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## International Congress for Students, Young Doctors and Pharmacists MARISIENSIS

Tîrgu Mureș, Romania

27<sup>th</sup> of March – 31<sup>st</sup> of March 2019

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**BOOK OF ABSTRACTS**



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## **BOOK OF ABSTRACTS**

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# **BASIC MEDICAL SCIENCES**

## THE IMMUNOHISTOCHEMICAL PROFILE OF PREMALIGNANT AND MALIGNANT COLON TUMORS

Cotoi Paul S.<sup>1</sup>, Sincu Mihaela, Mocanu Andreea<sup>1</sup>, Manea Andrei<sup>1</sup>, Professor Cotoi Ovidiu S.<sup>1</sup>, Lecturer Turdean Sabin<sup>1</sup>

<sup>1</sup>UMFST Tîrgu Mureş

**Background:** In the pathology of the gastrointestinal tract, colorectal cancer has a very high incidence, being the second most common cancer in Romania, according to the World Health Organisation (WHO), approximately 5,760 new cases per year in males and 4,496 new cases in women, representing about 11.8%, respectively 12.9% of all malignancies. Most cases of adenocarcinoma begin as nonmalignant (benign), small crowds of cells called adenomatous polyps. **Objective:** The aim is to present the incidence of premalignant and malignant colon tumors in Clinical County Hospital Tîrgu-Mureş and also the immunophenotype of it in order to establish the correct diagnosis. **Material and methods:** We performed a retrospective transversal study of premalignant tumors: tubular, villous, tubulovillous adenoma and malignant tumors: infiltrative adenocarcinomas in the Department of Pathology at Clinical County Hospital of Tîrgu-Mureş in the period 2018-2019. The examined tissue samples were obtained by biopsy or by surgical excision. IHC was performed using an automated method with external and internal quality control. **Results:** In our database we included 121 patients, in which 8.2% (n=10) patients with tubulovillous adenoma, 0.82% (n=1) with villous adenoma, 59.5% (n=72) with tubular adenoma, 10.7% (n=13) with infiltrative adenocarcinoma and the rest of 30.5% of cases was with non-tumoral colon diseases. The mean age of infiltrative adenocarcinoma is  $59 \pm 0,59$  SD, more frequent in male (56%) than female patients. The immunophenotype of colon adenocarcinomas presented positivity for Ki67, CK20 and CDX2 and negativity for CK7, corresponding with American Joint Committee on Cancer (AJCC) Cancer Staging Manual 8th edition and WHO classification. **Conclusions:** Infiltrative adenocarcinomas were more frequent in male patients, aged 60 and also the benign colon tumors were equally distributed between both female and male patients, being more frequent than malign ones. The prognosis and treatment of this tumors depend on a correct diagnosis based on IHC profile.

**Keywords:** adenoma, adenocarcinoma, immunohistochemistry, colon tumors

## THE INCIDENCE OF THE PULMONARY CANCER IN THE DEPARTMENT OF PATHOLOGY AT CLINICAL COUNTY HOSPITAL OF TÂRGU MUREŞ

Manea Andrei<sup>1</sup>, Mocanu Andreea<sup>1</sup>, Cotoi Paul S.<sup>1</sup>, Sincu Mihaela, Professor Cotoi Ovidiu S.<sup>1</sup>, Associate Professor Moldovan Cosmin<sup>1</sup>

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**Background:** Pulmonary cancer is one of the main causes of death worldwide. In 2018, according to cancer.org there were 234.030 new cases and 154.050 death in United States only. In Romania, according to Globocan's estimations there were 11.340 new cases and 10.277 deaths in 2018, being the deadliest cancer in both men and women. **Objective:** The objective of the study is to present the incidence of the pulmonary cancers among both men and women, their most common types and the most prone age to develop the pathology. **Material and methods:** We performed a retrospective transversal study, having analyzed the cases from October 2017 to October 2018 from the Department of Pathology at Clinical County Hospital of Târgu Mureş. The the data was collected from day hospitalisation, outpatient and continued hospitalisation and it included only biopsies. For diagnosis the following markers were used: CD56, TTF-1, NSE and Chromogranin A. **Results:** There were 201 analyzed cases out of which 158 (78,6%) were men and 43 (21,3%) were women. The patients were between 36 and 87 years old, while the mean age was  $63 \pm 0,63$  SD years old. Squamous cell carcinoma is the most frequent accounting 99 (44,7%) cases, being followed by Adenocarcinoma with 65 (32,33%) cases and Small Cell lung cancer with 30(14,92%) cases. Out of the presented cases, 16(7,9%) cases were metastases. **Conclusions:** The most common pulmonary cancer type in our Department is squamous cell carcinoma, while men are more affected than women by a large margin (78,6% vs 21,3%).

