obtained when comparing the passive self-ligating system with the conventional system and with the active self-ligating system (load-at-maximum-load mean 204.9, SD 91.09,  $p < 0.05$ ). **Conclusions:** In this study, the passive self-ligating bracket system was found to present increased shear bond strength in comparison with the other two systems.

**Keywords:** shear bond strength, conventional brackets, active self-ligating brackets, passive self-ligating brackets, tensile strength

## ENT (OTORHINOLARYNGOLOGY)

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### SWALLOWING DIFFICULTIES AFTER COVID-19

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**Background:** Coronavirus disease is an infectious disease caused by the SARS-CoV-2 virus. In addition to the symptoms of the respiratory disease, many people infected with coronavirus 19 (COVID-19) during this disease presented swallowing disorders. In our study we analyzed the presence of post-covid swallowing disorders in adult patients. **Material and methods:** In one year we evaluated 118 patients diagnosed with COVID 19, when they had already passed the acute phase of the disease and were negative.

**Results:** From the group of patients studied 68 complained of dysphagia of various degrees that appeared post-covid, in 44 of the cases we found signs of gastro-oesophageal reflux during laryngeal endoscopy. The most frequent dysphagia was for liquids, present in patients aged between 55-86 years. For solid foods dysphagia was presented by patients with a neurological condition prior to COVID-19 infection. **Conclusions:** Although this swallowing disorder generally disappears spontaneously, we noticed that in some cases it persisted for more than 6 months, due to this fact the quality of life in these patients was seriously affected, for this reason this condition must be taken seriously and these patients must benefit from a treatment as soon as possible in order to avoid complications.

**Keywords:** dysphagia, covid, quality of life

## FAMILY MEDICINE

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### SCREENING AND PREDICTIVE MARKERS FOR CARDIOVASCULAR EVENTS IN PRIMARY CARE

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**Background:** The presence of hypertension, diabetes mellitus and other associated cardiovascular risk factors alone or associated increases the incidence of atherosclerotic diseases irrespective of localization, heart failure, renal failure, heart failure and overall cardiovascular mortality. **Material and methods:** A strategy for screening, diagnosis, and management of long-term atherosclerotic cardiovascular complications by determining ankle-brachial index (ABI), and arterial stiffness by evaluating pulse wave velocity (PWV), screening for arrhythmias by pulse evaluation and ECG recordings should be adopted in primary care. An innovative medical device that sequentially records the previously mentioned parameters - the MESI mTABLET was used for introduction and development strategy. Clinical markers (ABI and PWV) correlate with the identification of personalized lipid maps/lipidomics can lead to the identification of a risk profile of CV events. Re-assessing of all patients initially include in the study will be carried out at 6-month intervals. **Results:** The parameters obtained using the innovative device, correlated with demographic data, risk factors, pharmacological treatment, lifestyle, and laboratory data, can create a rapid method of screening for lower extremity arterial disease (LEAD) and prevention of complications, lowering the mortality and morbidity among in the general population from family doctor's practice. **Conclusions:** More precise knowledge of the incidence of lower extremity arterial disease and other cardiovascular diseases (hypertension, rhythm or conduction disturbances) and the identification of pro-inflammatory factors in the general population will allow the development of new diagnostic tools and treatment strategies to decrease mortality, non-atherothrombotic fatal events. In addition, systematic assessment of cardiovascular risk (SCORE2, SCORE2-OP), a precise diagnosis, and early personalized interventions are essential and achievable in primary medicine after sustained education of medical personnel in this field.

**Keywords:** lower extremity arterial disease, ankle-brachial index, arterial stiffness, lipidomics, primary care

## FORENSIC MEDICINE

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### THE INFLUENCE OF ALCOHOL AND PSYCHOACTIVE SUBSTANCE USAGE ON ROMANIAN WRITERS – CASE PRESENTATIONS

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**Background:** The usage of drugs has been spread worldwide since thousands of years ago. Mead was first registered to be used 8000 BCE. Opium was used starting around 5000 BCE by the ancient Sumerians. These substances were used by many Romanian writers, such as Mihai Eminescu, Ion Barbu, Mircea Eliade, their range varying from narcotics to cannabis. **Material and methods:** Objectives: To assess the effect of drugs on the writer's life and their creations and the circumstances and motives in which they were used. Material and methods: History books, articles and biographies were evaluated for research. **Results:** Nichita Stănescu is known to have had chronic alcoholism, his addiction raising to a minimum of 2 bottles of vodka/day. The usage of alcohol has been said to increase the inspiration in writing but also led to the poet's death due to cirrhosis. Mihai Eminescu was known to have used narcotics firstly due to medical treatment, subsequently injecting it himself. Ion Barbu used cocaine regularly and even confessed to writing "Riga Crypto si Laponia Enigle" under the influence of ether. Cannabis and opium were used by Mircea Eliade to enhance meditation and yoga and Alexandru Macedonski admitted in some of his short novels about the consumption of hashish. **Conclusions:** Romanian writers had a wide array of drug usage, from alcohol to narcotics, ether, cannabis, and hashish. The literary creations of Romanian writers have been highly influenced by the consumption of these drugs by enhancing their writing. Medical usage of narcotics has been a starting point for addiction in some cases.

**Keywords:** Drugs, Narcotics, Alcohol, Cannabis, Writing

## HOW DOES DOMESTIC VIOLENCE AFFECT THE QUALITY OF LIFE OF VICTIMS IN MUREȘ COUNTY?

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**Background:** We propose to carry out a prospective study on the phenomenon of domestic violence in Mureș County, through the forensic medicine office of the Medico-Legal Institute of Târgu Mureș, with the implementation of a screening questionnaire in Romanian on quality of life, following the model of the World Health Organization questionnaire on domestic violence, "WHO Multi-country Study on Women's Health and Life Events version 9.9," translated and adapted. **Material and methods:** It is aimed at victims of domestic violence presenting for forensic assessment of traumatic injuries sustained over one year (2023 - 2024). The study will provide us with demographic data, data on the type of domestic violence (physical, sexual, psychological, economic, social, spiritual, cyber), information on the person of the perpetrator, frequency, possible cause, type of traumatic injuries sustained, etc., with the help of which we can assess the characteristics of domestic violence in the region. Data from these questionnaires will be compared with data from applications for forensic certificates of victims of domestic violence and with public data on the website of the courts on the issuing of protection orders to perpetrators. After this period, we would like to extend the study to the other Forensic Medicine Institutes and the surrounding courts in the Transylvanian region to follow the incidence of domestic violence in the whole area. **Results:** As a result of the project, we expect to have the first standardized questionnaire on the quality of life of victims of domestic violence in Romania, to establish the real number of victims of domestic violence and the causes that trigger intra-family aggression. **Conclusions:** This study will give us an answer to the question addressed in the title and will show us a full picture of domestic violence in Mureș county.

**Keywords:** questionnaire, domestic violence, medico-legal certificate, victims of domestic aggression, protection orders

## GENETICS

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### THE USE OF MLPA IN EVALUATION OF CHRONIC LYMPHOCYTIC LEUKEMIA PATIENTS

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**Background:** Chronic lymphocytic leukemia (CLL) is characterized by clinical and genetic heterogeneity. About 80% of CLL patients have chromosomal aberrations (Copy Number Variations, CNVs - deletions, duplication) of regions containing genes important in the pathogenesis of CLL. Somatic gene mutations have also been reported as possible prognostic markers. The aim of the study was to assess the utility of MLPA (Multiplex ligation-dependent probe amplification) in evaluation of CLL patients.

**Material and methods:** In the 117 patients included, DNA was extracted and MLPA performed using a probemix which simultaneously analyzes several gene regions, as well as *NOTCH1*, *SF3B1* and *MYD88* mutations. Trisomies were confirmed using kits for subtelomeric regions. **Results:** Among the 110 patients in whom the analysis was successfully completed, 52 (47.3%) presented at least one CNV, 26 (23.6%) at least one somatic mutation, and 10 (9.1%) an association of one or more CNVs with a somatic mutation. CNVs identified, alone or in association with other CNVs/mutations, were: del13q14.3 (61.5%), del11q22.3 (26.9%), dup12q23.2 (21.2%, trisomy 12 confirmed in 7 patients), del17p13.1 (9.6%), and del14q32.33 (7.7%). Dup10q23.31 was identified in 2, and del19p13.2 in one patient. One patient was identified with concomitant trisomy 12, 13 and 19. *NOTCH* and *SF3B1* mutations were found in 13 patients each (50%), alone or in association with other mutations/CNVs. *MYD88* mutation was identified in one patient (3.8%). In 42 patients (38.2%), MLPA analysis did not identify any changes. **Conclusions:** MLPA has proven to be a comprehensive molecular cytogenetic tool to detect cytogenetic markers of CLL.

**Keywords:** MLPA, CLL, CNV

# INFECTIOUS DISEASES

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## PRO- AND ANTI-INFLAMMATORY SERUM CYTOKINES AS PREDICTORS OF SEVERE DISEASE AND POOR OUTCOME IN COVID-19

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**Background:** In COVID-19, the overproduction of pro-inflammatory cytokines is at the center of immunopathology. Compensatory anti-inflammatory response syndrome is described, inducing defects in innate and adaptive immune system. We evaluate pro-inflammatory (IL-6) and anti-inflammatory (IL-10) cytokines as predicting tools. **Material and methods:** In a prospective study, we enrolled 181 COVID-19 patients admitted to the 1st Infectious Disease County Hospital Târgu Mureș, from December 2020 to September 2021. The mean age was 64 years, n=102 (56.3%) were males, n=87 (48%) developed severe COVID-19, n=47 (25.9%) received oxygen support, n=35 (19.3%) were transferred to the Intensive Care Unit (ICU), n=24 (13.2%) died. We aimed to characterize IL-6, IL-10 profile, IL-6/Lymphocyte, IL-10/Lymphocyte, according to disease severity, oxygen use, ICU transfer, outcome. IL-6, IL-10 were assessed in serum samples on the 1-3 days of admission. Statistical analyses were performed by SPSS software (v.25), p<0.05 was considered statistically significant. **Results:** We found statistically significant differences according to severity for: IL-6 (p=0.002), IL-10 (p=0.006), IL-6/Ly (p=0.030), IL-10/Ly (p=0.028). ROC analyses on clinical severity showed: IL-6 (AUC=0.626, 95% CI:0.544-0.708), IL-10 (AUC=0.628, 95% CI:0.547-0.709). Grouping them by the need for oxygen support we found: IL-6 (p=0.016), IL-10 (p=0.0001), IL-6/Ly (p=0.019), IL-10/Ly (p=0.0001). ROC calculated for oxygen use: IL-10 (AUC=0.704, 95% CI:0.622-0.786), IL-10/Ly (AUC=0.678, 95% CI:0.592-0.763). Both cytokines and ratios were significantly associated with ICU transfer and fatal outcomes. Regarding ICU transfer IL-6, similar to IL-6/Ly (AUC=0.8) showed the best predictive values. According to fatal outcome IL-6 (AUC=0.852, 95% CI:0.759-0.945), IL-6/Ly (AUC=0.864, 95% CI:0.778-0.950) had good predictive values. **Conclusions:** IL-6, IL-10 are important predictors of COVID-19 severity. IL-10 showed superior predictability for oxygen administration, while IL-6 and IL-6/Ly were found as the best ICU transfer and outcome predictors, respectively. This research was funded by GE Palade University of Medicine, Pharmacy, Science, and Technology Targu Mures, Romania, grant number 10126/1/17.12.2020

**Keywords:** inflammatory response, cytokines, outcome, SARS-CoV-2

## PRESEPTAL BILATERAL CELLULITIS IN ELDERLY PATIENT – CASE REPORT

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**Background:** Preseptal cellulitis is a skin and soft tissue infection anterior to the orbital section. The most frequent causative agents are *Staphylococcus aureus*, *Streptococcus* species. Predisposing factors are related to skin trauma, surgery or immunosuppression.

**Material and methods:** We present a case of a 71-years-old man with type 2 diabetes mellitus and diabetic retinopathy, nephropathy presented to hospital with worsening bilateral periorbital swelling, purulent conjunctival discharge, fever (38.7°C), local pain, apraxia of the eyelid opening, after cataract surgery. Ophthalmological examination raised the suspicion of preseptal cellulitis.

**Results:** Laboratory test showed the leukocytosis with neutrophilia, elevated serum creatinine, urea and glucose. CT scan revealed bilateral periorbital oedema, bilateral palpebral swelling, left maxillary sinus mucosal thickening, cortical atrophy. *Streptococcus pyogenes* was isolated from purulent conjunctival discharge. The patient was diagnosed with bilateral streptococcal preseptal cellulitis and treated with intravenous antibiotics for 14 days. He was discharged in good general condition with no other complications. Follow-up brain MRI scan was postponed due to recent cataract surgery. **Conclusions:** Preseptal cellulitis is a potentially severe condition, with serious complications. Early diagnosis, treatment and multidisciplinary management were the key to favorable outcome.

**Keywords:** GAS, orbital cellulitis, complication

## PROGNOSTIC VALUE OF CARDIAC BIOMARKERS IN SARS-COV-2 INFECTION

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**Background:** Acute cardiac injury is one of the major complication of SARS-CoV-2 infection and is strongly associated with mortality. **Material and methods:** In this retrospective cohort study, we tried to determine the association between cardiac enzymes and mortality in patients hospitalized between January 1, 2021 and December 31, 2021, in the Infectious Diseases Clinic I Tîrgu-Mureş with severe and critical forms of COVID-19. Laboratory assessment included troponin I (TnI), high sensitive troponin T (hs-cTnT), D-dimer, lactate dehydrogenase (LDH) and creatine kinase (CK) were evaluated. All the statistical analyses were performed using IBM SPSS version 26. A p value < 0,05 was considered as statistically significant result. **Results:** A total of 80 patients were included in this study, of which 37 (46,52%) died during hospitalization. The median age of non-survivors (71, IQR: 45-95) was higher compared to that of survivors (61, IQR: 34-83). The increased values of hs-cTnT and D-dimer in non-survivors had a statistically significant prevalence (p < 0,05). The Mann-Whitney U test showed that the values of hsTnT (51,27) and D-dimer (49,36) were significantly higher in those who died compared to those who remained alive (31,23; 29,23). Hypertension (59,47%), diabetes (27,02%) and cardiovascular diseases (29,72%) were among the comorbidities of those who died. Laboratory test showed higher LDH and CK in non-survivors. ROC curve analysed based on outcome showed a good predictive ability for: TnT (AUC 0,760, 95% CI 0,647-0,872), D-dimer (AUC 0,765, 95% CI 0,652-0,878). **Conclusions:** We conclude that cardiac biomarkers are a prognostic factor to determine severity and they can predict mortality in COVID-19 patients.

**Keywords:** COVID-19, cardiac biomarkers, mortality



## INTERNAL MEDICINE

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### QUALITY OF LIFE AMONG ROMANIAN PATIENTS WITH HEREDITARY ANGIOEDEMA - USING A DISEASE SPECIFIC, LANGUAGE VALIDATED QUESTIONNAIRE

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**Background:** Hereditary angioedema (HAE) is a rare potentially life-threatening genetic disorder characterized by recurrent episodes of angioedema without wheals which can affect any part of the body. The unpredictability of the attacks and the risk of passing the disease to the offsprings result in significant physical and emotional burdens for patients with negative impact on quality of life. Our study evaluated descriptive characteristics and disease-specific quality of life in patients with HAE from Romania. **Material and methods:** This was a noninterventional survey of the adult patients with HAE enrolled in the Romanian HAE Registry. Data regarding disease-specific quality of life assessment were collected using a cross-culturally adapted and internationally validated structured survey, the Hereditary Angioedema Quality of Life questionnaire. **Results:** A total of 94 patients completed the survey, 66 (64.9%) female and 33 (35.1%) men with the mean age of 44.9 (SD 14.1) years. Most patients (88.3%) were with HAE type I and live in the urban area (63.8%). Mean (SD) ages at symptom onset and diagnosis were 15.1 (11.1) and 36.1 (14.1) years, respectively. The mean diagnosis delay was 20.5 (SD 14.2) years. In the evaluated period all patients had at least one wile of on-demand treatment at their home and 10 were on long-term prophylaxis treatment. Both the general score and dimensional scores were just slightly above the median values of the reference scales. While general score was not associated with sex and residence, a statistically significant, negative, weak correlation was detected between the general score and diagnosis delay. **Conclusions:** This is the first study which assessed disease-specific quality of life in adult patients with HAE from Romania using a validated tool. The results suggest that despite the availability of the on-demand treatment for all patients, there is a need for other interventions to improve quality of life for HAE patients from Romania.

**Keywords:** angioedema, hereditary angioedema, quality of life, questionnaire

## THE IMPLICATIONS OF DYSBIOSIS IN THE ETIOPATHOGENESIS OF NON-ALCOHOLIC FATTY LIVER DISEASE

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**Background:** Non-alcoholic fatty liver disease is the most common liver pathology worldwide with an estimated prevalence of 25% in the adult population. In the etiopathogenesis of non-alcoholic fatty liver disease, both genetic factors and environmental factors have been incriminated, one of them being dysbiosis or the process of altering of the gut microbiota because it affects fat metabolism and predispose to the appearance of the inflammatory process and fibrosis. **Material and methods:** We conducted a search of PubMed and Web of Science using multiple search terms including: non-alcoholic fatty liver disease, dysbiosis, gut microbiota. We wrote a review of the medical literature and included studies that contained pathways and mechanisms models of etiopathogenesis of non-alcoholic fatty liver disease and the link with dysbiosis. **Results:** The alteration of the composition of the gut microbiota has as side effects the increase of intestinal permeability, the breaking tight junctions and of course the bacterial translocation with the appearance of endotoxemia and the bacterial products reach the liver through the portal circulation. The increase in intestinal permeability is involved in triggering inflammation both at the tissue and systemic level - a process that takes place through the release of lipopolysaccharides and the microbial metabolites produced can affect the host's immunity. The results of both preclinical mouse studies and clinical studies may represent a turning point in the diagnosis of liver disease but also in the prognosis of patient. **Conclusions:** There is a need to continue this research in longitudinal studies and these should also take into account the factors belonging to the metabolic syndrome because non-alcoholic fatty liver disease represents the expression liver of the metabolic syndrome.

**Keywords:** non-alcoholic fatty liver disease, dysbiosis, gut microbiota

## UPPER GI BLEEDING AND COVID-19 - THE EXPERIENCE OF OUR REGIONAL GASTROENTEROLOGY CENTER

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**Background:** Upper gastro-intestinal bleeding is a potentially fatal clinical instance, with a mortality rate of up to 10% worldwide, regardless of the level of care received. During the COVID-19 pandemic, hospital accessibility reduced drastically and many clinical features of upper GI bleed patients changed for reasons ranging from late presentation to self medication and direct changes induced by the novel coronavirus. **Material and methods:** Although not directly pro-coagulant, COVID-19 linked polyphosphates induce changes like delayed fibrinolysis and a cascade of inflammation that can cause clot formation, with increased use of prophylactic therapies. Thus, we wanted to determine the influence of COVID-19 on upper GI bleeding, how it influenced incidence, severity and clinical conduct. For this we conducted a retrospective study involving patients admitted to the Gastroenterology department of the Mureş County Emergency Clinical Hospital in the last 2 pre-pandemic years and in the first 2 pandemic years. We included both COVID negative and positive upper GI bleed cases, collecting epidemiological and clinical data, registering clinical scores and endoscopic descriptions. **Results:** After analysing the two groups, we concluded that there was a 10% increase per year in cases in the pre-pandemic period, while during COVID we saw a decrease of 32% in bleed cases, with a 5% worth of COVID positive patients. Before COVID we had 77% severe cases, with 24% critical, based on clinical scores and registered outcome. Afterwards, the percentage of severe cases grew to 90%, with 55% critical. COVID positive patients had 8% less coagulation disfunctions but up to 70% were on anticoagulant and corticoid therapy. **Conclusions:** Although COVID-19 determined a decrease in overall GI bleed cases, the severity increased worryingly. The mean hospital stay increased, although upper GI bleed did not change the COVID mortality rate. Moreover, we noticed an increase of bleed cases after COVID on the downward path of inflammation markers.

**Keywords:** Upper GI bleeding, COVID-19, mortality, Glasgow Blatchford score, Charlson comorbidity index

# MICROBIOLOGY

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## FUNGAL CONTAMINATION OF GREEN-LEAF CONDIMENTS – A HIDDEN HEALTH THREAT

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**Background:** Fungal contamination of food has been a matter of interest worldwide, as it can cause disease when long-time exposure is present. Because this contamination cannot be controlled by humans, it is imperiously necessary to limit the fungal multiplication under a certain limit. Even though processing happens under very strict guidelines, unfortunately, some food products such as nuts, condiments, dried fruits, cereals and pastries are more and more frequently contaminated, representing an important health threat for humans worldwide. Our study aims to examine the fungal load of several of the most used spices in our country. **Material and methods:** We have processed a total of 21 samples, comprising seven different green-leaf condiments (oregano, thyme, basil, lovage, parsley, dill, rosemary) from three different producers and three different price ranges. The samples were tested regarding their fungal load, taking into consideration factors such as environmental storage conditions (humidity) and price. Fungal processing was assessed by Standard Plate Count. **Results:** A total of six samples (28.57%) tested positive for fungal contamination, most commonly with species from genus *Aspergillus* (all six samples contained at least one species) followed by genus *Rhizopus*, *Absidia*, and *Penicillium* in much smaller quantities. The sample with the highest fungal load was oregano followed by thyme and basil. Only one producer had no contaminated samples. No correlation was found between higher sample humidity and an increase in the risk of fungal contamination ( $p=0.2601$ ), but there was a significant negative association between price and contamination ( $p=0.016$ ). **Conclusions:** Almost all green-leaf condiments presented fungal contaminants, at least to some degree, the most commonly found genus being *Aspergillus*. The slightly higher humidity had no effect on the fungal load, but the price had an important impact, as spices with lower prices had a significantly higher fungal count.

**Keywords:** fungal contamination, green-leaf condiments, *Aspergillus*

## NEUROLOGY

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### ISOLATION AND EVALUATION OF ASTROCYTE-DERIVED EXOSOMES IN ACUTE ISCHEMIC STROKE PATIENTS

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**Background:** Astrocytes, the primary components of the peri-infarct area, are critical factors in mediating or improving ischemic damage, depending on the time and type of stroke pathology. Exosomes, nanosized extracellular vesicles (EVs) of endosomal origin secreted by all types of cells, play important roles in cell-to-cell communication. A protocol has been designed for the isolation and characterisation of exosomes secreted by astrocytes (ADEV) in plasma of acute ischemic stroke (AIS) patients. **Material and methods:** ExoQuick® ULTRA EV is an exosome precipitation reagent which was used to isolate exosomes from AIS patient plasma. With Basic Exo-Flow Capture Kit was further performed a selective capture of distinct and pure ADEV subpopulations, based on the presence of tetraspanins (CD9, CD63, CD81), as marker protein of all exosomes regardless of their origin, and GLAST (ACSA-1, astrocyte cell surface antigen-1), as a specific marker of astrocytes. By Western Blotting, the presence of glial fibrillary acidic protein (GFAP) in ADEV cargo has been tested at 24h and at day 7 following the ischemic stroke onset. **Results:** The flow cytometry analysis showed a pure and rich ADEV suspension required for further evaluation of exosomal GFAP content. Western Blot technique highlighted the differences between GFAP cargo from whole exosome population and ADEV subpopulation. GFAP exosomal content was higher at 24h than at day 7 after stroke onset. **Conclusions:** EVs and their cargo represent a novel way of peripherally assessing the central nervous system pathology. Obtaining pure populations of ADEV and characterizing exosomal cargo by this protocol is a great opportunity to increase our knowledge concerning cellular function changes in stroke.

**Keywords:** Astrocyte-derived exosomes, GLAST, Exosome isolation, Ischemic stroke, Western blot

# NEUROSURGERY

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## THE FEASIBILITY OF KETOGENIC METABOLIC THERAPY AS A COMPLEMENTARY TREATMENT IN THE MANAGEMENT OF GLIOBLASTOMA MULTIFORME

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**Background:** The current treatment of glioblastoma (GBM) consists of complete surgical resection, followed by radio-chemotherapy (EORTC/NCIC trial). The average survival is just 15 months so the need to implement adjuvant therapies is by far a priority. Ketogenic metabolic therapy (KMT), targeting the pathways of the Warburg effect, has recently been proposed as a complementary therapy in cancer. **Material and methods:** Glucose dependence of GBM cells is caused by the inefficiency of oxidative phosphorylation, secondary to abnormalities in the number, function, and structure of mitochondria. KMT is based on a low-carbohydrate, high-fat and an adequate-protein diet leading to a decrease in the level of circulating glucose and an increase in ketosis. The reasoning in cancer is that managing this metabolic area may induce tumor cell death. **Results:** Although the efficacy of the Stupp protocol has been proven in GBM patients, it should be mentioned that radiotherapy increases the availability of glucose in the tumor microenvironment, while chemotherapy can further damage mitochondria. In this light, the therapeutic potential of KMT in patients with GBM cannot be neglected. Ketone bodies enhance  $\Delta G^\circ$ ATP hydrolysis in nontumor cells from -56 kJ/mol to -59 kJ/mol, thus giving them an energetic advantage over tumor cells. Also, they present anti-inflammatory, anti-invasive, anti-angiogenic and proapoptotic properties, often being able to act synergistically with certain antineoplastic drugs. Recent studies on murine GBM tumor models showed that 75% of the animals subjected to KMT during radio-chemotherapy did not show tumor recurrence at one year when they were euthanized whilst control animals fed with normal chow lived an average of 18 weeks. **Conclusions:** Antineoplastic nutritional strategy (KMT) may represent a feasible and safe complementary treatment method to the Stupp protocol which could increase overall survival and progression-free survival by inhibiting GBM growth factors and increasing the metabolic efficiency of normal brain cells.

**Keywords:** glioblastoma, adjuvant treatment, ketogenic metabolic therapy

## OPHTHALMOLOGY

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### COVID-19 VACCINATION AND THE POSTERIOR SEGMENT OF THE EYE

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**Background:** In December 2020, viral vector and genetic COVID-19 vaccines started passing the approval process for general population use worldwide. To date, 67.9% of the world population has received at least one dose of a COVID-19 vaccine (42.1% of Romanian population), mostly with genetic vaccines (76.5% of Romanian population received Pfizer-BioNTech COVID-19 mRNA Vaccine COMIRNATY®). Adverse events have been officially reported in less than 0.5% of cases (0.057% in Canada, 0.027% in USA, 0.11% in Romania), 12.09% involving ocular structures, mostly anterior segment involvement. Little is known about post-vaccination posterior eye segment side effects. **Material and methods:** The aim of the current study is to review the current literature concerning the type, prevalence, and potential mechanisms of various recorded posterior eye segment complications (neuropathy, panuveitis, retinal artery occlusion, etc.) and to analyze the COVID-19 vaccinated patients addressed to the Targu Mures Ophthalmology Clinic for various posterior eye segment diseases (both de novo and aggravations of a previously known disease). **Results:** PubMed research revealed a total of 59 case reports and case series published in 2021 and 2022 concerning ocular side effects following COVID-19 vaccination. In the meantime, 75 patients with posterior pole involvement presented to Targu Mures Ophthalmology Clinic between January - December 2021 (the period of maximum COVID-19 vaccination - 83.83% of the doses administered nationwide), 28 (37.33%) after being vaccinated. One patient accused the appearance of a central scotoma two weeks after being immunized with second dose of mRNA vaccine, with unfavorable outcome leading to significant visual acuity (VA) loss. The other eye was similarly affected 3 months after vaccination, resulting in bilateral VA loss and severe impact on daily life. **Conclusions:** The study raises awareness to the potential post-COVID-19 vaccination adverse reactions as some could prove irreversible with unfavorable outcomes (visual impairment).

**Keywords:** COVID-19, vaccination, posterior eye segment, mRNA, adverse reactions

## ORTHOPEDICS

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### PREOPERATIVE REHABILITATION AND IMPLEMENTATION OF NEW 3D TECHNOLOGIES IMPROVES BIOMECHANICAL PARAMETERS AFTER TOTAL KNEE REPLACEMENT (TKA)

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**Background:** Total knee arthroplasty is considered an important advance in the treatment of joint diseases of the knee. Although at this moment the focus is on postoperative recovery, a growing number of evidence supports the benefits of preoperative rehabilitation, having a positive postoperative impact on the patient's quality of life. The new 3D sensor technologies allow us to investigate in real time the functional status of patients with advanced knee arthrosis. **Material and methods:** In a prospective manner, we analyze a group of 100 patients with advanced knee arthrosis, who will benefit of TKA. Using the "Reflex Help" 3D sensor system, all patients undergo a specific 6-week preoperative rehabilitation program. The evaluation of the kinetic status will be done weekly, both through specific scores KSS (Knee Society Score), KOOS (The Knee Injury and Osteoarthritis Outcome Score) and through scores that reflect the quality of life - EQ-D5-5L, SF 36. Postoperatively, the patient will be evaluated weekly until an optimal kinetic status is obtained for social reintegration. By correlating the evolution of the kinetic functional status with the 3D parameters, specific models are created for each patient. **Results:** Preliminary results show positive treatment effects with medical benefit for knee OA patients in terms of pain relief as well as improvements in physical function, knee related QoL, symptoms and sports and leisure activities. Participants had high adherence to exercise using the Reflex Help 3D sensor system. Postoperatively, the patients obtained an optimal kinetic status after 3 weeks. **Conclusions:** The bio-kinetic data obtained postoperative (TKA) confirm the effectiveness of the preoperative rehabilitation. The implementation of preoperative kinetic planning, based on the 3D Sensor system, has a positive and predictable echo after TKA. Preoperative rehabilitation may become standard protocol for patients who are going to benefit of TKA.

**Keywords:** Total knee replacement, Preoperative rehabilitation, Physical Therapy, Postoperative rehabilitation, Osteoarthritis

## OSTEOBLASTS CELLS ADAPTABILITY, BEHAVIOR AND FUNCTIONS SEEDDED ON MODERN ORTHOPEDIC SUBSTRATES

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**Background:** The orthopedic endoprotheses sector is now documenting an exponential growth in the number of devices implanted yearly on a worldwide and national basis. This is in strong connection with the growing prevalence of degenerative diseases in the field. In this scenario, the necessity for creative research and studies that are at the basis of acquiring contemporary orthopedic materials with optimum surface coating and better mechanical characteristics becomes fundamental. These studies and research are at the foundation of obtaining modern orthopedic materials. In attempt to standardize the processes that are necessary for in vitro biocompatibility assessments, the purpose of this work was to investigate the adaptability, behavior, and function of osteoblast cells seeded in contact with modern orthopedic substrates. **Material and methods:** Osteoblast cells were placed in contact with several substrates used in modern orthopedics. Materials tested were as follows: 3D printed poli-lactic acid (PLA) with different interporous size (60 and 100 µm) and polietherimide (PEI) reinforced with different percentages of hydroxiapatite (HAp, 1% and 15%). Control materials used were cell culture polystyrene (CCP) and orthopedic titanium (Ti). As assessment techniques, alkaline phosphatase (ALP) and total protein (TP) biomarkers were titrated and confocal immunofluorescent microscopy imaging were captured at different timeframes. **Results:** Variations in ALP and TP were observed, and these changes were dependent not only on the amount of total contact time, but also on the distinct porous nature and structural differences of each material. Outcome analysis completed after 24 and 72 hours of incubation on the tested substrates revealed unique characteristics for each material. In relation to ALP and TP coupled with results of confocal immunofluorescent images, the most biocompatible substrate was PLA 60 µm ( $p < .0001$ , CI 95%) **Conclusions:** Researchers in partnership with physicians may offer patients therapeutic hybrid systems consisting of synthetic grafts populated with autologous cells and their implantation in anatomic regions of interest.

**Keywords:** Biocompatibility, orthopedic basic science, mesenchymal stem cells, in vitro testing, osteoblasts biocompatibility



## PATHOLOGY

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### BENEFITS OF A SYSTEMATIC REPORT FOR DEGENERATIVE AORTOPATHIES

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**Background:** Degenerative diseases of aorta represent an important cause of aortic aneurysms and dissection. To maximize the predictive impact of these dystrophic changes, a systematic report should be designed and adapted to any department of pathology. **Material and methods:** All cases of aortic aneurysms (group A) and dissections (group B) histopathologically diagnosed between January 2021 and September 2022 in Department of Pathology, Clinical County Emergency Hospital Targu Mures, Romania were reported using a systematic approach. It was adapted after the latest Consensus for Noninflammatory Degenerative Diseases of Aorta, published by Society for Cardiovascular Pathology. The used criteria were: 1. extracellular matrix alterations (Mucoid extracellular matrix accumulation, either intralamellar(MEMA-i) (1.1) or translamellar(MEMA-t) (1.2)); 2. elastic fiber alterations (fragmentation, thinning and/or loss); 3. laminar medial collapse; 4. medial fibrosis and 5. smooth muscle cell alterations (loss of nuclei). **Results:** In group A (n=36), from all microscopic changes, the two most prevalent were criteria 1, specifically 1.2 (n=24) and 2 (n=21), both of them with at least moderate intensity. In aortic aneurysms (n=99), criteria 1 was more frequently represented by subtype 1.1. The rest of the aforementioned criteria (laminar medial collapse, fibrosis and smooth muscle cell alterations) were non-specific changes, present in different degrees in both aortic aneurysms and dissections. **Conclusions:** The adapted protocol might be a useful tool in reporting degenerative aortic disease, being a more accurate and reproducible indicator for the degree of severity.

**Keywords:** degenerative aortopathy, dissection, aneurysm

### CANCER STEM CELL (CSC) IN CUTANEOUS MELANOMA: IMMUNOHISTOCHEMICAL PROFILE

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**Background:** Cutaneous melanoma is an extremely aggressive skin cancer, with increased risk of metastasis and chemoresistance. It arises from melanocytes and is currently classified by the World Health Organization into four categories. Following numerous studies regarding the development and evolution of this lesion, characteristics have been identified that support the presence of a distinct subpopulation of cells which can self-renew and presents resistance to chemotherapy, cells described as cancer stem cells (CSC), also known as Tumour Initiating Cells (TICs). **Material and methods:** Cancer stem cells show self-renewal properties and present a characteristic molecular signature. The existence of specific and unique markers is controversial due to the increased plasticity of these tumors and the existence of multiple pathways through which they can develop and progress. **Results:** Numerous studies, depending on the bio-expression of the markers, have proposed 22 markers for cancer stem cells, but it has been shown that none of them are able to significantly identify the subpopulation, because cells without expression retain the tumorigenic ability. Commonly used markers are related to the undifferentiated state of melanocytes (CD271, CD133), to chemotherapy resistance (ATP-binding cassette transporters, ABC) or to metabolic characteristics (ALDH activity). Other studies have revealed the expression of embryonic stem cell markers such as Sox2, Klf4, Oct4 and Nanog as a common feature of cancer stem cells derived from different tumors. **Conclusions:** Cutaneous melanoma is the leading cause of death among skin cancers. This increased percentage is also due to the presence of cancer stem cells, which exhibit properties of tumour initiation, metastasis and increased chemoresistance.

**Keywords:** Cancer stem cells, Melanoma, immunohistochemistry

## "N" FROM LYMPHNODES

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**Background:** The new staging of melanoma according to American Joint Committee of Cancer (AJCC) regarding the new "N" criteria is an important prognostic factor in these tumors. Therefore, "N" does not involve only lymphnode metastasis, but takes into consideration in transit metastasis and microsatellites as well. **Material and methods:** We present three cases, as follows: one from a patient with a cutaneous re-excision and sentinel lymphnode excision, one patient with lymphadenectomy and one patient with sentinel lymphnode excision. All patients were previously diagnosed with nodular melanoma. **Results:** First patient: female, 27 year old, diagnosed with melanoma located in the scapular region. She presented with re-excision of the scar and excision of the sentinel lymphnodes from left and right axilla. Atypical cells were identified on Hematoxylin&Eosin stain and the diagnosis was confirmed using immunohistochemistry staining with SOX10, S100, Melan A and HMB45. Second patient: male, 62 years old, diagnosed with nodular melanoma and restant cutaneous melanoma. Lymphadenectomy involved 26 lymphnodes. Seven of them presented atypical cells which showed positivity for immunostaining with markers SOX10, S100, Melan A and HMB45. Third patient: male, 41 year old, diagnosed with nodular melanoma. Sentinel lymphnode excision showed a tumor proliferation in the capsule of the lymphnode. Immunohistochemistry was performed and the cells showed positivity for SOX10, S100, Melan A, while HMB45 and Ki67 were negative. **Conclusions:** We need to be cautious when evaluating patients with melanoma. One of the most important independent prognostic factors is the involvement of sentinel lymphnodes. Nowadays, the most important tool in differentiating the tumors and confirming the diagnosis is immunohistochemistry.