**Keywords:** pulmonary cancer, adenocarcinoma, markers, metastases



## THE INCIDENCE OF THE BREAST CARCINOMA AND THE IHC PROFILE OF IT IN THE CASE SERIES OF THE CLINICAL COUNTY HOSPITAL OF TÂRGU-MUREȘ

Mocanu Andreea<sup>1</sup>, Manea Andrei<sup>1</sup>, Cotoi Paul S.<sup>1</sup>, Sincu Mihaela, Professor Cotoi Ovidiu S.<sup>1</sup>, Medical Doctor Stauder Anamaria<sup>1</sup>

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**Background:** Mammary carcinoma is at the moment the most common cancer type among women. Studies have shown that 2 out of 3 cases are diagnosed in advanced stages, when therapeutic procedures are surpassed. Annually 77.000 women in Europe die because of this pathology. In USA 1 out of 8 women are diagnosed during their lifetime with invasive breast cancer. In Romania there are no studies that show the incidence of the presented pathology, both from the diagnosis and mortality viewpoint. **Objective:** Presenting the incidence of the breast cancer in the case series of the Department of Pathology of the Clinical County Hospital of Tîrgu-Mureș, analyzing the carcinoma cases, the most susceptible age to develop the pathology and the immunohistochemical profile. **Material and methods:** The retrospective study included a case series of female patients. We collected the clinical, the laboratory diagnosis and the immunohistochemical profile through the inpatient and outpatient care registers. The data included surgical biopsies and tru-cut biopsies. The immunohistochemical markers used for diagnosis were Ki67, ER, HER-2, PR, CK7, E-cadherin and p63. **Results:** During 2018 there were 210 patients with breast carcinoma between the age of 30 and 90 years old, with the mean age of  $60 \pm 0.98$  SD. 199 cases (94,76%) were invasive carcinomas: 13,8% (n=29) cases of NST/G1; 42,38% (n=89) cases of NST/G2; 23,80% (n=50) cases of NST/G3; 5,71% (n=12) cases of lobular carcinoma; 3,80% (n=8) cases of mucinous carcinoma; 2,85% (n=6) cases of papillar carcinoma; 1,42% (n=3) cases of metaplastic carcinoma; 0,47% (n=1) case of mucino-papillary carcinoma; 0,47% (n=1) case of cribriform carcinoma. 5,23 (n=11) cases were in-situ carcinomas, out of which 3,33% (n=7) cases of ductal carcinoma; 1,90% (n=4) cases of papillar carcinoma. **Conclusions:** In our department the most common carcinomas were the invasive ones, more precisely the NST/G2, followed by the other NST carcinomas. The mean age was  $60 \pm 0.98$  SD and it was diagnosed exclusively among women.