**Keywords:** melanoma, immunohistochemistry, lymphnodes

## REDUCED TILS PRESENTS WITH ADVANCED GASTRIC ADENOCARCINOMA: A SINGLE CENTER STUDY

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**Background:** Gastric cancer (GC) is the sixth most common malignant tumor diagnosed worldwide, characterized by a high mortality rate. Understanding the interaction between tumor cells and chronic inflammation remains an unsolved issue, necessary for developing new therapeutic strategies. The present study aimed to compare macroscopic and microscopic parameters in patients with different degrees of tumor-infiltrating lymphocytes (TILs). **Material and methods:** One hundred and four consecutive gastric adenocarcinoma cases diagnosed between 2018 and 2021 in the Pathology Department of the Clinical County Hospital, Targu Mures were included in the study. The patients were divided into two groups: 51 patients with microscopically reduced TILs and 53 patients with moderate/abundant TILs. **Results:** Tubular adenocarcinoma was the most frequent histologic type of GC (60.6%), with a predominance of the pT4 stage (51.9%) and pN3 lymph node status (28.8%). The most common localization of adenocarcinoma was the lower third of the stomach (41.3%). From all of the studied parameters, the following proved to be associated with reduced TILs: type IV Borrmann tumors ( $p=0.03$ ), G3-poorly differentiated adenocarcinomas ( $p=0.001$ ), pT4 stage ( $p=0.03$ ), pN1-3 lymph node status ( $p=0.001$ ), all types of invasions (lymphatic, vascular, perineural;  $p<0.05$ ), and positive surgical margins ( $p=0.001$ ). No difference was noticed between the two groups regarding gender, age, size of the tumor, distant metastasis, or Helicobacter pylori infection (all  $p>0.05$ ). **Conclusions:** In the studied population, patients with reduced TILs had more advanced stages of adenocarcinoma (G3 histological grade, pT4 stage, positive lymph node status, and for invasions) compared with patients with moderate/abundant TILs, independently of gender, age, tumor size, or Helicobacter pylori status.

**Keywords:** gastric adenocarcinoma, TILs, histology

## EPIDEMIOLOGICAL AND HISTOLOGICAL ASPECTS OF THE CUTANEOUS SQUAMOUS CELL CARCINOMA

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**Background:** Cutaneous squamous cell carcinoma (cSCC) is one of the most frequent types of non-melanocytic skin cancers found in humans. It can be classified based on the grade of differentiation and has a high risk of relapse. The objective of our study was to emphasize the epidemiological and histological characteristics of the cSCC from the Pathology Department of the Mures Clinical County Hospital. **Material and methods:** A descriptive and retrospective study was done based on the histopathological diagnoses of cSCC established in the Pathology Department of the Mures Clinical County Hospital between 2017 and 2020. We have analyzed the year of diagnostic, age, gender and environment of origin of the patients as epidemiological aspects and the histological type, grade of differentiation, and ulceration as histological parameters. **Results:** Out of a total of 97 cases, more than half of the cases (68.75%) were diagnosed in 2018 (31.25%) and 2019 (n=36, 37.5%). 80.21% patients were over 60 years old. The balance between gender was almost equal with 52.08% male and 47.92% female patients. The environment of origin was 51.04% of cases from the urban area and 48.96% of cases from the rural area. Out of 82 pure cSCC, 13.41% were poor differentiated, 30.49% were moderate differentiated and 56.10% were well differentiated. Bowen disease was present in 9.38% and 2.08% were cSCC on behalf of a keratoacanthoma. 96.88% of the lesions were completely excised and 12.50% were ulcerated. **Conclusions:** The cSCC is a continuously emerging and the histopathological diagnoses remains important for the outcome of the patient. The most cases were diagnosed in 2019 in older male patients from the urban area. Most of the tumors were well differentiated and completely excised. The treatment must be guided based on the histopathological diagnostic and must be individualized for each patient.

**Keywords:** cutaneous squamous cell carcinoma, non-melanocytic skin cancers, histopathology

## THE PREDICTOR FACTORS FOR RE-STENOSIS APPEARANCE AFTER CAROTID ENDARTERECTOMY

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**Background:** Restenosis is known to be a complication of the carotid endarterectomy. Multiple studies have demonstrated the effectiveness of endarterectomy in reducing the risk of developing a stroke in patients with carotid stenosis, what still represents a problem is the high incidence rate of restenosis in these patients. Restenosis been correlated with a high risk of developing a stroke or other ischemic pathologies. **Material and methods:** We performed a retrospective study, the criteria for inclusion in the study were patients with carotid stenosis (between 50-70%) who underwent endarterectomy between 2020-2021. The data were collected from the hospital's electronic database. The objectives of this study were to evaluate the rate of restenosis according to the histopathological type of the plaque and the comorbidities present in these patients. **Results:** After the analysis of the specimens of the patients included in the study, morphological, 59% from the atherosclerotic plaques presented characteristics of a stable plaque, and 41% of an unstable plaque. After the post operative evaluation, the comorbidities seen and considered risk factors for carotid stenosis have proven to be statistically significant also in the occurrence of restenosis, they were as follows: advanced age (over 70 years), obesity, tobacco consumption, high levels of dyslipidemia. All of them being considered an independent predictor for restenosis. Another strong independent predictive factor in the occurrence of restenosis was the unstable character of atherosclerotic plaques and more precisely the thrombotic plaque ( $p < 0.001$ ). The preoperative treatment with antiplatelet and statin appeared to be a protective factor in the occurrence of restenosis. **Conclusions:** Although unstable plaques do not represent the majority, they occupy a fairly high percentage, and their severity is given by the fact that they represent an independent risk factor in the occurrence of restenosis and further in ischemic pathologies.

**Keywords:** restenosis, endarterectomy, atherosclerotic plaque

## PEDIATRICS

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### VITAMIN D DEFICIENCY IN PEDIATRIC PATIENTS WITH DILATED CARDIOMYOPATHY

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**Background:** Dilated cardiomyopathy (DCM) is a rare pathology in the pediatric population and one of the most important causes of heart failure (HF) and heart transplant. In recent years, studies have shown that vitamin D has a significant role in modulating some of the key mechanisms involved in the development of HF. However, the impact of vitamin D deficiency on pediatric patients with DCM is still unknown. **Material and methods:** This study aimed to assess the level of vitamin D in pediatric patients with DCM and to study the relationship between vitamin D levels and the severity of HF reflected in the NYHA/ROSS functional class and NT-proBNP levels. Twenty-six patients monitored in Pediatric Cardiology Clinic were included. Vitamin D levels were considered deficient if serum levels were below 20 ng/ml, insufficiency if serum levels were between 20-30 ng/ml and normal if serum levels were above 30 ng/dl. **Results:** Of the 26 patients that were included in this study, 53.8% were male and 46% were female, with a mean age of  $11.2 \pm 5.6$ . Of all patients, 57.7% presented with vitamin D deficiency, 26.9% with insufficient level and only 15% with sufficient levels of Vitamin D. As expected, NT-proBNP levels were significantly greater in patients with higher NYHA/ROSS class ( $p < 0.01$ ). Also, this study revealed a significant negative correlation between vitamin D serum level and the patients' NT-proBNP values ( $p < 0.05$ ) and NYHA/ROSS class ( $p < 0.01$ ). **Conclusions:** This study shows that pediatric patients with DCM with lower Vitamin D levels presented with more severe HF with significantly higher NT-proBNP. This work was supported by the University of Medicine, Pharmacy, Science and Technology "George Emil Palade" of Tîrgu Mureş, Research Grant number 511/5/17.01.2022.

**Keywords:** dilated cardiomyopathy, pediatrics, vitamin D, heart failure

### DYSPHAGIA IN A RARE CASE OF ESOPHAGEAL INLET PATCH IN A FEMALE TEENAGER

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**Background:** Esophageal inlet patch is defined as ectopic gastric mucosa that occurs usually in the upper esophagus or near to the upper esophageal sphincter. This lesion is commonly asymptomatic, but in certain cases complications related to the acid secretion including esophagitis, ulcer or stricture might result in a wide spectrum of symptoms like throat or chest pain, dysphagia, shortness of breath and globus sensation. **Material and methods:** We report the case of a 16-year-old female teenager admitted to our clinic for epigastric pain and heartburn for approximately 3 months, which persisted in spite of the prolonged proton pump inhibitors treatment. **Results:** The routine laboratory tests performed on the day of admission were within normal ranges, and the stool antigen was negative for *Helicobacter pylori* infection. The abdominal ultrasound revealed no pathological findings. The upper digestive endoscopy highlighted a salmon-colored oval longitudinal lesion, of approximately 1 cm diameter, with a depressed surface, near to the upper esophageal sphincter. The gastric mucosa appeared to be macroscopically normal. The histopathological exam revealed the presence of antral gastric mucosa within the esophagus, establishing the diagnosis of esophageal inlet patch. We reinitiated treatment with proton pump inhibitors by vein associating also prokinetic therapy, with slightly favorable evolution. **Conclusions:** The thorough endoscopic exam is required in all cases when the symptoms persist in spite of the properly administered treatment; although rare, lesions like esophageal inlet patches are frequently overlooked.

**Keywords:** esophagus, inlet patch, teenager, PPI, heartburn

## MANAGEMENT OF NEONATAL HYDRONEPHROSIS PREDICTS THE PATIENT'S OUTCOME

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**Background:** Postnatal management of neonatal hydronephrosis is a clinical challenge and varies widely. Although most of the cases resolve spontaneously, certain cases require close monitoring and even surgical intervention. **Material and methods:** We present the case of a male newborn diagnosed postnatally with left hydronephrosis and valvular pulmonary stenosis. **Results:** The patient was born by caesarean section, at 40 weeks of gestation, with a birth weight of 3330 g, APGAR score 10/1 minute and 10/5 minutes. After approximately 24 hours of life, he was diagnosed with medium valvular pulmonary stenosis. The screening abdominal ultrasound showed a 4th degree left hydronephrosis. The patient benefited of voiding cystourethrogram and renal scintigraphy, that revealed a bilateral vesico-ureteral reflux. The therapeutic management consisted of performing a pyelourethroplasty at the age of 9 months, followed by bilateral vesico-ureteral reimplantation at the age of 1 year. His clinical and radiological evolutions were favorable. **Conclusions:** A main step in the management of newborn hydronephrosis is to include the infants in a follow-up program and to perform surgical repair in those with severe obstructive dilatation before irreversible deterioration and functional renal damage occurs.

**Keywords:** neonatal, hydronephrosis, management, ultrasound, follow-up

## THE OVERLAPS BETWEEN KAWASAKI DISEASE AND PEDIATRIC INFLAMMATORY MULTISYSTEM SYNDROME

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**Background:** Kawasaki disease (KD) and pediatric inflammatory multisystem syndrome (PIMS) represent two peculiar pathologies with autoimmune underlying mechanism, but which are not yet fully understood resulting in multiple challenges in pediatric practice. Although not a new pathology, KD remains a severe condition which often associated life-threatening complications. Likewise, PIMS, a recently discovered pathology, shares several similarities with KD, being defined in fact KD-like PIMS. **Material and methods:** We report the case of a 12-year-old male patient in order to highlight the similarities and differences between KD and PIMS. **Results:** The patient was admitted for fever, polymorph generalized rash, left lateral cervical adenopathy and mucosal impairment (aseptic conjunctivitis and oral aphthous lesions). The onset of the symptoms was approximately 5 days before admission. The pathological laboratory findings pointed out severely increased C-reactive protein, D-dimers, troponin and NT-proBNP levels, associated with mildly decreased albumin level. We also found positive IgG anti-SARS-CoV-2 antibodies. The chest radiography was normal. We performed an echocardiography which pointed out systolic and diastolic dysfunction. We found no other evidence of an infectious disease. Therefore, here comes the question is it KD or is it PIMS? After corroborating all our findings most likely our case might be classified as KD, but we cannot rule out the possibility of Kawasaki-like PIMS. We initiated pulsed methylprednisolone for three days followed by dose tapering associated with prophylactic antibiotic, anticoagulant, but also diuretic and angiotensin-converting enzyme inhibitor according to the cardiologist recommendation. The patient's evolution was outstandingly favorable, with no fever after the 1st dose of methylprednisolone, and a considerable improvement of the cardiac function. **Conclusions:** COVID-19 pandemics revealed major and interesting questions related even to previously well-documented disorders which will probably require several years until they will be completely clarified.

**Keywords:** Kawasaki disease, PIMS, COVID-19, Child

## PHARMACY

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### CHIRAL PURITY DETERMINATION OF SILODOSIN BY CAPILLARY ELECTROPHORESIS

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**Background:** Silodosin (SLD) is a novel  $\alpha_1$ -adrenergic receptor antagonist with high affinity for  $\alpha_1A$  subtype used for the symptomatic treatment of benign prostatic hyperplasia. It has one asymmetric carbon atom and is used in therapy as a single R-enantiomer; thus, the S-enantiomer is considered to be a chiral impurity. Capillary electrophoresis (CE) is a powerful technique in the chiral analysis of pharmaceuticals, being an alternative to liquid chromatography with advantages related to high enantioselectivity, rapid method development and low operational costs. Analytical Quality by Design (AQbD) has been widely used in analytical method development in recent years, being based on process understanding and control by quality risk management. **Material and methods:** An initial chiral selector screening allowed the selection of carboxymethyl- $\beta$ -cyclodextrin (CM- $\beta$ -CD) as chiral selector (CS). The migration order was favorable as the distomer (S-SLD) migrates before the eutomer (R-SLD). The influence of critical process parameters on the critical quality attributes was evaluated using a two-level full factorial screening design. The method was optimized by a face centered central composite design and the design space was generated by Monte Carlo simulations. **Results:** Experimental design led to the following optimized conditions: 100 mM sodium phosphate buffer, pH 2.9, containing 40 mg/mL CM- $\beta$ -CD as CS, applied voltage 28 kV, capillary temperature 17°C. The method robustness was evaluated using a Plackett-Burman design and highlighted the major influence of pH on the chiral resolution. The method was validated according to the ICH guideline Q2(R1) in the range of 0.07 - 1.0 % relative concentration of chiral impurity. **Conclusions:** The proposed CE method was developed by applying AQbD principles and was successfully applied for the determination of S-SLD as an impurity of SLD in drug substance and pharmaceutical dosage forms.

**Keywords:** Capillary electrophoresis, Silodosin, Enantiomeric purity, Cyclodextrin, Quality by Design

## EXPERIMENTAL DESIGN-BASED RETENTION MODELING ON CHIRAL STATIONARY PHASES IN REVERSE PHASE MODE FOR EZETIMIBE AND ITS RELATED SUBSTANCES

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**Background:** The identification and quantitative analysis of impurities in pharmaceutical products are strictly regulated and controlled by the authorities. In this manner the ability of an analytical method to measure unequivocally a desired analyte is expressed by its selectivity. Experimental design-based retention modelling is a systematic and science-based approach in accordance with current analytical quality by design principles. The aim of this study was to investigate the chemical selectivity of chiral stationary phases in the case of ezetimibe and its related substances. **Material and methods:** Two stationary phases were compared using a tridimensional experimental design framework changing systematically the method parameters. The retention behaviors of the molecules were investigated by the construction of the virtual separation models. The simulation and *in silico* robustness testing were realized using DryLab chromatographic modeling software. **Results:** Based on the obtained results chiral stationary phases were able to present chemoselectivity towards the achiral impurities of ezetimibe. The cyclodextrin-type chiral stationary phase has a higher separation capacity and in optimal conditions it was able to separate 7 related substances from the active substances. In comparison the selectivity of cellulose-based column was lower, it was able to differentiate 6 impurities. The correlation between the virtual and experimentally obtained chromatographic parameters were excellent, demonstrating the applicability of this concept. By performing the robustness testing the critical method parameters with the highest impact on the resolution were identified for both columns individually and control strategy was established for routine use. **Conclusions:** It was demonstrated that experimental design approach results in highly accurate retention modelling and prediction, not only on "traditional" reverse phase columns, but also on chiral stationary phases acting in reverse phase mode. The present study proved that these chiral stationary phases can ensure orthogonal selectivity for the separation of strongly related achiral substances in comparison with the traditional reverse phase columns.

**Keywords:** chromatography, modeling, AQbD, ezetimibe



## THE ROLE OF DETAILED BIOCHEMICAL AND PATHOPHYSIOLOGICAL CHARACTERIZATION OF ALZHEIMER'S DISEASE IN THE IDENTIFICATION OF NEW THERAPEUTIC APPROACHES

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**Background:** Alzheimer's disease is the most frequent cause of dementia, with increasing prevalence and limited therapeutic options. The currently approved four medicines assure only short-term, symptomatic relief, while many new candidates are failing. However preclinical and clinical research of Alzheimer's disease is also challenging, the surprisingly high failure rate in the case of Alzheimer's disease therapies draws attention to the lack of pathophysiological knowledge regarding the causes and disease progression. **Material and methods:** The current study aims to identify the most promising molecular or mechanistic targets for future preclinical studies through a detailed revision of the literature. **Results:** This slow-progressing neurodegenerative disease has a particularly complex pathomechanism in which neuroinflammation plays a substantial role. According to the original "amyloid hypothesis", in the prodromal stage, as a response to the extracellular presence of beta-amyloid oligomers, a primary immunological reaction is triggered. It can be characterized by the activation of microglial cells, and the increased levels of inflammatory mediators, which after chronic exposure causes neuronal dysfunction and death. It has been also confirmed that advanced Alzheimer's disease is often associated with the alteration of cerebral carbohydrate metabolism. Whilst this may be due to enzymatic dysfunction (based on oxidative stress), this observation led to the reveal of cerebral insulin resistance. The  $\beta$ -amyloid synthesis and aggregation, neurofibrillary tangle accumulation, neuroinflammation, and insulin resistance are synergically connected, being reciprocally regulated by feed-forward mechanisms. **Conclusions:** Based on their peripheral mechanism of action on carbohydrate metabolism, centrally distributing incretinomimetics were suggested as potential neuroprotective therapy. GLP-1 analogue drugs are currently investigated in experimental models and clinical studies, but their disease-modifying potential is still elusive and needs confirmation on a biochemical level.