**Keywords:** breast carcinoma, incidence, immunohistochemistry, markers

## OVERVIEW OF CERVICAL SCREENING IN LUDUȘ TOWN

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**Background:** The use of cervico-vaginal cytology, Babes Papanicolau test remains the best and efficient screening method in depistation of the dysplasia associated with infections, inflammations and atrophy. **Objective:** The purpose of this study is to identify and classify the major risk factors which are involved in intraepithelial squamous lesions and cervical cancer development. **Material and methods:** This is a retrospective study, data were collected from FS1 screening forms belonging to the Centre Region Management Technical Assistance Unit of the active screening program for early cervical cancer, for Luduș area. The date interval starts from 1 July 2017 and goes until 1 October 2017. I collected and processed the number of participating women and interpreted the positive cases based on the following criteria: hormonal state of examined women, the environment of origin, the aspect of the cervix, the presence of any kind of infection of the genital zone, age intervals and final results. **Results:** The lot of the patients included are 317, with ages between 26 and 65 years old. Positive cases are 61,64 % with atypical squamous cells of undetermined significance (ASC-US) and atypical squamous cells cannot exclude high grade (ASC-H) from the total of the participation testing woman. The hormonal state was periodic for 51 subjects, 20 were at menopause and 2 were pregnant. Infections were found at 10,41% from the total of women participation at the trial. The positive cases shown 69,8% of women with periodic cycle, 45,2% cases of infection, 50,6% were from an urban environment and the most affected age interval was between 36 and 46 years old. **Conclusions:** Based on our study, the number found positive is huge, the infections and the hormonal state being the most important risk factors. The most interested age interval also shows that sexual activity plays an important role.

**Keywords:** screening programmes, cervico-vaginal cytology, dysplasia, cervical cancer

## THE CREDIBILITY, COMPLETENESS, AND ACCURACY OF ONLINE INFORMATION ABOUT ERECTILE DYSFUNCTION – A CROSS-SECTIONAL STUDY OF ROMANIAN, ENGLISH, AND RUSSIAN WEBSITES

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**Background:** The prevalence of internet use for health-related purposes is continually growing. The quality of information delivered through the internet may be critically important especially in the area of sexual health since embarrassment may prevent many people from discussing their concerns with their medical doctor. **Objective:** To assess the credibility, completeness and accuracy of the information regarding erectile dysfunction on the Romanian, English, and Russian websites addressing the general population. **Material and methods:** The cross-sectional study included 25 websites for each of the three languages. Google searches were conducted using appropriate query terms. Each website was rated for credibility, completeness and accuracy by two independent evaluators. Credibility, completeness, and accuracy scores were computed on a scale ranging from 0 to 10. Descriptive statistics were performed in GraphPad InStat Demo v.3.06. The cut-off value for statistical significance was set at 0.05. **Results:** The mean credibility score was 3.9 (SD 1.4) for the Romanian websites, 5.1 (SD 1.7) for the English websites, and 2.8 (SD 1.3) for the Russian websites. The mean completeness score was 2.1 (SD 1.7) for the Romanian websites, 4.7 (SD 2.0) for the English websites, and 2.0 (SD 1.4) for the Russian websites. The mean accuracy score was 4.0 (SD 1.8) for the Romanian websites, 6.4 (SD 1.6) for the English websites, and 5.4 (SD 1.3) for the Russian websites. The English websites had significantly higher credibility (KW=22.881; p<0.0001), completeness (KW=23.700; p<0.0001), and accuracy scores (KW=20.973; p<0.0001) compared to the Romanian and Russian websites. **Conclusions:** Although the English websites scored significantly better on all quality indicators, the users should exercise caution when searching the internet for information about erectile dysfunction, regardless of the website's language, since even the English websites had moderate credibility, completeness, and accuracy scores.

**Keywords:** erectile dysfunction, consumer health informatics, quality of health-related information, e-health

## GUILTY OR INNOCENT? THE EFFECTS OF FOCAL LESIONS OF THE PREFRONTAL CORTEX UPON HUMAN BEHAVIOR: A META-ANALYSIS

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**Background:** The prefrontal cortex (PFC) represents a cortical region considered in the past functionally insignificant, known nowadays that by its extensive connections, it is placed in a particular position to orchestrate a wide range of cognitive and affective neural functions. **Objective:** The purpose of our study is to emphasize the importance of consequences following damage of the PFC subdivisions, thus addressing an important question: do these patients intend to or perform harmful actions because of a failure to process harmful outcomes? **Material and methods:** We performed a meta-analysis based on 11 studies selected from PubMed database, consisting of 236 subjects with focal PFC lesions (114 = stroke, 90 = tumors, 32 = TBI) and 287 healthy subjects. In order to obtain a diagnosis and evaluate the behavioral effects of the lesions, fMRI tests, Voxel-based Lesion Symptom Mapping (VLSM) technique and neuropsychological tests were performed. **Results:** 33,4% presented decreased event-related-potential amplitudes following unilateral dorsolateral-PFC damage and difficulty performing the Wisconsin-Card-Sorting Task, demonstrating increased distractibility. 5,9% with ventrolateral-PFC damage were significantly slower when performing the Stop-Signal-Reaction-Time Task.. 5% with orbitofrontal lesions made riskier decisions when performing Iowa Gambling Test, even when outcome probabilities were made explicit. 12,7% with rostral PFC damage failed the Faux Pas Test, presented impairments in creativity measured by Torrance Test of Creative Thinking and performed poorly on tasks that investigated multitasking ability. 27,1% with ventromedial-PFC lesions had pronounced cortisol levels after Trier-Social-Stress Test and presented impairment in moral judgment after specific presented scenarios. 12,2% with both dorsolateral-PFC and ventromedial-PFC damage had significant levels of aggression following the Voodoo Doll Task and Taylor Aggression Paradigm.

3,3% with bilateral dorsomedial-PFC damage presented abulia. **Conclusions:** Based on the analyzed data, it seems that PFC lesions present a crucial role in altering the behavior, supporting the claim that these patients may not be guilty for their actions after all.

**Keywords:** prefrontal, cortex, behavioral, changes

## SEROPREVALENCE OF TOXOPLASMA GONDII ANTIBODIES IN ROMANIAN PATIENTS WITH SCHIZOPHRENIA AND ACUTE AND TRANSIENT PSYCHOTIC DISORDER

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**Background:** *Toxoplasma gondii*, an obligate intracellular parasite, infects about one third of the world's population. Recent evidence has led to new theories regarding the possible links between toxoplasmosis and psychiatric disorders. **Objective:** A case-control study was conducted to evaluate the prevalence of *T. gondii* antibodies among patients with schizophrenia and acute and transient psychotic disorder from Western Romania. **Material and methods:** The study group included 91 consecutive patients admitted to the Psychiatric Clinic, County Clinical Emergency Hospital in Timisoara, between 30.06.2011 and 12.01.2012. The control group included 206 healthy adult volunteers. Serum samples from both groups were screened for the presence of *T. gondii* IgG and IgM antibodies. **Results:** In the study group, patients aged 19-71 years (mean=38.7 years), 55/91 (60.4%) were males. In the control group, adults aged 19-83 years (mean= 48.9%), 71/206 (34.5%) were males. *T.gondii* antibodies were demonstrated in 40/91 (44%) of patients and in 73/206 (35.4%) of controls (p=0.194). The prevalence of *T. gondii* antibodies was significantly higher in patients with schizophrenia (50.8%,30/59) compared to controls (35.4%,73/206)(p=0.035). No association was found regarding *T.gondii* infection between patients with acute and transient psychotic disorder (31.3%,10/32) and controls (35.4%,73/206) (p=0.695). In the study group, of the 29 patients with BPRS score <51, *T. gondii* antibodies were detected in 16 (55.2%) compared to 24 (38.7%) of 62 in whom BPRS score was ≥51 (p=0.175). **Conclusions:** This study demonstrates that *T. gondii* seroprevalence may be higher in patients with schizophrenia. Our results suggest a possible association between *T. gondii* infection and schizophrenia.

**Keywords:** Toxoplasma gondii, Schizophrenia, Acute and transient psychotic disorder

## THALASSEMIA AWARENESS AMONG IRAQI PEOPLE IN 2018

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**Background:** Thalassemia is an autosomal recessive disease which is common in Iraq with a prevalence of 35.7 per 100000. It is the most common type of hereditary anemia registered in Iraq in 16 thalassemia centers in 2015. This study aimed to assess the awareness of Iraqi people about thalassemia regarding disease transmission and prevention, as developing good awareness is the first and the most advantageous road to establish a successful prevention program. **Objective:** - To measure the awareness of thalassemia among Iraqi people **Material and methods:** This study involved 418 participants who were from medical and non-medical field, those in medical field were considered as control group for comparison. It was conducted for one month duration as an online survey using a self-structured questionnaire which was tested for validity, unidimensionality and reliability in a pilot study of 40 participants. Each participant who had heard about the disease was given a score (0-5) based on their knowledge. **Results:** 60% of the sample were students, with mean age of 21 year. 69.1% had heard about thalassemia previously, those had a mean score of 3.47 out of 5. 87.6 % knew that consanguineous marriage increase the risk of the disease and 89.4% claimed that it is a non- communicable disease. Only 46.2% confirmed that the disease can be prevented. **Conclusions:** People awareness about thalassemia was relatively good, the highest awareness was for the contiguity of the disease and the lowest awareness was for the preventability. A Control strategy should be directed to elevate the awareness level about Thalassemia in the community.