**Keywords:** beta-amyloid, neuroinflammation, insulin resistance, neurofibrillary tangle, GLP-1 analogue

## SYNTHESIS AND PRELIMINARY CHARACTERISATION OF SOME FLUOROQUINOLONE-TETRACYCLINE HYBRIDS

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**Background:** Healthcare-associated infections affect hundreds of millions of patients yearly. Fluoroquinolones and tetracyclines represent classes of antimicrobial agents, treating infections caused by susceptible microorganisms such as Gram-positive and Gram-negative bacteria, *Chlamydia*, *Mycoplasma*, and *Rickettsia spp.*. One strategy for fighting antibiotic resistance is the synthesis of hybrids. Our study aimed to obtain and characterise hybrid compounds between fluoroquinolones (norfloxacin, ciprofloxacin, moxifloxacin) and tetracyclines (tetracycline, doxycycline). **Material and methods:** Syntheses of hybrid compounds were made using ethanol or dioxane in a Mannich-type reaction (microwave irradiation, commercial oven), following the procedure from *Sriram D. et al. (2007)*. Also, the method was adapted as a classical reflux synthesis (with and without ferric chloride as a catalyst). The obtained compounds were preliminarily analysed using spectroscopic (electrospray ionisation mass spectrometry-ESI-MS) and thermal (differential scanning calorimetry-DSC) methods. In addition, several physicochemical properties and drug-likeness scores were predicted using open-source software packages (BIOVIA Draw, MarvinSketch, SwissADME). **Results:** Crude products appeared as yellow to brownish suspensions. Their separated precipitates varied in colour from yellow to pale-brown and dark-brown, and the supernatants from yellow to orange. The mass spectra and thermograms, versus the parent compounds, indicated that the desired hybrids were obtained. In addition, several *in silico* studies predicted some physicochemical properties (solubility, lipophilicity, pKa) and drug-likeness scores (adherence to the Lipinski rules, Blood-brain-barrier score) of the compounds. **Conclusions:** Synthesis attempts of fluoroquinolone-tetracycline hybrids were undertaken. A possible norfloxacin-doxycycline hybrid was obtained and characterised by ESI-MS and DSC methods. Three other potential hybrids (norfloxacin-tetracycline, ciprofloxacin-doxycycline, and moxifloxacin-doxycycline) were synthesised by classical reflux method. Further analyses will follow (elemental analysis (C, H, N) and Fourier-transform infrared spectroscopy-FTIR) for all obtained compounds. **Funding:** This work was supported by the George Emil Palade University of Medicine, Pharmacy, Science, and Technology of Targu-Mures Research Grant number 10127/6/17.12.2020. The ESI-MS analysis was conducted at the Center for Advanced Medical and Pharmaceutical Research, Targu-Mures.

**Keywords:** fluoroquinolones, tetracyclines, antibiotic hybrids, bacterial resistance

## PHYSIOLOGY

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### THE ROLE OF MIR-1 IN THE DIAGNOSIS AND PREDICTION OF ATRIAL FIBRILLATION

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**Background:** Previous studies have shown the alteration of the atrial expression of miR-1, a microRNA involved in atrial electrical remodeling, plays an important role in the pathogenesis of atrial fibrillation (AF), but its role in the diagnosis and/or prediction of AF remains unknown to date. In the present study, we aimed to evaluate the role of miR-1 as a potential predictive and diagnostic biomarker of AF using an experimental rat model of spontaneous AF. **Material and methods:** Spontaneously hypertensive male rats (SHR) and their normotensive counterparts (WKY) were divided into 6 groups: young (12 weeks, n = 8 each), adult (26 weeks, n = 8 each), and aged (46 weeks, n = 10 each). The number of spontaneous AF episodes was quantified by continuous 72-hour ECG monitoring. At the end of the protocol, blood and left atrial samples were taken. The levels of miR-1 normalized with U6 snRNA were quantified and compared between groups. **Results:** Among SHR rats, atrial levels of miR-1 increased progressively with age ( $p < 0.01$ ), being significantly higher in adult hypertensive rats ( $1.45 \pm 0.04$  vs.  $1.15 \pm 0.03$ ;  $p = 0.04$ ) and elderly ( $1.74 \pm 0.02$  vs.  $1.14 \pm 0.01$ ;  $p < 0.01$ ), compared to their normotensive adult and elderly counterparts. Atrial miR-1 levels were highly correlated with circulating miR-1 levels ( $r = 0.72$ ;  $p < 0.01$ ). Atrial miR-1 levels were positively correlated with the number of arrhythmic episodes among elderly SHR rats ( $r = 0.91$ ;  $p = 0.001$ ). **Conclusions:** The association between increased atrial and blood expression of miR-1 episodes and the number of AF episodes suggests the possibility of using miR-1 as a biomarker for AF diagnosis. In addition, our study suggests that monitoring the dynamics of miR-1 could predict the occurrence of AF. Further studies will need to validate these results in a clinical context.

**Keywords:** atrial fibrillation, diagnosis, microRNA, prediction

## PREDICTORS OF RENAL DYSFUNCTION IN PATIENTS UNDERGOING CORONARY ARTERY BYPASS SURGERY

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**Background:** Acute kidney injury (AKI), a common complication after coronary artery bypass grafting (CABG), is associated with a poor outcome. We aimed to identify predictors of AKI in patients undergoing CABG. **Material and methods:** Thirty patients who underwent a CABG intervention were divided into two groups: Group 1 (n = 9) patients with AKI (a decrease in creatinine clearance by at least 15% compared to the preoperative value) and Group 2 (n = 21) patients without AKI. Demographic parameters, creatinine clearance, echocardiographic parameters, sinus rhythm variability, and the degree of inflammation quantified by the high-sensitivity C-reactive protein (hs-CRP) value were evaluated preoperatively in all patients. The severity of the post-intervention inflammatory response was also quantified, by measuring the level of interleukins (IL) 1b, 2, 6, 8 and 17A. **Results:** Patients in the group with AKI showed a significantly older age compared to patients without AKI ( $66.2 \pm 6.5$  vs.  $58.2 \pm 9.8$ ;  $p = 0.03$ ). Also, patients in group 1 presented a significantly lower creatinine clearance before CABG compared to patients in group 2 ( $71.4 \pm 21.3$  vs.  $103.4 \pm 27.9$ ;  $p < 0.01$ ). Regarding the baseline inflammatory syndrome, patients with AKI presented significantly higher hs-CRP values compared to patients without AKI ( $5.9 \pm 3.8$  vs.  $2.1 \pm 2.1$ ;  $p = 0.01$ ). Post-CABG inflammatory response was significantly stronger among patients with AKI compared to those without AKI, as expressed by IL 8 level ( $36.7 \pm 41.9$  vs.  $8.5 \pm 14.3$ ;  $p = 0.04$ ). **Conclusions:** Older patients with a lower preoperative creatinine clearance and a more important inflammatory syndrome (higher hs-CRP) and stronger inflammatory response after CABG ( $\Delta$  IL8) are more prone to develop AKI after CABG intervention. These findings are of a great importance for a prompt preoperative prevention strategy in order to prevent AKI and to obtain a better outcome in patients with CABG.

**Keywords:** acute kidney injury, coronary artery bypass grafting, high-sensitivity C-reactive protein, interleukin 8

## NLR AND PLR: POTENTIAL BIOMARKERS OF SYSTEMIC INFLAMMATION IN PSORIASIS

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**Background:** Neutrophil-lymphocyte (NLR) and platelet-lymphocyte (PLR) ratios have been proposed as possible indicators of systemic inflammation. The aim of this paper is to evaluate whether NLR and PLR may serve as inflammatory biomarkers in patients diagnosed with psoriasis. **Material and methods:** Patients diagnosed with plaque psoriasis were included in this retrospective analysis. Patient demographics, blood count, C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR) levels were analyzed. Two study groups were established, based on the severity and extension of the lesions. Clinical severity was evaluated using PASI score, and quality of life was measured by DLQI. **Results:** 64 patients were included in the analysis. The majority were male (n=39). Disease severity was assessed as mild-moderate (PASI 10) in 22 patients and severe (PASI>10) in 42 cases. The mean age was  $52.875 \pm 12.44$ . No statistically significant difference was observed between NLR and PLR values between the 2 groups ( $p > 0.05$ ). PASI score was positively correlated with NLR, PLR, VSH and PCR. **Conclusions:** The increased values of NLR and PLR may reflect the pro-inflammatory status of patients with psoriasis and are correlated with disease severity. NLR and PLR may prove to be quick and cheap biomarkers to be used when evaluating disease severity of prognosis.

**Keywords:** psoriasis, inflammation, biomarkers

## PNEUMOLOGY

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### THE CLINICAL BENEFITS OF BENRALIZUMAB THERAPY IN SEVERE EOSINOPHILIC ASTHMA

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**Background:** Severe eosinophilic asthma (SEA) is an asthma subtype characterized by persistent airway inflammation with episodes of acute flare ups, despite high doses of inhaled glucocorticoids (ICS) and beta-agonists. SEA accounts for 10-15% of all asthma cases worldwide. In severe asthma, the eosinophil levels are  $\geq 300$  cells/ $\mu$ L. Benralizumab is a recombinant humanized monoclonal-antibody against alpha1-antitrypsin. It improves the control of symptoms, inhibiting inflammatory cells activation and reducing airway remodeling by decreasing cellular infiltration and matrix-metalloproteinase activity. It also improves lung function, decreases exacerbations and reduces eosinophil counts. **Material and methods:** Our study enrolled 18 patients with SEA, of which 9 are females and 9 males, with a median age of 60.6 years, with the youngest age being 29 and the oldest 82 years-old. All patients are receiving ongoing treatment with Benralizumab (30mg injection every 4weeks for the first 3 doses, then every 8weeks). The follow-up includes the count of eosinophil, lung capacity, quality of life (Asthma Control Test - ACT), before and after treatment. **Results:** All patients showed a significant decrease in blood eosinophil ( $p=0.001$ ) one day after the first dose of Benralizumab 30mg. At a primary examination, the average blood eosinophil count was 670cells/ $\mu$ L, while after the first dose of Benralizumab the average count dropped drastically to 160cells/ $\mu$ L. Moreover, there was a significant increase in the Forced vital capacity (FVC) ( $p<0.001$ ), Tiffeneau-Pinelli index (TI) ( $p=0.002$ ) and asthma control ACT score ( $p<0.001$ ) during the follow up period. With the best results on the 29-year-old patient who had a 100% increased FVC (from 45% to 90%) and significant better quality of life (ACT increased from 5-points to 24). **Conclusions:** Monoclonal antibody medication is an efficient dedicated add-on therapy (along to ICS and bronchodilators) for SEA. It produced a significant increase in the patient's lung function and quality of life.

**Keywords:** Severe asthma, Monoclonal therapy, Biological therapy, Benralizumab

## PULMONARY SEQUELAE OF LONG-POST-COVID: A FOLLOW-UP STUDY FROM TÂRGU MUREȘ PULMONOLOGY CLINIC EXPERIENCE

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**Background:** The second pandemic has dramatically come to light defining patients with persistent symptoms after SARS-COV2 infection. The acute-post-COVID phase is up to 12 weeks, and after 12 weeks the long-post-COVID is described. The study aimed to evaluate the long-post-COVID-19 sequelae and imagistic dynamic 12 weeks after hospital discharge for SARS-COV2 infection.

**Material and methods:** The follow-up study conducted in Targu Mures Pulmonology Clinic included 62 patients who were initially hospitalized for SARS-COV2 infection in November-December 2021. The patient's symptoms, thoracic computer tomography (CT), and thoracic ultrasound (TUS) were evaluated 12 weeks after hospitalization. **Results:** Of the 62 included patients, 35 were male and 27 female, medium age of 67-year-old, 9 of them with long-term oxygen therapy at home. The persistent symptoms at 12 weeks were fatigue (48/62; 77%), dyspnea (33/62; 53%) of which 45% of patients had grade 3 mMRC dyspnea, dry cough (30/62; 48%), chest tightness (18/62; 29%). In the transition to the long-post-COVID phase, radiologic changes are common, predominantly located in areas that showed ground glass opacities (GGO) with reticulation on baseline scans. After 12 weeks, 20 patients had complete resolution at CT and thoracic ultrasound (A-lines, normal pleural line, < 3 B-lines). The CT residual abnormalities were seen in 42 patients with persistent GGO (35/62; 56%), reticular pattern (23/62; 37%), traction bronchiectasis, and parenchymal fibrotic-like bands (11/62, 17%). Significant echographic lung abnormalities found after 12 weeks were thickened and fragmented pleural line in more than 6 lung areas (47/62; 75%), and isolated B-lines (38/62; 61%). Persistent subpleural consolidations (9/62; 14%) were seen in patients with severe evolution who had a history of intensive-care transfer.

**Conclusions:** Because of the multitude of symptoms and persistent imagistic abnormalities even after 12 weeks of follow-up, long-post COVID represents a burden in the healthcare system.

**Keywords:** long-post-COVID, pulmonary sequelae, radiologic resolution, thoracic ultrasound

## OSTEOARTICULAR TUBERCULOSIS – DIFFERENTIAL DIAGNOSIS OF THE PERTHES DISEASE

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**Background:** Osteoarticular tuberculosis (OATB) is a frequent extra-respiratory localization of tuberculosis (TB) in children, which can lead to critical functional sequelae without correct treatment: joint destruction, vicious positions, joint deformations. Perthes disease (osteochondritis of the femoral head) is ischemic necrosis of the superior femoral epiphysis due to altered vascularization.

**Material and methods:** A 5-year-old child was investigated in the Orthopedic Clinic for right coxalgia and functional impotence. Pelvic radiograph shows right coxo-femoral dislocation, bone demineralization at the right acetabular level, femoral head with altered sphericity, and normal left coxo-femoral joint. They established the diagnosis of Perthes disease of the right hip, and relative bed rest, abduction orthosis, and physical therapy were recommended, with favorable evolution. After six months, the pelvic CT shows an osteolytic acetabular lesion with cortical overhang and an intra-articular collection occupying the articular recess. CT of the hip and laboratory tests raised the suspicion of septic arthritis. Systemic antibiotic therapy was initiated, and surgical intervention was performed to drain the abscess. The non-specific bacteriological examination was negative. Due to the persistence of symptoms, CT changes, and inflammation, we suspected OATB, and surgical re-intervention was performed for sampling for Koch bacillus, histopathological examination, and local treatment. Mycobacteriological test was negative in microscopy and culture, but histopathological examination described epithelioid granulomas with central caseous necrosis and numerous multinucleated Langhans giant cells. Antituberculosis treatment, vitamin therapy, abduction orthosis, and physical therapy were initiated, the evolution being favorable already after two months with symptomatic relief. **Results:** Perthes disease should be differentiated from infectious osteoarthritis by bacteriological, biochemical, and imaging examinations. OATB will always be considered in countries with high TB incidence. **Conclusions:** Infectious osteoarthritis of the hip with unfavorable evolution needs further investigations in the sense of a bacterial etiology, including tuberculosis. With early antituberculosis treatment and physical therapy, the lesions can heal without functional sequelae.

**Keywords:** osteoarticular tuberculosis, epithelioid granuloma with caseous necrosis, Perthes disease, osteochondritis of the femoral head

## PSYCHIATRY

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### THE IMPORTANCE OF SOCIAL SUPPORT IN PATIENTS WITH ALCOHOL USE DISORDER. FROM DELIRIUM TREMENS TO ABSTINENCE – A CASE REPORT

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**Background:** The relationship between alcohol consumption and perceived social support is multidimensional. Perceived social support has the prospective to help or obstruct patients' recovery efforts. Patients often suffer a range of co-morbid conditions which could require additional support in their recovery process. About 10-15% of hospitalized patients with alcohol use disorder develop alcohol withdrawal syndrome and delirium tremens is one of the most severe complication. The reported mortality rate in delirium tremens is between 1 and 5%. **Material and methods:** We present the case of a 47-year-old patient admitted to hospital with depressive symptoms and alcohol abuse. The patient developed alcohol withdrawal since the next day and his condition complicated with delirium tremens. The patient was known with a history of alcohol use disorder and with also a precarious socio-economic status. The patient was voluntary admitted into the hospital and had no other familial support due to his addiction.

**Results:** After 48 hours of admission the patient developed symptoms of ethanol withdrawal with delirium. During the admission, the patient required to be admitted according to the Mental Health Law. A CT scan was performed showing moderate cerebral and cerebellar atrophy. After the remission of alcohol withdrawal, the patient was diagnosed with alcoholic neuropathy, mild cognitive impairment and moderate depressive episode. He was admitted for 5 weeks as his general condition and mental status slowly improved with the help of supportive therapy, psychotropic treatment and psychological counseling. **Conclusions:** Beside physical impairment, one of the major side effects of alcohol dependence is the isolating nature of the disorder. We emphasize the importance of social support as a healthy work environment, being positively associated with motivation for change of the addictive behavior. The patient still has a low socio-economic status and no family support, yet he maintains abstinence and is adherent to treatment and has regular hospital visits for assessment.

**Keywords:** delirium tremens, abstinence, social support



## SURGERY

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### THE FUNCTIONALITY OF THE ABDOMINAL WALL AFTER RECONSTRUCTION IN COMPLEX INCISIONAL HERNIA

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**Background:** Complex incisional hernia is a continuously growing pathology affecting the anatomy and physiology of the abdominal wall. In these situations, an efficient reconstruction of the abdominal wall is the technique of posterior components separation (TAR - Novitsky technique). Through this study, we aim to evaluate the functionality of the abdominal wall after reconstruction using the TAR technique. **Material and methods:** A prospective study is performed on a group of 59 patients (after exclusion) admitted to the Cluj-Napoca Military Emergency Clinical Hospital with complex incisional hernias, who underwent posterior separation of components with properitoneal mesh reinforcement, which is compared with a control group (57 patients) with primary median laparotomy. The functionality of the abdominal wall is clinically analyzed through Trunk Raising (TR) and Double Leg Lowering (DLL), preoperatively, as well as postoperatively (one month and one year). **Results:** An increase in TR was observed from 1.98 preoperatively to 4.27 at 1 year postoperatively ( $p<0.001$ ). Also DLL has improved from 2.1 to 4.37. Comparatively, the average at one year in the control group was: TR=3.98 and DLL=3.9 from 4.31, respectively 4.33 preoperatively. **Conclusions:** The functionality of the abdominal wall improves significantly after TAR reconstruction (compared to the control group - primary median laparotomy), a fact demonstrated by the TR and DLL clinical tests. The clinical tests TR and DLL have demonstrated their validity, these simple tests could be introduced in the routine clinical evaluation of the abdominal wall.

**Keywords:** Complex incisional hernia, abdominal wall function, TAR, TR, DLL

### OPTIMAL RECONSTRUCTION METHODS IN DISTAL GASTRIC CANCER RESECTIONS- A LITERATURE REVIEW

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**Background:** Optimal reconstruction in distal gastric cancer resections remains controversial. North American and European (ESMO) oncological protocols do not provide indications for optimal surgical reconstructions. Asian oncological protocols recommend subtotal gastrectomy as the first indication for resections in distal gastrectomy. **Material and methods:** We used PubMed as the primary search engine to conduct a literature search review. We included studies published in the last five years (2019-2022) in the North American, European, and Asian regions. We excluded case presentations and used the terms - distal gastrectomy reconstructions/ gastric neoplasm/cancer as search keywords. **Results:** A total number of 74 studies were recorded. 41% (n=31) of the majority were from the Asian literature with two multicentric meta-analyses. The main reconstruction methods included in the studies were: gastro-duodenal and gastro-jejunal (Roux-en-Y, Braun). While each type of reconstruction has advantages and disadvantages, the gastro-duodenal technique, in most cases, is reported as an optimal choice regarding the postprocedural quality of life reports. **Conclusions:** Asian literature provides the most scientific data regarding optimal reconstruction in distal gastric neoplasm. Despite the presence of reflux esophagitis in gastro-duodenal anastomosis, it is recommended as a first choice for surgical reconstruction due to the low long-term postoperative complications. However, no protocols included indications for the optimal surgical technique. Further studies are required in the future to define optimal surgical management in this category of patients.

**Keywords:** GASTRIC CANCER, RECONSTRUCTION, GASTRECTOMY, OPTIMAL ANASTOMOSIS

## TRAUMATIC VERSUS NON-TRAUMATIC THORACO-ABDOMINAL ACUTE PATHOLOGY IN THE COVID-19 ERA – A TERTIARY ROMANIAN CENTER EXPERIENCE

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**Background:** Studies conducted during the COVID-19 pandemic have shown an overall decrease in traumatic pathology around the world. The aim of the present study was to investigate if the COVID-19 pandemic influenced number of traumatic versus non-traumatic thoraco-abdominal acute pathology presentations. **Material and methods:** We retrospectively enrolled 2646 consecutive patients admitted in the Surgical Departments 1 and 2 of the Emergency Clinical County Hospital of Târgu-Mureş in two distinct timespans, one year before the global pandemic was declared (n=1509) and one year during the pandemic (n=1137), beginning with the instauration of the lockdown in Romania. Demographic parameters (age and gender) and mechanism of thoraco-abdominal acute pathology were assessed. All statistical analyses were performed using GraphPad Prism version 8.0.2 (GraphPad Software; San Diego, CA). The p value was set at 0.05 for statistical significance. **Results:** Before the pandemic patients with traumatic mechanism of thoraco-abdominal acute pathology were significantly younger (54 versus 63;  $p<0.01$ ) and belonging mostly to the male gender (74.07% versus 25.93%;  $p<0.0001$ ). Likewise, during the pandemic, young patients (55 versus 63;  $p=0.03$ ) and males (76.98% versus 23.02%;  $p<0.0001$ ) were significantly more prone to traumatic lesions. Eventhough, no significant difference was identified regarding the mechanism of acute thoraco-abdominal pathologies (traumatic versus non-traumatic), during the pandemic versus the prepandemic time (13.06% versus 15.79%;  $p=0.07$ ). **Conclusions:** The results of the present study do not show any difference between the number of traumatic thoraco-abdominal injuries in the prepandemic versus the pandemic era. As expected, young males are more prone to traumatic lesions then elderly and female patients. Given the results, the COVID-19 pandemic did not show any influence on the number of traumatic thoraco-abdominal injuries, as compared to the prepandemic times.

**Keywords:** COVID-19 pandemic, prepandemic era, thoraco-abdominal injury

## CASE REPORT- LOCAL RELAPSE ACCOMPANIED BY SYNCHRONOUS RECTAL TUMOUR

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**Background:** The most common malignancy of gastrointestinal tract is colorectal carcinoma that affects both sexes equally. Clinical guidelines recommend neoadjuvant therapy (chemo/radiotherapy) and surgery for better response. The incidence of synchronous colorectal tumours is 3-5%. **Material and methods:** We represent a case of a 54 years old female with local relapse after left hemicolectomy (adenocarcinoma) T3N1b enrolled in the First Surgical Clinic in Targu-Mures Emergency County Hospital (oct.2022). Statistical data was obtained from the patients' files, operation protocol, and informatics system of the hospital. **Results:** Intraoperative sight described a local relapse after left hemicolectomy (June 2021) with presence of a high intestinal obstruction by a stenosing mass which involved left parietal peritoneum, left hemidiaphragm, spleen, tail of the pancreas, proximal jejunum, left adrenal gland and left anterior renal valve, and a synchronous superior rectal tumour with stenotic effect accompanied by distention of the whole colic frame with invasive character to the uterine isthmus, left uterine tube and ovary. After monobloc total colectomy with splenectomy, caudal pancreatectomy, left adrenalectomy, left nephrectomy, left hemidiaphragmectomy, left peritonectomy of abdomen and diaphragmatic dome, segmental jejunectomy, total hysterectomy with bilateral adnexectomy, patient's response was good, with resumption of transit in day 4, with no signs of fistula, 4 unformed stools daily and discharge in day 13. **Conclusions:** Considering the negative resection margin after left hemicolectomy, a local relapse occurred in absence of neoadjuvant therapy. The synchronous rectal tumour remained undiscovered till intraoperative time, masked by the signs and symptoms of local relapse. Synchronous tumours are still a challenge to diagnose these days.

**Keywords:** Carcinoma, Relapse, Colorectal, Synchronous, Multivisceral resection

## SURGICAL MANAGEMENT OF PANCREATIC NEOPLASM: A CASE REPORT

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**Background:** Pancreatoduodenectomy is the only potentially curative surgery for pancreatic adenocarcinoma. Complete surgical resection(R0) associated with chemotherapy is the only way to cure patients with pancreatic cancer. Achieving R0 resection can be sometimes challenging but is the only chance of a prolonged survival rate. **Material and methods:** We present the case of a 71-year-old female patient, smoker with a history of cardiac pathology, known with a cephalo-pancreatic tumor and jaundice. She previously presented to the ER for mechanical jaundice, where a CT scan was made, and then she was treated with ERCP by placing an bile-duct stent (Sept. 2022), followed by a biopsy of the cephalo-pancreatic tumor resulting a ductal adenocarcinoma. She was admitted in First Surgical Clinic in Targu Mures Emergency County Hospital (Oct. 2022) for surgical treatment. Medical data was obtained from the patient's files. **Results:** We performed a bilateral subcostal incision. The pancreatic tumor was situated at the cephalic level measuring approximately 3-4 cm with close adhesion to the duodenum. After assessment, we discovered multiple pathological lymph nodes localized near to celiac trunk, liver hilum, and common hepatic artery. After performing cholecystectomy, and monobloc resection of the pancreatic head with the tumor, duodenum, and the antral portion of the stomach, we completed the surgery with DII lymphadenectomy. We utilized the standard reconstruction performed in our department, involving a gastro-pancreatic anastomosis double "purse-string", followed by a bile duct-jejunostomy and gastro-jejunostomy. Patient's evolution was favorable with no signs of fistula, resumption of transit on day 4, the drains were removed gradually. Our patient was discharged on day 11. The histopathological results was moderately differentiated ductal adenocacinoma(G2) with resection margins free of tumor and only one metastatic lymph node. **Conclusions:** R0 resection in pancreatic cancer confers longer disease-free survival and overall survival rate. Adequate resection to obtain R0 resection can improve the overall survivability.

**Keywords:** PANCREATIC CANCER, PANCREATODUODENECTOMY, R0 RESECTION

## UROLOGY

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### PROSTATE CANCER DETECTION RATE AT THE UROLOGY CLINIC OF TÂRGU-MUREȘ

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**Background:** Prostate cancer is suspected on the basis of PSA levels and/or digital rectal examination findings. The diagnosis is confirmed by histopathological examination using prostate biopsy cores. The purpose of this study was to determine the efficacy of the transrectal ultrasound guided prostate biopsy in prostate cancer detection. **Material and methods:** The clinichopathological records of 359 patients were retrospectively reviewed who underwent ultrasound guided transrectal prostate biopsy after clinical or biochemical suspicion of prostate cancer at the Urology Clinic of Targu-Mures between 2020-2021. **Results:** Among the 359 (100%) patients the mean age was 69.77 years (IQR: 41-89), with a mean PSA of 77.36 ng/ml (IQR: 0.52-3500), a median prostate volume of 46.49 cc (IQR:12-154) and the median biopsy core number was 11 (IQR:3-18). In 257 of the cases, (71.58%), prostate adenocarcinoma was confirmed, 41 (11.42%) patients were diagnosed with chronic inflammation, 38 (10.58) had normal prostate tissue, 14 (3.89%) presented atrophy distinction, in 5 cases the diagnosis was atypical small acinar proliferation, 2 patients was diagnosed with high grade prostatic intraepithelial neoplasia and we found 1 case of neuroendocrine carcinoma. Patients with prostate cancer had a significantly higher median PSA, 104.07 ng/ml, compared with other diagnosis, but 12 patients with prostate cancer presented a PSA lower than 4 ng/ml. Also, higher Gleason score and extraprostatic extension were associated with higher PSA levels. The lowest Gleason score, 3+3=6, was diagnosed with the highest median biopsy core number, 12.52, while a Gleason score of 5+4=9 was detected using 6 prostate biopsies. **Conclusions:** Almost 80% of patients who underwent prostate biopsy in our clinic was diagnosed with prostate cancer, which is higher than the results of other studies, where cancer detection was around 40%.

**Keywords:** Prostate cancer, Transrectal ultrasound guided biopsy, PSA

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### CASE REPORT: A 49 YEARS OLD PATIENT WITH CALCIFIED URETERAL STENT.

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**Background:** Ureteral stents are medical devices used to drainage superior urinary tract. Associated complications of these treatment method are represented by vesico-ureteral reflux, ascendent urinary tract infection, stent calcification, etc. **Material and methods:** This paper is a case report relating the complications of a careless patient with right Double J stent. **Results:** We are presenting the way of removal of calcareous deposits from the stent and the removal of the stent itself in multiple therapeutic session of enoscopic minimally invasive surgeries. In the end, the patient became "stone free", without ureteral stent and with complete recovery of the kidney (morphological and functional). **Conclusions:** Double J stents are frequently used in urological practice. Complications may occur, from early and simple, to severe ones. It is mandatory that a patient with this type of device to be carefully watched by the doctor and of course, he must fully comply with the given indications. Fixing the complications and the damage of the urinary tract requires multimodal therapy, which is very expensive for the medical system and any hospital.

**Keywords:** Double J, Stent, Ureterscopy, Endoscopy

## OBSTETRIC AND GYNECOLOGY

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### THE IMPACT OF GESTATIONAL DIABETES ON THE ANTHROPOMETRIC CHARACTERISTICS OF THE MOTHER-NEWBORN COUPLE

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**Background:** Gestational diabetes is increasing worldwide due to the increase of reproductive age, incidence of obesity and type 2 diabetes. Anthropometric measurements can provide important information on the nutritional status of pregnant women and their newborns. **Material and methods:** We conducted a prospective study in the period 01.10.2021-01.09.2022. Patients were divided into 2 groups: 23 patients without gestational diabetes and 23 patients with gestational diabetes. Maternal characteristics variables of interest were: pre-gestational body mass index (BMI), weight gain during pregnancy, middle upper arm circumference (MUAC) and tricipital skinfold thickness (TST). Neonatal anthropometric variables of interest were birth weight, ponderal index (PI), MUAC and TST. **Results:** Following the statistical analysis we obtained statistically significant differences between the two groups in maternal pre-pregnancy BMI ( $t=-2.25/ p=0.028$ ), in birth BMI ( $t=-2.36/ p=0.021$ ), in MUAC at 24-28 weeks of pregnancy ( $t=-2.84/ p=0.012$ ), in MUAC at birth ( $t=-2.59/ p=0.009$ ), in TST at birth ( $t= -1.221/ p=0.045$ ). Regarding the anthropometric characteristics of the newborns, the statistical analysis indicates the existence of significant differences regarding the weight ( $t= -2.152/ p= 0.018 \leq 0.05$ ) of the newborns in the control group, compared to those in the experimental group. Significant differences between the two groups were also identified at the level of MUAC ( $t= -1.295/ p= 0.042 \leq 0.05$ ), TST ( $t= -2.874/ p= 0.009 \leq 0.05$ ) and ponderal index (PI) ( $t= -2.982/ p= 0.007 \leq 0.05$ ). **Conclusions:** Anthropological characteristics reflecting peripheral subcutaneous adiposity (MUAC and TST) have statistically significantly increased values in patients with gestational diabetes at 24-28 weeks (MUAC) and at birth (MUAC and TST). A MUAC value of more than 28 cm at 24-28 weeks could be considered a predictive value for the occurrence of gestational diabetes. Newborns of mothers with gestational diabetes have higher values of weight, MUAC and TST compared to newborns of healthy mothers.

**Keywords:** gestational Diabetes, anthropometric characteristics, pregnancy, newborn

## OBSTETRICS AND GYNECOLOGY

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### COMPARATIVE ANALYSIS OF METHODS OF ARTIFICIAL TRIGGERING LABOUR FOR PREGNANT WOMEN AT TERM AT FIRST OBSTETRICS AND GYNECOLOGY CLINIC OF TARGU MURES, ROMANIA

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**Background:** Artificial triggering of labor represents induction of uterine contractions before they occur spontaneously for the purpose of obtaining a natural birth for those pregnant women who previously they were not in labor. **Material and methods:** The present scientific paper represents a retrospective study carried out in the First Obstetrics and Gynecology Clinic of Târgu Mures between March 8, 2021 and December 8, 2021. The methods used for the artificial induction of labor were - vaginal device with dinoprostone (Proress type) and oxytocin infusion. **Results:** During this period we had 243 cases of artificially induced labor. According to the randomization criteria, 16 cases were excluded, resulting in a final sample of 227 patients (16 cases using dinoprostone and 211 cases with oxytocin infusion). Maternal outcomes were approximately identical for both groups, the exception being the time from triggering labor to delivery, which was longer in the case of using oxytocin infusion. We had no cases of neonatal hemotransfusion, hypoxic ischemic encephalopathy, intraventricular hemorrhage grade 3 or 4, necrotizing enterocolitis or need for neonatal hypothermia. Compared to deliveries triggered with dinoprostone, neonatal jaundice and serosanguineous edema at the level of the scalp have been reported more frequently in deliveries triggered with oxytocin infusion. **Conclusions:** The use of dinoprostone and oxytocic infusion represent effective methods of artificial triggering of labor under conditions of compliance with obstetric indications and pharmacological characteristics.

**Keywords:** artificial triggering of labor, dinoprostone, oxytocin, birth

## **SCIENCE AND TECHNOLOGY**

# DOCTORAL SCHOOL OF LETTERS, HUMANITIES AND APPLIED SCIENCES

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## ABOUT PEOPLE

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**Background:** We live surprised by the attitude of the contemporary man who, dissatisfied, as soon as he has amputated his past to jump faster into the future, discovers that the present can no longer accommodate him, and the future does not exist. It is not surprising to find that women writers are more challenged to overcome their status and condition than men. They always remain undervalued and often placed behind them. To place yourself behind someone, only means that you believe in the value of the person next to you, that the victories of the other become your own victories and his happiness makes you happy. We are encouraged and even forced to always look for important people for their shadowy halves.

**Keywords:** human attitudes, modernity, underestimation, women, God



# ISTORIE

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## IMPLICAREA SOCIETĂȚII FĂGĂRĂȘENE ÎN PĂSTRAREA IDENTITĂȚII NAȚIONALE (SFÂRȘITUL SECOLULUI AL XIX- LEA- ÎNCEPUTUL SECOLULUI XX)

Lorena Codruța Zavodnik (Trufin)<sup>1</sup>

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**Background:** The involvement of the Făgăraș society in preserving the national identity (Late 19th-early 20th century) Abstract. Due to the political situation in Transylvania, in Făgăraș there were several structures fighting for the preservation of the national identity. We refer here to the Greek-Catholic and Orthodox Women's Meetings, to ASTRA, as well as to the local newspaper Olteanul, a weekly newspaper that supported in its pages the preservation of the folk costume, the eradication of illiteracy and urged the population to read as much as possible in Romanian, as well as to attend theatre performances where plays by Transylvanian authors or Romanian ones were presented in Romanian. **Material and methods:** The involvement of the Făgăraș society in preserving the national identity (Late 19th-early 20th century) Abstract. Due to the political situation in Transylvania, in Făgăraș there were several structures fighting for the preservation of the national identity. We refer here to the Greek-Catholic and Orthodox Women's Meetings, to ASTRA, as well as to the local newspaper Olteanul, a weekly newspaper that supported in its pages the preservation of the folk costume, the eradication of illiteracy and urged the population to read as much as possible in Romanian, as well as to attend theatre performances where plays by Transylvanian authors or Romanian ones were presented in Romanian.

**Keywords:** Făgăraș County, Women's meetings, ASTRA, illiteracy

## LITERATURE

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### IN SEARCH OF IDENTITY – "EXUVII", BY SIMONA POPESCU

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**Background:** Wishing to capture the ego's attempts to find its identity, Simona Popescu manages to write a remarkable novel, symbolically titled *Exuvii*, to emphasize the idea of multiple bodies existing within an apparently unique body. It is a long story of the metamorphoses of the human being, of different ages and mentalities, the becomings of femininity actually constituting the becomings of corporeal fields. In this paper, we will present the main paths that the ego follows in the process of finding its identity: the constant return to the past, to the age of childhood, reading and writing. We will also focus on the idea of hunger as an expression of a continuous internal struggle. Oscillating between phylogeny and ontogeny, we will discover the process of the mnesic reconstruction of the self from the "foils", keeping together its successive "skins" as a way to abolish time and succession in favor of an "absolute" present.

**Keywords:** identity, past, multiple, phylogeny, ontogeny

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### THE JOURNEY FROM MEDICINE TO LITERATURE

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**Background:** The solid early education received in Dumbarton Academy, where A. J. Cronin won prizes for both English essay writing and science, allowed him to receive a scholarship and to study medicine at the University of Glasgow which he graduated with various diplomas. His early medical career found him in mining villages of South Wales which would later serve as inspiration for cases and characters in the semi-autobiographical *The Citadel*. Some of the events of the novel bear a striking resemblance with those in his autobiographical novel *Adventures in Two Worlds*, making it difficult to draw a line between reality and fiction. This paper will discuss some episodes in the author's life which were transposed into *The Citadel*, one of the financially most successful writings of Cronin's.