**Keywords:** Thalassemia, Awareness, Prevention

## THE EFFECT OF OBESITY ON PROARRHYTHMIC ATRIAL REMODELING IN PATIENTS WITH STABLE CORONARY ARTERY DISEASE UNDERGOING ELECTIVE CORONARY ARTERY BYPASS GRAFTING

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**Background:** Obesity is recognized as an important atrial fibrillation (AF) risk factor. **Objective:** We aimed to evaluate the impact of obesity on atrial proarrhythmic remodeling in patients with stable coronary artery disease (CAD) undergoing elective coronary artery bypass grafting (CABG). **Material and methods:** Data regarding atrial electrical (P-wave characteristics), structural (left atrial diameter and severity of atrial inflammation, fibrosis, and fatty infiltration), autonomic (heart rate variability parameters), and molecular (CACNA1C, GJA5, KCNE2, KCNJ2, KCNQ1, and SCN5A right atrial appendage mRNA expression levels) proarrhythmic remodeling were analyzed comparatively between obese (n=22) and non-obese (n=8) patients with no AF history scheduled for a CABG procedure. Atrial arrhythmic burden before and after CABG were also assessed. In 6 of the study patients, right atrial appendage action potentials were also analyzed. **Results:** There were no significant between-groups differences for any of the baseline characteristics (all p>0.05). Atrial electrical, structural, autonomic, and molecular parameters, as well as the number of preoperative atrial premature contractions and postoperative AF occurrence, were also similar between the two groups (all p>0.05). The body mass index (BMI) significantly positively correlated with repolarization velocity (r=0.82, p=0.04), but there was no significant correlation between the BMI and any of the atrial structural, autonomic, and molecular parameters (all p>0.05). **Conclusions:** In patients with stable CAD, obesity per se does not seem to induce a substantial atrial proarrhythmic remodeling and does not seem to affect post-CABG atrial arrhythmic burden. These results suggest that when assessing the impact of obesity on AF risk, adjustment for other risk factors is imperiously needed. This work was supported by a grant of the Ministry of Research and Innovation, CNCS-UEFISCDI, project number PN-III-P1-1.1-TE-2016-0382.

**Keywords:** atrial fibrillation, atrial remodeling, obesity

## RARE VARIANTS OF PAPILLARY THYROID PAPILLARY CARCINOMA: PREVALENCE AND HISTOPATHOLOGICAL CHARACTERISTICS IN MUREȘ COUNTY (2001-2015)

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**Background:** Papillary thyroid carcinoma (PTC) is the most common type of endocrine cancer and is usually associated with good prognosis. However, some rare variants of PTC may behave more aggressively (a higher rate of lymph node metastases, extrathyroidal extensions or recurrence rate). Rare variants of PTC include: tall cell, Warthin-like, oncocytic, solid, diffuse sclerosing, columnar, clear cell and cribriform-morular variant. **Objective:** The aim of our study was to assess the prevalence and histopathological characteristics of these rare variants of PTC in our Department over a 15 years period. **Material and methods:** Pathological data were retrieved from database registries and original pathological reports from the Department of Pathology, Tîrgu-Mureș Emergency County Hospital, between January 2001 and December 2015. Age at diagnosis, gender, tumor histological type, size of the tumor (mm), multifocality (unilateral or bilateral), extrathyroidal extension and lymph node involvement were evaluated. Descriptive statistics were used to summarize the study data. **Results:** Seven hundred and one cases of PTC were registered in our Department over the study period. Of these, rare variants of PTC accounted for 61 (8.7%) of the cases: 21 (3%) Warthin-like, 16 (2.3%) oncocytic, 16 (2.3%) tall cell and 8 (1.1%) other variants (including solid, diffuse sclerosing, columnar cell, clear cell and cribriform-morular variant). Extrathyroidal extension was documented in 10 (62.5%), 4 (25%) and 10 (47.6%) cases of tall cell, oncocytic and Warthin-like variant of PTC. Four (25%), one (6%) and 3 (14.2%) cases of tall cell, oncocytic and Warthin-like variant of PTC were associated with lymph node involvement. **Conclusions:** These rare variants of PTC are histologically unique. A correct histopathological diagnosis is essential as these variants seem to be associated with a different prognosis for the patients. Our data demonstrated a high rate of extrathyroidal extension and lymph node metastases among these cases.