**Keywords:** A. J. Cronin, *The Citadel*, *Adventures in Two Worlds*, medical career, doctor-turned-novelist

# NEW TRENDS IN HUMANITIES

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## CAPTURING THE SELF IN

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**Background:** The "Self" is in a continual and never-ending change and has the willingness to survive like none other. In "A Pale View of Hills," Kazuo Ishiguro allows us to enter "his" Japan seen after the Second World War and the present days England - all with the help of our main character, Etsuko. The purpose of this paper is to underline the details connected with the intricate part of the "self" and also to bring forth the buried memories or trauma that Etsuko carried through her life. We use the terms *identity, self, consciousness, unconsciousness, and others* to emphasize the importance of self-development, acceptance, and fulfillment of the individuation process. We also bring forward the majestic and pure transformation that Etsuko goes through, even if she conducts her "confession" through the prism of her *alter-ego*, Sachiko. We have managed to showcase that no matter how dreadful life is, there is always a better "view over pale hills."

**Keywords:** Self, Individuation, Identity, Acceptance, Consciousness

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## ANTHROPOLOGICAL AND NARRATIVE PERSPECTIVES IN MARGARET ATWOOD'S FICTION

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**Background:** Anthropology, the study of humankind, "produces knowledge about what makes people different from each other and what they all share in common." (Haviland, 2001:20). My thesis delineates the main cultural features as well as the anthropological paradigms presented in Margaret Atwood's fiction, such as adoption and fostering, capitalism and totalitarianism, gender and kinship, honor and shame, incest, migration, marriage, myth and mythology, nature and culture, political economy, communism, refugees, reproductive technologies, ritual and religion, social structure and organization, modern slavery, anthropological syncretism, taboo and magic, pollution and purity, commercial surrogacy and altruistic surrogacy. **Material and methods:** Based on empirical observations, the identification method is used to formulate research hypotheses, namely the identification of anthropological characteristics in Margaret Atwood's fiction. Through the process of documentary analysis, we will develop the conclusions and results of the research. **Results:** The presentation of the cultural and anthropological characteristics identified from the historical context in the communist and post-Reagan period

**Keywords:** anthropology, political economy, reproductive technologies, social structures, feminism

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## FANTASY, HISTORY, AND ROMANCE IN JUNOT DIAZ'S FICTION

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**Background:** Junot Diaz's fiction is deeply rooted in the struggles of his native country stemming from the history of US imperialism in the Caribbean, and takes place in cross-national settings, moving between the Dominican Republic and America. As he discovered new worlds as a young reader of comic books, SF stories and fantasy, the author employs their techniques to craft an alternative space and (hi)story about his ancestry, narrating a traumatic past (both familial and national) that crosses borders and speaks to many communities scattered in diaspora. This paper considers the transcultural aesthetics and "decolonial imagination" of one of the most renowned contemporary immigrant writers and activists in the United States.

**Keywords:** Transcultural narrative, Alternative history, Border crossing, Immigrant writing, Fantasy

## FEMININE BEAUTY IN THE 'VOCABULARU ROMANU-FRANCESU' BY ION COSTINESCU

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**Background:** Identifying and analyzing the words from the semantic field of feminine beauty, recorded in the 'Vocabularu romanu-francesu' by Ion Costinescu, from a lexicographic point of view, allowed us to understand and reflect on the linguistic reality from the beginning of the 19th century. Furthermore, this whole process allowed us to highlight the historical and linguistic value of this dictionary. In the lexical base of the dictionary, terms were identified that name different jobs, respectively occupations of the female gender. These will also be analyzed in a separate section. The vast material of the dictionary obliges to continue the processing of the lexical base, representing a lexicographical challenge.

**Keywords:** feminine beauty, dictionary, linguistic reality, 19th century, value

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## RADU STANCA AND THE SIBIU LITERARY CIRCLE

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**Background:** Our study entitled *Radu Stanca and the Sibiu Literary Circle* is intended to present the importance of a literary group created during World War II in Sibiu. The study's main goal is to analyze the literary contribution of Radu Stanca and his role as an intellectual who promoted modernist ideas. But also another purpose is to discover how the members of the Literary Circle, such as: Ion Negoitescu, Radu Stanca, Ştefan Augustin Doinaş, changed the perspective on poetry and theater. In this context, the ballad was capable to produce a new emancipation of the essential against chaos. Moreover, in theater was introduced the moral dimension because they wanted to create a "re-dramatization". In conclusion, the research will portray all the aspects related to the Sibiu Literary Circle and the involvement of Radu Stanca.

**Keywords:** Modernism, euphorionism, resurrection, generation

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## WHEN CINEMA IS A POLITICAL WEAPON, IMAGES FROM MODERN MEXICAN HISTORY IN SOVIET CINEMA

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**Background:** Russia's interest in Mexico predates the appearance of cinema, being amplified in the Soviet era. A soviet director, Sergei Eisenstein, in the early days of sonor cinema, offers a different image of Mexico, compared to the representantions of this country in the international cinema, until then. The fact that in the Soviet Union the culture was politicized and the cinema was recongnized as having a propagandistic value make it the focus of a special attention, and Mexico with it's tumultuous recent history was not just an inspiration for the movie makers, but a way to convey political messages to the public.

**Keywords:** cinema, Mexico, history, politics, Soviet Union

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## ITALIANISMS IN ION HELIADE RĂDULESCU

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**Background:** Our research leans on the hypothesis that the outstanding personality of Ion Heliade Rădulescu is a landmark for the development and unification of the literary Romanian language in the 19th century Romanian culture. Our general purpose is to study the arguments that he brings in order to support the process of italianisation of the Romanian language. The vision of Ion Heliade Rădulescu on italianisms, as postulated in *Paralelismu între limba română şi italiană*, the unjustified invasion of Italian source neologisms, a phenomenon theorised in his research, word comparison in Romanian, Italian and French, are only a few of the secondary objectives in our approach. Research methods, such as the descriptive - linguistic, the comparative or the analytical method, stand for the objectives of our study. The general conclusion that emerges from our research is that Ion Heliade Rădulescu, in his attempt to find linguistic connections between the two romance languages, forces the translations from Italian to the limit and exaggerates in his theoretical writings imbued with Italian source neologisms.

**Keywords:** Ion Heliade Rădulescu, Paralelism, limba română, limba italiană, dialect

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## FROM PARNASSIANISM TO SYMBOLISM

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**Background:** Unlike Romanticism, which extended its echoes until the end of the 19th century in our country, Symbolism, the first literary trend synchronized with the European literary movement of the poet's era, comprised Romanian writers who were in dialogue with literary movements outside the country. In the first works of the poet, we noticed the massive influence of the aesthetic orientations of the era, especially of the Parnassian and Symbolist schools, which resonated throughout Europe. The facts that made Ion Pillat become an affiliate of the Parnassian movement were, indisputably, his inclination towards the study of history and geography, his intellectual curiosity and the cult of form to which the Parnassians sacrificed any and all messages. We note, for example, that in Pillat's view, the poetic is of spiritual essence, and the new poetry reaches "the eternal features, those from the other side of the soul". Thus, we discover in Pillat's poetry messages of modernism that fight for the perfection of expression. The poet's aesthetic moves towards an area suggested by Bergson, that admits the pure state of the idea, of the feeling and sensation, thus creating a timeless atmosphere of "musical time".

**Keywords:** Symbolism, Parnassianism, Modernism

## PHILOLOGY

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### HISTORICAL BACKGROUND OF THE MOTIF OF FEMALE INSANITY IN LITERATURE

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**Background:** The analysis of the historical background of female malady in literature encompasses a brief overview starting from the early creations. Among my aims, I can mention the depiction of the affront to all women, the depiction of the patriarchal society in which the struggle with depression and mental disease is considered a typical female malady stemming from their womanhood. Firstly, I will examine the symbolic narratives of myths, focusing on female characters who bear the disturbance of insanities, such as *Cassandra* or *Medea*. Furthermore, I analyze Geoffrey Chaucer's *The Wife of Bath* and Margery Kempe's autobiography. In the Renaissance, for Shakespeare, madness is one of the most preferred elements of the thematic structure of his works, providing a dramatic effect; however, my selection for discussion targets only the characters of *Ophelia* and *Lady Macbeth*. In the eighteenth century, Mary Wollstonecraft's unfinished novel *Maria: The Wrongs of Woman*, is a prominent creation for discussion. Besides the prose works, I chose John Keat's *Isabella*. Lastly, Charlotte Brontë's *Bertha* is examined. Sandra Gilbert and Susan Gubar published a book, a landmark of literary criticism, entitled *The Madwoman in the Attic*, which directly connects with Bertha's figure not only through its title but also through the whole feminist theory that is elaborated concerning this classical female character's condition.

**Keywords:** female malady, madness, patriarchal society, feminism, otherness

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### DISCOURSE ANALYSIS IN PANDEMIC BANKING ADVERTISING ON FACEBOOK

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**Background:** Discourse analysis is a broad field of study, which pinpoints the way words and sentences go together with a view to making texts and interactions and how these befit our social world. The aim of this paper is to showcase some of the basic terms and concepts involved in discourse analysis, as well as important principles. It also researches how people communicate in a specific context, making reference to the COVID pandemic and it delves into the interpersonal function of language, which creates relationships between communicators and potential customers, and into registers, meaning the ways we use language in different situations, in accordance with the topics, the target audience or the channel of communication. Moreover, a new cultural model was formed within the pandemic, which is explored in banking promotional discourse.

**Keywords:** discourse analysis, registers, principles, banking, COVID

## NICOLAE BALOTĂ. THE ILLUMINATED ABYSS

Teodora Mihaela Călugăr-Botezan<sup>1</sup>

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**Background:** *Abisul luminat* (*The illuminated abyss*) is a literary work which includes the period of imprisonment, being a reconstruction of Nicolae Balotă's detention period (1956-1964). It is a work of testimony of the most hostile period of the author's life- that of the communist terror. The volume innovates through the detachment with which the scholar writes his memoirs. The volume was written at an advanced age of the scholar and it is made up of forty fragments, being divided into three parts. Thus, the first part contains stories that describe the prison experience, the second part contains fragments describing the 1950's atmosphere of the Romanian city of Cluj and the last part contains portraits of the people with whom the intellectual had contact with.

**Keywords:** The illuminated abyss, memoirs, communism, imprisonment, Nicolae Balotă

## MEDICAL COMMUNICATION IN THE SOCIAL MEDIA

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**Background:** How the social media have re-shaped the interaction between the medical world and the lay public has become an extremely necessary question these days. It is necessary because its numerous answers are the best attempt we have to truly comprehend the dynamics according to which the nowadays society is constantly changing as a whole and what effects it causes upon human interaction in particular. The main interest of the present study is to analyse the variety of ways in which the medical language becomes a significant part of the language employed on social media by professionals of healthcare, on the one hand, and by the lay public, on the other hand. Moreover, since the specialised medical language is inserted chaotically into the common tongue, the phenomenon becomes even more interesting and at the same time, challenging to monitor and analyse. The linguistic research in this field finds itself at the beginning of a long path and is trying to categorise and observe the on-going dynamic of language according to different points of interest.

**Keywords:** medical language, social media, medical communication, discourse analysis, pragmatics

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## A NEW LITERARY PARADIGM. LITERATURE OF THE 2000S

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**Background:** With the eighties generation, a literary generation coagulated at the beginning of the 80s, which rejects the neomodernist poetics of the sixties in favor of postmodern arguments, we witness the appearance of the first forms of liberalization among prose, but also poetry, which leads to the taking over of the model eighties by the writers of 2000s generation, by the type of literature they offer to the public. The discussion about the relationship between the Eighties and 2000s generations continues with other perspectives, with the emergence of literary programs, fracturism, utilitarianism, performatism, which offer a new vision of reality and which involve a new lyrical model, based on the avantgarde influence. The appearance of the 2000 generation was promoted by certain publishing, such as the Vinea or Polirom, but it was also encouraged by certain reading clubs, such as "Euridice" Cenacle, Club 8, "Daily Poetics" or "Thoreau's Nephew". Investigations from the magazines "Vatra", "Culture" played an important role in the affirmation of the young generation. A first problem aimed at the evolution of this literary generation concerns the "conceptual crisis", generated by the impossibility of the stability of a common term that would contain all the directions, the strengths of the new literature. Douamiists are distinguished by this new style or language, which creates a certain buzz, especially from the desire to be as close as possible to reality and the interests of the current reader, which underlines the massive influence that the mass media has on the new poets and prose writers, who seek to assert themselves in any way, as different as possible from that of their previous writers.

**Keywords:** 2000s generation, crisis, eighties generation, postmodernism



## SCIENCE AND TECHNOLOGY

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### AI PROXY IN SPORTS SAFETY FOR MULTILINGUAL COLLABORATIVE VIDEO-DIAGNOSIS SOLUTIONS

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**Background:** As a result of the COVID-19 epidemic, the Global Digital Transformation (DX) process, with its key milestones, is being rewritten. In recent years, the importance of multilingual remote diagnostics has grown significantly, and the importance of human language translators and machine translation interfaces (translator bots) is now recognized more than ever before. It has become increasingly evident that Medical-, Healthcare- and Sports Safety decision-making processes are highly significant, and saving lives is of primary importance. This research proposes an automatic procedure to substitute human translators with an Artificial Intelligence (AI) tuned pipeline, providing an innovative and reliable solution for any collaborative conference tool, bringing specialists together at the same virtual table by breaking the geolocation-based-, and language barriers. Remote diagnostics gain novel perspectives, and specialists from any country in their native language can join online, interactive consultations through collaborative sessions, even from the home office, building a human-based remote consultancy ecosystem. The elements of the tech pipeline can be strengthened with AI-based solutions, providing a near-real-time multilanguage, multilayered ecosystem. The solution design, at first glance, looks pretty straightforward and easy to create since the components are already available: (1) Artificial Intelligence Tools - such as Tensorflow and Pytorch - for classifications and segmentation, (2) image manipulation algorithms (OpenCV), (3) optical character recognition (OCR) with Tesseract, (4) language detection (fasttext), (5) contextualization (Bert) and (6) neural translators (Google Translate, DeepL). As a result of the latency-based requirements of the project, every part of the development lifecycle is considered challenging - data localization, data preprocessing, language detection, and preparation of multilayered translation datasets. The research highlights the options and results for a multilanguage collaborative approach. In terms of better diagnosis, remote consultation, and follow-up studies, data processing pipelines have a significant impact on clinical practice.

**Keywords:** Remote Video Diagnostics, OCR, Realtime Translator, AI Proxy, Neural Translator

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### COMPREHENSIVE ANALYSES BETWEEN COMFORT AND REDUCING PETROLEUM RESEARCH – A DATA-DRIVEN LITERATURE REVIEW OF COMFORT IN VEHICLES

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**Background:** Transport industry is responsible for about 37-41% of the national energy demand. At the same time, we spend up to 40% of the time, inside of vehicles. While reducing petroleum demand is studied in automotive industry community, human satisfaction is the subject of vehicles comfort research. Thus, balancing the two is necessary for a sustainable and comfortable vehicle. Based on all relevant abstracts from the WOS database are analyzed using the text mining software VOSviewer. We visualize the scientific landscapes of historic and recent trends, and analyze the citation network to investigate the interaction between comfort and reducing the petroleum.

**Keywords:** comfort, vehicle, data analyses, reducing petroleum

## THE ENERGY AUDIT OF THE PNEUMATIC SYSTEM AS A CONTROL AND MONITORING METHOD FOR INCREASING THE ENERGY PERFORMANCE OF INDUSTRIAL PRODUCTION HALLS.

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**Background:** The energy audit is the method of tracking and identifying the main energy losses in pneumatic installations. Through this type of audit, analysis data related to the pneumatic system is obtained, through which the establishment of energy improvement solutions for the installations is sought from a technical and economic point of view. The most common methods for detecting compressed air leaks are detection systems consisting of infrared sensor detectors, air leak detection spray, fluorescent paint leak detection solution, and the leak detector with integrated camera and ultrasound. For detecting light air leaks the best way is to use an ultrasonic acoustic detector, which can recognize the high frequency sounds associated with air leaks, if the air leaks are not substantial. Ultrasonic detection and integrated camera is the most widely used method for detecting compressed air leaks. The deviations identified by this energy audit method are represented by a Pareto analysis. Thus, most non-conformities are found in the pneumatic equipment and not in the compressed air distribution system. By using the method of checking compressed air leaks, the following deviations can be identified: compressed air leakage for air conditioners, compressed air leakage for air couplings, compressed air leakage for solenoid valve islands, compressed air leakage for air distributors, air leakage compressed for quick air couplings. The data collected from the performance of the energy audit on the pneumatic elements and the compressed air distribution system show that the most deviations regarding air leaks are at air conditioners, followed by air couplings, solenoid valve islands, air distributors and quick couplings air. Based on this report, it is necessary to reduce or even completely eliminate the deviations found that directly affect the cost of producing the compressed air used in the production processes, thus bringing an improvement in energy efficiency.

**Keywords:** Energy audit, Energetic efficiency, Compressed air system, Air leaks, Non-conformities air leaks

## ANGHEL DUMBRĂVEANU- THE THEMATIC UNIVERSE OF POETRY

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**Background:** The purpose of the present work is the study the poetic universe of our writer, Anghel Dumbrăveanu. In his poems, we will meet themes and symbols such as: the love, the death, the time, the friendship, the night and the light. Also, the sea plays an important rol in his poetics. The sea was his empire of albatrosses and stars. He was fascinated by his immensity, and all his life was attracted by the seas and oceans that looks like miracles, in his point of view. The nocturnal theme is presented in his first book, called Rivers dreams the ocean. The night tends to cancel the luminosity and nobility of the sun. But his purpose is actually different. Darkness comes in the background to enhance the beauty of day and light. The theme of light in Dumbrăveanu's lyrics is absolute. He dedicates an entire song to the sun, which is absolute and perfect. For the sea, our writer has a real love. The sea it is at the beginning and the end of all things. In the book Phoetics of the Stars, we have a few pages summarizig all that is beautiful and holy about this infinite. The sea is the place where the God comes. The theme of love plays an essential role in Dumbrăveanu's lyrics. The marine universe and the beloved women are the two constants of his poetry. The erotic theme represents also the essence of Anghel Dumbrăveanu's poetry. To love and to be loved is something that comes from the beauty and perfection of the cosmos. All around everything is harmony.

**Keywords:** the sea, the light, the night, the love, the death

## THEORETICAL APPROACH OF THE IMPLEMENTATION OF CIRCULAR ECONOMY IN THE CONSTRUCTION/BUILDING INDUSTRY WORLDWIDE/EUROPE

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**Background:** According to data published by the UN, the world population is expected to reach from 7 billion to 9.5 billion by the end of 2050. This increase in population brings with it an increase in consumption and demand for building materials. At the European Union level, the consumption of building materials has reached 924 million tons with a low recycling rate. The adaptation and implementation of the circular economy in the construction sector is quite worrying, especially if we consider that the recycling rate in the EU is below 45% and less in member countries that are in the process of development, such is the case of Eastern European countries, particularly for Romania. For sustainable product design, it is important to choose sustainable materials, which in turn require energy-sustainable manufacturing processes. The transition from cement type CEM I to CEM II requires changes in energy policies and laboratory testing to achieve the same energy load during chemical reactions in the setting process. In terms of paints and the whole ETICs system (External Thermal Insulation Composite System), it will be necessary to review not only the thermal indicators but also the durability and recycling options when these products reach their deterioration stages. In the case of EPS and XPS expanded-extruded polystyrene, toxicity studies will have to be performed during the stages of polymerization, expansion/extrusion and all stages of the life cycle on HBCD (Hexa Bromide Cycle Do-cane).

**Keywords:** Circular Economy, sustainability, CO2 emissions, Green Chemistry

## STATISTICAL DATA IN QUALITY MANAGEMENT FROM AUTOMOTIVE INDUSTRY APPLIED FOR THE ELECTRONICS PRODUCTS

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**Background:** In the automotive industry quality is exposed through customer satisfaction in report with the products and services available in a manufacturing automotive company. In the presented article is described the advantage of the application of different instruments for statistical process control with the help of it we can accomplish a continuous quality improvement. The data analyzed are collected from an automotive company and are aiming to statistical control a few important KPI form the quality area. To be able to establish what are the most effective tests that are identifying in the quality laboratories, the defects, before the products arrive to the customer, a statistical data comparison has been made and for this also who is responsible for the defect, the manufacturer or customers for the defects. All the statistical data presented in this paper were analyzed using the software PSPP, generating different tables with the statistical values of the data, charts and histogram to be able to easily interpretate all the KPI needed in this phase from a factory for their products. The results are showing the following: most defective component identified is the Pressure Sensor, in the area of most claimed component was identified also the Pressure Sensor based on data collected from customers claims, in the term of most effective test for identifying the defect is the functional test performed in reliability laboratories, in the end the responsibility of the defect had a statistical analysis as well. In the conclusion by applying efficiently the SPC in the quality management in an automotive industry may expose to be efficient in finding some results from statistics and knowing where to apply corrective action for the quality improvement in this way is possible the achieve the best quality and the "zero defects" principle.

**Keywords:** quality, statistical data, analysis, automotive, improvement

## TACKLING RUSSIAN PROPAGANDA AND DISINFORMATION AT EU LEVEL. THE ROLE OF THE EUROPEAN EXTERNAL ACTION SERVICE.

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**Background:** The Russian Federation has been identified as the main actor conducting propaganda and disinformation campaigns at EU level as a weapon in the hybrid war and prioritises a strategy in which information is an essential means of promoting its political objectives. Disinformation often targets the European institutions and their representatives and aims to undermine the European project as a whole and the implementation of a coherent and consolidated response at EU and Member State level is a *sine qua non* to respond to this major challenge and build long-term resilience among citizens. Russian propaganda and disinformation is a constantly evolving threat to democratic values and continuous efforts are needed to understand the behaviour of relevant actors, tools, methods, priority narratives promoted and adapted to the context generated by social media and the impact on society. We try to reconstruct from a historical perspective, the evolution of the European External Action Service, to analyze in a documentary and interpretative manner, the process of development of strategic communication at EAAS level as a way for the European Union to respond to Russian propaganda/disinformation, the evolution of the institutional structure created for this purpose (East StratCom Task Force), the role of decision-making elites in this process, as well as the challenges they face. In terms of research methodologies, we proceeded both to the critical analysis of primary historical sources, represented by official documents produced by European institutions as part of the policy and strategies to respond to Russian disinformation within a contextualization process that highlights the circumstances of their elaboration and the challenges generated by their implementation, and to the analysis of historiography, in a multidisciplinary manner.

**Keywords:** Russian propaganda and disinformation, European External Action Service, East StratCom Task Force, resilience

## NINA CASSIAN - MEMORY AS A DOWRY

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**Background:** Without being the first Romanian poetess who proceeds so, Nina Cassian firstly entitled her memories volume *The diary of a diary*, a temporary title thought. Reconsidering her diary notes from the youth ages aroused in mature Nina's mind, a critical spirit over the typically naive and childish vision that characterized the initial diary, reflecting the maximum notes of effusiveness, that gave birth to her whole existence stamped forever, like Nina herself used to confess. Beyond the joyful and optimistic poetess, we can certainly say that Nina Cassian was the memoirist who enlightened the most comprehensive imagination. Through all her volumes, her writing reveals the immortal optimism and sense of humor, nevertheless doesn't ever waive her solemnity and mental integrity, as confessing the strong character she had to create when the communism fought her. She sometimes calls her memories "a document", others "a dowry", but the final title is defining for her final choice: the emotional state of mind, her heritage but also the patrimony of an entire nation. She is known as a poetess, therefore we have the target to prove that her volumes of memories are no less important in our exile literature, even though Nina herself said that at a certain point of her life "poetry was not her natural function anymore", which leads us exactly to the opposite of what we called her: the optimistic one. We will argue that not for a second she lost her optimism, not when she wrote poems, nor in her "depressive state", she gained her title as the joyful poetess at all ages, even when she thought she wasn't anymore. Her memories are rather qualitative than quantitative and the richness consists in "the deepness of the absorbed elements".

**Keywords:** Nina, Cassian, poetry, dowry, memories

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## BURNOUT AND PROFESSIONAL COPING MECHANISMS PRESENT IN THE MACHINE BUILDING INDUSTRY

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**Background:** As a result of the changes that have taken place in recent times worldwide, but especially in our country during this pandemic period, employers and employees have been forced to comply with the requirements and rules imposed, and those who could not adapt have been eliminated from the market or suffered numerous damages. This study highlights a topical issue in society, namely the importance of psychological constructs involved in industry, such as stress, burnout and professional coping mechanisms. The article includes elements such as: professional stress, burnout, the relationship between stress and performance, as well as objectives, purpose, hypotheses, conceptual bases, methodology and tools for measuring burnout. This study is a small part of a larger work that brings to the fore psychological concepts involved in human resource management in industry. The study addresses some of the literature on burnout and job stress as well as its measurement and the relationships between them. The aims of the research are to highlight the different relationships between stress and professional burnout as well as the relationship between stress and poor job performance.

**Keywords:** stress, burnout, stress management, coping mechanisms

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## MIHAIL SEBASTIAN. PUBLISHING ACTIVITY

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**Background:** Mihail Sebastian was an important writer of Romanian literature of the 20th century, distinguished by his novels, drama and publicity. In numerous articles in the cultural press, Mihail Sebastian expounds his conception of the novel, believing that the novel must change, because the sensibility of the age has changed, proposing, in this regard, the term panlirism, a combination of mysticism, lyricism, subconscious and affectivity. Mihail Sebastian's articles should be examined from the perspective of the context in which they were written, they particularize Mihail Sebastian's vision of literature, of his colleagues of his generation, expressing literary passions, implicit or explicit aesthetic principles, social-political space, as well as the author's original interpretative approach. The articles thus present an original vision, a way of feeling and thinking that is in sync with the European space of literature. Mihail Sebastian's publicity reflects the cultural-political space, ideology and mentality of the Romanian interwar world, a world of intellectual solidarity, beyond literary groupings, sympathies or antipathies. A careful reading of Mihail Sebastian's articles reveals that the principles and aesthetic concepts that guide the literary criticism professed by the writer are very rigorously systematized and illustrated.

**Keywords:** Mihail Sebastian, Publishing, Literature, Novel, Aesthetic Principles

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## POSTMODERNISMUL ȘI NEVOIA DE BIOGRAFIE

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**Background:** The identity of the author, his position towards the literary text and its involvement in the text are topics discussed and construed in the field of literature. Postmodernism is the literary movement that allows genuine human involvement. In this sense, the postmodern author identifies himself with the auctorial presence, and the reader seeks otherness with this creator of the text. Concepts and ideas that we analyze in this research are postmodernism, biography, the influence of biography in the literary text, the image of the person behind the author, the reader's interest in finding the author's motivation for writing and the importance and necessity of authenticity.

**Keywords:** postmodernism, author, biography, authenticity, fiction

## ADAPTIVE ENSEMBLE BASED APPROACH FOR THE DETECTION OF UNKNOWN AUTOMOTIVE TAMPERING ATTEMPTS.

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**Background:** Illegal manipulations observed in automotive vehicles have seen a constant increase in recent years. Numerous studies are revealing such manipulations found in both passenger and heavy-duty vehicles across Europe, USA, and Canada. These illegal manipulations, oftentimes called tampering, are targeting automotive systems such as the engine, the exhaust system, and numerous other sub-systems with two main scopes. The first scope is a financial one, namely, reducing the vehicle's maintenance costs (e.g., replacing broken-down parts or Diesel Exhaust Fluid refueling). The second scope is to increase the vehicle's performance (e.g., automotive tuning). The current paper focuses on detecting the former type of tampering, particularly, tampering of the exhaust after-treatment systems. These systems are used for harmful exhaust emission reduction from internal-combustion engines. Specifically, the exhaust after-treatment system cleans exhaust gases to assure that engines meet regulations and standards. Tampering such systems (e.g., disabling or reducing their effectiveness) leads to an increase in excess emissions of nitrogen oxides (NOx), particulate matter (PM), and other pollutants into the atmosphere. This poses an immediate and serious threat to both the environment and to human health as well. As a countermeasure, this paper introduces an ensemble based tampering detection methodology which encapsulates Long Short-Term Memory Networks which are used as predictors together with Cumulative Sum based detectors. Moreover, this paper also introduces an Adaptive Majority Weighted Voting technique for detector decision aggregation. Experimental results prove the effectiveness of the proposed detection methodology, with 0% False Detection Rate and up to 99% True Detection Rate, on datasets originating from a EURO VI D N2 class tampered truck.

**Keywords:** Anomaly Detection, Tampering Detection, Ensemble, LSTM, CUSUM

## ROMANIA WOMAN'S SITUATION BETWEEN WORLD WAR I AND WORLD WAR II

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**Background:** This work's aim is to highlight the struggle of romanian women, between World War I and World War II. It is about their fight against men's old mentality. Although the women are aware of their straight in order to change the world by contributing in politics and society, men do not agree this kind of emancipation. They still believe that woman's only right is to rise children. Even though women's work was hard, they succeeded. And the result, is what we are nowadays. Thanks to them, we are today entitled to express ourselves freely, to work and to enjoy our rights.

**Keywords:** woman, war, rights, emancipation, mentality

## MEDICINE AND MEDICAL TERMINOLOGY. BRIEF HISTORY OF THE FIELD

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**Background:** The study starts from the assertion of some researchers regarding the medical language, as well as a brief history of this field. The main objective is to approach the concept of medical terminology. The descriptive-linguistic method allowed us some conclusions, among which, the need to approach a short history of the medical field, medical terminology represents the first condition for the realization of a conceptualization within a specialized vocabulary, the medical language. The formation of medicine as a science, as well as the existence of conditions for the formation of medical terminology, are based on some historical landmarks. This study presents some important works from the history of the formation of this discipline.

**Keywords:** terminology, medical, history, specialized, vocabulary

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## CONSTITUENT ELEMENTS IN THE APPROACH OF LITERARY-FILM ANALYSIS

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**Background:** We noticed that the narrative is engaged in a process of transition in the cinematographic terminology, the literary expression being found in an analogical relationship with the language of the film which is predominantly visual and which allows only in a limited way the expansion of concepts such as: intertextuality, the technique of counterpoint, metalanguage, etc. We found that in the process of creating a stage experience, the actor goes through an intense process both internal and external, the spectator confronting the characteristics of the literary character with the human projection that the disguised craftsman transposes into the imperative of the twin using an acting template to the successful outline in the spirit of fidelity and in the similitude of the authorial intention. Henri Agel offered us a perspective on the significance of the cinema that includes three valences: intensity, reflecting reality, convincing truths with an objectivity of images supplemented by subjective enlivenment; intimacy, having sensory access to the characters causes us to identify with their inner traits; ubiquity, allowing for extended travel through the spatio-temporal dimension. We consider this trilogy of meanings also applicable in the literary environment, but exploited through different mechanisms. We consider that the transition from the language-idea to the image-idea is interposed by verbatim, presenting contrasting characters, the literary proving equivocal, while the unfolding of the film presents clearly outlined, even mathematical characters in Louis Delluc's vision. Also, a book celebrates its success following the impactful juggling of the language-idea, while the film steps on the podium of success if it transposes deeply even from an aesthetic point of view, being focused on the image-idea.

**Keywords:** film, literary analysis, narrative, literature, cinematic language

## SOCIAL SCIENCES

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### VALERIU ANANIA - POETRY AND SPIRITUALITY

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**Background:** The Archbishop and Metropolitan Bartolomeu Anania has experienced the most bitter contact with suffering. The year 1941 represented the first time he faced the horror of imprisonment. Every prisoner became a suspect for the so-called legionary activities. Interrogations also became simply relentless and turning a page to the case of Valeriu Anania, he suddenly found himself with the label and stigma of a legionnaire. The period of youth will remain a point of reflection for the author. Even though he was in prison, the author will remember the enchanting Christmas of 1943, when the Holy Mass was performed on the snow beaten by the convicts. The story of that Christmas was to be written forever, given the steam that wafted lightly through the prisoners at every carol.

**Keywords:** Archbishop, Metropolitan, Bartolomeu, legionnaire, Christmas 1943

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### AUGUST TREBONIU LAURIAN'S SCHOLASTIC JOURNEY TO EUROPE IN 1855

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**Background:** In the spring of 1855, the general school inspector of Moldavia, August Treboniu Laurian, was going to Vienna alongside Costache Negri, who was going to attend the open conference debate, due to the Crimean War. The Department of Public Education had tasked Laurian to collect information about the austrian technical schools, seeing as technical schools in Moldavia were about to be established in the foreseeable future. From Vienna, he set out to Germany, France, England, and Italy, with the sole intention of closely examining the schools there. This research intends to not only reconstitute the chronicle of his journey, which raised notable questions and took four months to complete, but also to analyse its results: the schools he visited, the contacts initiated, the consulted documents and the observations Laurian sent back through letters and reports. Laurian's voyage through the West did not receive much attention from specialised literature. Therefore, in our research, we mostly used distinctive sources originating from the Iaşi Archive's funds (Ministerul Cultelor şi Instrucţiunii Publice Moldova, 1804-1862) and newspapers articles (*Foaie pentru minte, inimă şi literatură*, *Gazeta de Transilvania*, *Gazeta de Moldavia*, *Zimbrul and Steaua Dunării*). In the absence of documents from the archive files, Laurian's scholastic journey still hides many unknowns. The impression left by all 38 letters sent by him is that, from the position he was in, he didn't try to capture the essence of the educational systems of the countries he visited (teacher training, teaching methods, school exams, student attendance etc.), limiting himself to historical and geographical accounts. His reports to the Department are few in number and terse.

**Keywords:** August Treboniu Laurian, Moldavia, general school inspector, public education, 1855



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## THE 3-YEAR PEDAGOGICAL INSTITUTE FROM TÂRGU MUREȘ. BRIEF HISTORICAL SUMMARY

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**Background:** In June 1960 in Bucharest, it was decided that throughout the country there should be established Pedagogical Institutes to prepare the future teachers for the 8-year general education system. In Târgu-Mureș The 3-year Pedagogical Institute was set up, with sections of philology, history, geography, mathematics, music, physical education. Later on, The Pedagogical Institute was transformed into the The Institute of Higher Education from Târgu-Mureș (1977-1984), The Institute of Sub-Engineers (1984-1990). During the communist period there were two types of 3-year Pedagogical Institutes: those that were affiliated to a university, those that were integrated into a university and those that were independent, also known as Pedagogical Institutes from regional centres. The 3-year Pedagogical Institute from Târgu-Mureș was part of the second category, and it was established in 1960, with a total of 153 students in its first year of existence, who were included in two faculties, the Philology one, with a Romanian-Hungarian section, and the Physics-Chemistry one. It was the third higher education institute founded in Târgu-Mureș, after The Medical and Pharmacy Institute and The Theatre Institute. During the university year 1961-1962 there were set up The Mathematics Faculty, The Music Faculty and two new sections for the Philology Faculty: Romanian-History and Hungarian-History; next year, 1962-1963, appeared the extramural section for the specialties: Romanian-Hungarian, Hungarian-History, Mathematics and Physics-Chemistry. Moving along an ascending line until the year 1970, the section History-Geography appeared in the university year 1966-1967, and in 1969-1970 The Physical Education Faculty was established.

**Keywords:** university, institute, educational system, Targu-Mures, education

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## TEACHERS FROM MUREȘ FROM THE COMMUNIST ERA IN AFRICA

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**Background:** Summary. In the archives of the schools from Mureș county, but also in the archives of the Mureș County School Inspectorate, there are documents about the teachers from Mureș who left on missions abroad. In the '70s -'80s The Socialist Republic of Romania provided teaching support to certain countries from Maghreb according to a cooperation protocol that existed in that period. These two decades represented a time when, although in Romania, "even the thought that you could leave the country was dangerous", there were teachers who taught in countries from Africa. One of the countries where many teachers were assigned was Morocco. This cooperation protocol with Morocco ended in the autumn of 1984. For the Romanian teachers, the Moroccan experience from the '70s -'80s was a very enriching one, a great role in this having the local inhabitants, who were friendly and hospitable. For the few teachers from Mureș who had this "privilege", the opportunity to teach in Morocco was even more satisfying because, especially in the '80s, this was the only way to escape from the communist Eastern European countries to the free world. During those years Romania had implemented a lot of restrictions, cold and famine for the population, in order to be able to pay the external debts ahead of the deadline. But this beautiful experience that some teachers enjoyed was ended abruptly, in the fall of 1984, when the contracts between Romania and Morocco were terminated, probably because the Romanian state asked for another 5% raise in salary from the one from 1983.

**Keywords:** Africa, teachers, Mures, Morocco, education

## THE STATE OF LIBRARIES, BOOKS AND READING IN THE INTERWAR PERIOD

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**Background:** The World War marked the first half of the 20th century and affected the entire life of Romanian and European society, leading to human, material, spiritual and cultural damages alike. The world of books and libraries has seen difficult times, but the desire to preserve and develop these cultural elements has generated remarkable transformations and progress, therefore, the 20th century was characterized by changes regarding the quality and quantity of publishing, by the modernization and development of printing houses, lithography workshops and bookstores, and by an increase in the quality of the materials. The publishing houses diversified their activity and collections, publishing dozens of series and collections, printing both books of general culture, as well as scientific books. Besides books of general culture or fiction, there was an emphasis on scientific works and reference works from various fields, aiming to culturalize and modernize the Romanian society. The thematic diversity of the writings reveals the desire and intention of the authors to culturalize the masses, to modernize the Romanian society, to spread science. Because the society acknowledged that reading was a major element for the modernization of Romanian society, the world of libraries experienced a period of development, with libraries being established in villages and cities. In the context of this cultural evolution, generated by the desire to recover the losses caused by the war, other types of libraries came into existence: specialized libraries, educational libraries, libraries of associations or societies. During this period, the phenomenon of study experienced an unprecedented development, and the number of readers experienced a significant increase in all types of libraries. Overall, the state of libraries, books and reading has experienced an undisputed evolution.

**Keywords:** books, reading, libraries, First World War, publishing

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## FAMILY OF THE COUNTS OF ROME - IDENTIFICATION ASPECTS

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**Background:** Known since the 13th century, having various branches - French and Greco-Romanian - the study represents the branch, of Venetian origin, that lived in Greece and Romanian. Their place of residence was in Zante on the island of Zakynthos in the Ionian Sea. The members of this family played an important role in the political and economic life of Greece, both during the Venetian domination of the island, after obtaining the title of count in 1723, and after independence, in the 19th and 20th centuries. In the middle of the 19th century, through matrimonial ties, some members of the family settled in Romania, becoming landowners in the north of Moldova, in the Botoşani district, where there is also a Roma town, but also in Wallachia, on the banks of the Danube, to Viziru and Brăila, and later to Galaţi. Through the Brăila branch, which left a rich documentary fund, it was possible to restore the genealogy and especially the iconography of this important family.

**Keywords:** the family of Rome, genealogy, photos, documents, archives

## PERSONALITIES OF PHARMACEUTICAL EDUCATION IN TÂRGU-MUREȘ

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**Background:** Medicine and pharmacy - which are connected not only with the positive sciences but also with art, literature and philosophy - enjoy a prodigious past. Knowledge of the history of medicine and pharmacy does not only mean giving us an addition of brilliance, and of nobility. It cannot be just an intellectual exercise, not even an acquisition of the certainty of belonging to a borderline-profession between science and art, which fully contributed to the progress of civilization but, following the aphorism - *Historia Magistra Vitae* - knowing the past of that profession offers ideas for present and future. The process of modernization of the Romanian health system has undergone a long evolution over 100 years. With the general reform and organization of health legislation, it has become a necessity to standardize the art of preparing medicines and selling them. The sanitary legislation provided in turn the way of setting up pharmacies, the superior training of pharmacists, laws meant to rationalize the consumption of medicines, the regulation of the selling price of medicines. The foundation of the first schools in the field of health, of the first medicine universities led to the collaboration of a large number of specialists in the field of health, which has as a concrete result the elaboration of the first Pharmacopoeia. The main research topics of the paper are: when and how they appear in our historiography, the concerns related to the history of pharmacy; who were the authors concerned with this subject; if the works are addressed to the academic environment or to the general public. Whether the authors resorted to foreign historiographical models or relied more on internal documents and where this historiographical subject is with us compared to similar Western historiography.

**Keywords:** Pharmacy, Medicine, Education, Health, History

## RROMA IMAGOLGY OR RROMOLOGY

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**Background:** Roma (sometimes Gypsy) studies is a field of interdisciplinary ethnic studies that deals with the culture, history, and political experiences of the Roma people. The discipline also focuses on interactions between other peoples and Roma and their mentality towards Roma. Other academic terms include *giganology*, *romology*, and/or *romistics*. Roma studies draw on aspects of history, sociology, anthropology, linguistics, political science and cultural history. Special areas of focus include Roma origins, experiences of persecution and political oppression, Roma language, Roma society and culture, and Roma customs and traditions. The "Gypsy" people assimilated many of the cultural elements they found in the various territories they crossed on their way from India, and because of this the current common culture is full of their contributions in language, also in music, literature and many other arts, in European cultural history in general. Having reached this point, we can perceive the picture of a confrontation between identity and otherness, implicitly and explicitly, of an ethnicity that is always in motion, but whose identity is unaltered and survives. The Roma issue is now a "fashionable" topic, wearing the "cloth of the political" and the social paradox: the Roma identity was politically integrated, while the Roma were not. The chasm created in society by maintaining the institution of slavery for five centuries could not be reduced by the abolitionist movement of the mid-19th century, and the entry of former slaves among the citizens of the modern Romanian state deepened it. The five centuries of dependence generated such a strong separation between the natives and the nomads that the acceptance of the latter is a challenge not fully resolved even today.

**Keywords:** Rromii/"țigani", Rromologie/Țiganologie, identitate, imagologie

## STAGES OF INITIATION IN THE NOVEL

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**Background:** The novel "Prevestirea" by Ioana Pârvulescu presents the story of the prophet Jonah from the Bible. The main character goes through an atypical initiation process, his initiation being hampered by his refusal to follow the Divine order. His mission to speak a message became representative of writers and poets, Jonah becoming the "prophet of writers." Like any legendary story, this one was passed down from generation to generation orally, with the novel having several narrators who take turns telling the events. The interpretation we will make will be literary, delimiting ourselves from religious and dogmatic interpretations. We will use sources and information from the field of religion only to the extent that they help us complete our exegetical endeavor. We will discuss the process of initiation step by step, analyzing each moment of it in turn: the initial state presents Jonah in the pose of a simple man who receives an order from God to foretell the destruction of the city of Nineveh. Jonah tries to run away from this mission, but during a sea trip he ends up in the belly of a fish, where his transformation takes place. The character's return to ordinary life occurs once his mission has been accomplished, but the changes made during the initiation process leave deep marks on the character.

**Keywords:** Initiation, Rites of passage, Jonah, Prophet, Interpretation

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## LIFE BEHIND THE FRONT. EASTERN TRANSYLVANIA DURING WORLD WAR II

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**Background:** The last interwar years of Europe were influenced by Hitler's decisions. Germany needed a strong logistical base to implement its intentions, which was reflected on Central and Eastern Europe in the economic treaties concluded with Romania and Hungary. Among the most important raw materials Germany wanted were Romanian oil and wheat from Romania and Hungary. In order to gain German support for its revisionism, Hungary was prepared to make disadvantageous economic concessions. After the second Vienna Arbitration, which gave north-eastern Transylvania to Hungary, the two allied countries, Romania and Hungary, wanted to reaffirm their loyalty through political decisions or supplementary economic treaties. The purpose of these actions was to support the recovery of lost territory in the case of Romania or the takeover of Southern Transylvania in the case of Hungary. It was the inhabitants of Northern Transylvania who were the most affected by the political and economic decisions of the new state to which they belonged. The most important issue was the lack of basic food products such as bread, butter and lard, which were periodically rationed. Rationing was followed by the requisitioning of agricultural products from households, where, in both cases, the Romanians were at a disadvantage in comparison to the Hungarians. The economic exchanges existing prior to 30th of August 1940 were interrupted by the new border, while also the poor harvest of the year 1941 contributed to worsening the existing food problems. All this, combined with the war expenses and investment intentions in the new territory, led to inflation, which increased the uncertainty of tomorrow. As indirect participants in a war, the inhabitants of this geographical area had to bear unforeseen consequences and costs.

**Keywords:** World War II, supplies, inflation, rationing, requisitions

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## PHILANTHROPIC ACTIVITIES OF THE RHEDEY FAMILY

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**Background:** Members of the Rhedey family were the Transylvanian ascensors of Queen Elisabeth II, (1926-2022), ruler of the English Royal House of Windsor, for seventy years, who participated in the construction of Modern Europe. The Transylvanian Branch of Family Rhedey from Prince Ferenc Rhedey to the last noble Rhedey left behind significant values. The Rhedey family part of The value-creating nobility, through the diversity of donations made during history, left values that constitute an impressive legacy. Following the marriages with various noble families from Transylvania during the Austro-Hungarian Empire, the family heritage reached high levels. Extensive counties, gold mines, pastures, forests, etc. were the base for the values. Churches, cultural and educational institutions, like theatres, universities and associations, had benefited from financial and material donations. Iconic names like Prince Ferenc Rhedey, Baroness Kata Wesselrnyi, Cont Janos Rhedey, Baroness Terez Banffy, Cont Laszlo Rhedey, Cont Adam Rhedey, Contess Klara Rhedey, Cont Imre Miko, Queen Consort Mary the Teck have contributed to change the life of the society alongside centuries.

**Keywords:** philanthropic activities, Prince Ferenc Rhedey, Baroness Kata Wesselenyi, Cont Laszlo Rhedey, Queen Consort Mary the Teck

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## ELECTORAL PROCESS MANAGEMENT - MANAGING THE BODY OF ELECTORAL EXPERTS

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**Background:** The conduct of the electoral process in good conditions is the result of the implementation of an efficient management system of electoral operations. The management of the specific activities in the polling stations is ensured by the electoral experts whose functions and attributions have been the basis of extensive studies and researches at international level. The paper refers to the process of managing the body of electoral experts at the national level, especially the stage of appointing the presidents and deputies of the polling stations. The research aims at designing a plan of measures and technical, managerial solutions, which will ensure during the electoral processes a 100% coverage of the polling stations with electoral officials. The proposed solutions target managerial techniques in the field of human resources in order to develop the database with electoral experts, increase their motivation and retention and ensure a good professional training based on knowledge and solid professional qualifications.

**Keywords:** management, electoral experts, electoral process, efficiency

## WE AND THE OTHERS – EUROPE, CHRISTIANITY, ISLAM IN THE 16TH CENTURY

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**Background:** It is not easy to define the relationship between Europe - Christianity - Islam. Our perception of another person depends largely on what that person represents to us. Basically, we give meaning to something according to what that thing represents in our system of thinking, difference being the one that helps us define things, concepts or even people. Thus, the identities of Christians appear in antagonism with the identity of Muslims. We may apply the same pattern to the concepts of Europe and Islam. However, are these concepts really antagonistic or they rather complete each other? The 16th century is a century that is marked by great transformations on all the levels of European life. We are at the end of the Middle Ages, with an emerging Renaissance, also there is a profound rupture of Christianity and a new empire is extending in Europe, thus we are dealing with a mixture of various events that will leave a definite mark on humanity in the centuries to come. While Europe is subconsciously identified with Christianity, space and religion becoming one, Islam is never about space, but meanwhile it is much more than a religion. It is important to understand these concepts in order to be able to build a balanced image of these two worlds and the consequences of their interaction.

**Keywords:** Europe, Christianity, Islam, Identity, Image

## FIGURES OF POSTMODERN BOVARYSME IN GHEORGHE CRĂCIUN'S NOVEL, "PUPA RUSSA", AND ALINA NELEGA'S NOVEL, "CA ŞI CUM NIMIC NU S-AR FI ÎNTÂMPLAT"

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**Background:** The present work will illustrate the characteristics of postmodern bovarysme, proposing for comparative analysis the personalities of the two female characters, calling on interdisciplinary arguments along the way. We find a weakness that dominates the characters, a truth that does not set in suddenly, but gradually. The evil that afflicts these characters is a constant imbalance between who they really are and what they tend to imagine they could be. We will discuss the issue of identity in relation to/with reference to three fundamental moments: self-perception, representation and designation. The two female characters go through three identical stages of life: childhood, high school, student and profession. The woman appears in her various poses: daughter, granddaughter, sister, mistress, wife, mother. The development of today's feminist theories, according to Rosemarie Buikema's hypothesis, knows three paradigms: of equality, of difference and the deconstructivist paradigm. Following the thread of history, the contemporary philosopher and sociologist, Gilles Lipovetsky, talks about the three poses of femininity: the degraded woman, the glorified woman and the undefined woman, also analyzing aspects of the victim pose. Inevitably, we will also address important themes of contemporary feminism, because the novels analyzed open multiple possibilities of interpretation.

**Keywords:** bovarysme, communism, identity, memory, feminism

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## THE SOCIAL PERCEPTION OF THE NOTION OF

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**Background:** The term "neo-protestant" is used quite often in the following years of the revolution that took place in Romania in the year of 1989. This word, in the current understanding, designates a list of minority Christian churches or cults that are accepted and protected by "the law of the cults" and by the democratic constitution of Romania. But in this article, we aim to discover the perception or the attitude of the interwar Transylvanian society towards these new cults, in a space dominated by traditional churches. We will do this by defining the key terms and by analyzing the various statistics, speeches, and memoirs that give information about the attitude of the people towards these cults.

**Keywords:** neo-protestant, transylvania, interwar, society, cults

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## MODERN RELIGIOUS MOVEMENTS ON ROMANIAN TERRITORY CAN EVANGELICAL CULTS IN ROMANIA HISTORICALLY BE SEEN AS NEO-PROTESTANT?

Vlad Bogdan<sup>1</sup>

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**Background:** In order to set a definition of the new religious movements on Romanian territory beginning with the 19th century the following three terms need to be explained: sect Church, Evangelical Church and Neo-Protestant Church. First, the term 'sect' has negative connotations and it is being used more and more seldom after the Communist era. Second, the term 'Evangelical' is currently more accepted even by historians (such as Dorin Dobrinu) but it still can be confusing because it refers to German Lutherans. Finally the term 'Neo-Protestant' is problematic because it can lead to confusions about the modern Lutheran Protestantism, which is called in German Neoprottestantismus. This work uses the term 'Neo-Protestant' as it will be shown that these cults have a historical sustainability of the classical Protestantism bringing new aspects but still respecting the same frame, the same matrix.

**Keywords:** Protestantism, Neo-Protestantism, pietism, theology, Church

## PHILOLOGY

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### PRAGMATIC ASPECTS OF ADVERTISEMENTS

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**Background:** It is well-known that advertisements are meant to persuade the consumer to make an action. In the world of cosmetic products, advertisements are the means of communication that facilitate the consumer. Even in such situations, persuasion is not sufficient, especially on social media platforms because they need to create unique experiences with pragmatic elements. Individuals, who are major consumers of social media are consciously or unconsciously influenced by the content. Multiple researchers prove that speech acts, help the promotion of cosmetic products by offering to mean to the consumer. The rhetoric of words uses language to persuade and inform. In this research, I followed to understand how different elements of pragmatics persuade the readers and what message they convey in the end. In the following study, a few advertisements that promote cosmetic products are followed and given deep analyses from a socio-linguistic and pragmatic point and how the advertisements influenced the viewers to buy the respective products. The conclusions that resulted after the analysis helped me understand better how language and creativity are important aspects of persuasion in the use of speech acts. The speech aspects had a major influence on the promotion of cosmetic products no matter what social platform they were advertised on.

**Keywords:** pragmatics, advertising, cosmetic products, language, research



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## ERRATUM



## COMPARISON OF DIGITAL IMAGE ANALYSIS BASED IMMUNOHISTOCHEMICAL STAINING QUANTIFICATION METHODS

Jakab Márk (Student at Faculty of Medicine), Reka Kaller (Department of Surgery III), Tamas Csaba Sipos (Department of Pathology), Eموke Horvath (Department of Pathology)

Medicine and Pharmacy

Pathology

### Background

Digital analysis of whole slide images may provide a more quantitative, objective, time and effort efficient, and reproducible method for diagnostic and study purposes. Currently, multiple virtual microscopy systems are available, that differ from each other mainly based on functionality and ease of use. The aim of this study was to compare a widely available, open-source image analysis software with an artificial intelligence-based computational pathology system in the use for IHC staining quantification.

### Material and method

We digitalised 53 arteriovenous fistula specimens stained with CD31. The two digital analysis systems used for evaluation were ImageJ and QuantCenter (3DHistech). After manual selection of relevant sections of the specimens, we measured the area of the annotations and the percentage of positively stained surface from this area.

### Results

The results from the two different methods evaluated showed strong correlation. Both quantified metrics demonstrated high Spearman correlation coefficient, 0.97 for the annotated area ( $p < 0.01$ ) and 0.90 for the positive surface area percentage ( $p < 0.01$ ).

### Conclusions

This study demonstrates that the two digital image analysis methods we used for IHC staining quantification can produce highly similar results.

### Keywords

digital pathology

immunohistochemistry

whole-slide imaging

digital image analysis

## **ENERGY EFFICIENCY - IMPORTANT MEANS OF REDUCING GREENHOUSE GAS EMISSIONS**

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Science and Technology

Social Sciences

Speaking about the energy efficiency, we will define it as being the concept that designates the efficient use of energy, in order to reduce the amount of energy needed to provide products and services and thus, to reduce the consequences of air pollution. Energy efficiency is usually based on optimizing consumption, which implies of course, a rational use of energy, through more efficient processes and means. Directive (EU) 2019/944 on common rules for the internal market in electricity defines 'energy efficiency' as the report between performance, services, goods or energy obtained and energy consumed for that purpose, and the Regulation (EU) 2020/852 of the EP and EC of June 2020 establishing a framework to facilitate sustainable investment, considers the energy efficiency to be the use of energy more efficiently at all stages of the energy chain, from production to final consumption, following the protection of environmental resources. We will try in this paper to show that energy efficiency measures are accepted not only as a means of achieving a sustainable energy supply, but also as a way to reduce greenhouse gas emissions, a context that transfers this concept into public policy priority at the European Union level. We will look to the way in which Member States understand their commitment to such an energy and environmental policy. This, because through a series of instruments, among which we mention the package entitled "Clean energy for all Europeans" established in 2018, has been set a target for reducing energy consumption by at least 32.5% by 2030, which obliges member countries as for the period 2021-2030, to develop an integrated national energy and climate plan for 10 years, outlining how to achieve the 2030 energy efficiency targets.

### **Keywords**

energy efficiency

environmental resources

green energy

greenhouse gases

environmental policies



## VALERIU ANANIA - POETRY AND SPIRITUALITY

Emanuel-Daniel Sărmășan<sup>1</sup><sup>1</sup>Department of Philology, UMFST Tîrgu Mureș

**Background:** The Archbishop and Metropolitan Bartolomeu Anania has experienced the most bitter contact with suffering. The year 1941 represented the first time he faced the horror of imprisonment. Every prisoner became a suspect for the so-called legionary activities. Interrogations also became simply relentless and turning a page to the case of Valeriu Anania, he suddenly found himself with the label and stigma of a legionnaire. The period of youth will remain a point of reflection for the author. Even though he was in prison, the author will remember the enchanting Christmas of 1943, when the Holy Mass was performed on the snow beaten by the convicts. The story of that Christmas was to be written forever, given the steam that wafted lightly through the prisoners at every carol.

**Keywords:** Archbishop, Metropolitan, Bartolomeu, legionnaire, Christmas 1943

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*SOCIAL SCIENCES to be replaced with PHILOLOGY*

*Iulian Boldea to be replaced with Emanuel-Daniel Sărmășan*