**Keywords:** papillary thyroid carcinoma, rare variants, prognosis

## THE RATE OF HEMOLYZED SPECIMENS IN COAGULATION

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**Background:** In 2018, 47.248 samples were processed for PT/INR and aPTT in the Emergency Laboratory of SCJU Tîrgu Mureş. Some studies suggest that about 3% of the coagulation test requested are not performed due to hemolysis. The current recommendation for coagulation testing is to reject these samples. Specimens can be assessed for hemolysis on a visual scale or using a spectrophotometric method. **Objective:** The aim of this study was to determine the rate of hemolyzed specimens sent to the laboratory for coagulation testing and the best method to assess the degree of hemolysis. **Material and methods:** A total of 1561 specimens sent to the laboratory for coagulation testing were evaluated for the hemolysis degree first on a visual scale, then with the spectrophotometric method HYL test on Architect c4000 instrument. The HYL test on automated instrument is expressed as semi-quantitative result of hemoglobin concentration: < 30 mg/dl corresponding to "+/-", 30-99 mg/dl (1+), 100-199 mg/dl (2+), 200-499 mg/dl (3+) and >500 mg/dl (4+). On a visual scale, 3 degrees of hemolysis are estimated □ "pale red" corresponding to mild hemolysis, "red" corresponding to moderate hemolysis and "dark red" corresponding to severe hemolysis. **Results:** Out of 1561 samples, with the visual scale 9,48% (n=148) samples were assessed as hemolyzed, out of which 48 mildly hemolyzed, 60 moderately hemolyzed and 40 severely hemolyzed. HYL test showed that 6,40% (n=100) were hemolyzed on different degrees: 76 samples- 1+, 17-2+, 6-3+ and 1 had 4+. **Conclusions:** Visual evaluation of blood samples for the degree of hemolysis is not very accurate especially for the difference between no hemolysis and mild hemolysis and between moderately hemolyzed and severely hemolyzed samples. Running HYL test is indicated for a proper evaluation. The rate of hemolyzed samples in our laboratory is higher than the rate found in literature.

**Keywords:** hemolysis, HYL, coagulation tests

## CHEMOGENETIC MODULATION OF SEIZURE ACTIVITY IN FREELY BEHAVING MICE

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**Background:** Epilepsy is often characterised by a disruption to the normal balance between excitation and inhibition of the neuronal networks in the brain. Parvalbumin-expressing (PV), somatostatin-expressing (SST) and vasoactive intestinal peptide-expressing (VIP) interneurons are thought to differentially regulate network activity by targeting distinct sub-cellular post-synaptic domains, such as the cell body or distal dendrites of excitatory neurons, or even other inhibitory interneurons. **Objective:** Our objective was to establish a reliable murine in vivo seizure model, and to use excitatory DREADDs (designer receptors exclusively activated by designer drugs) to explore the capacity of PV, SST and VIP interneurons to modulate epileptic behaviour. **Material and methods:** We used three strains of mice expressing Cre recombinase in either of the PV, SST or VIP interneuron populations. Adeno-associated virus (AAV) delivering the double-floxed DREADD construct was used to transduce hippocampi bilaterally. After viral expression was achieved, the mice received a cannula implant which was used for the gradual intra-hippocampal infusion of the convulsant agent, 4-aminopyridine (4-AP). DREADDs were activated by intraperitoneal injections of clozapine-N-oxide (CNO) prior to the infusion. EEG activity was recorded and the animals' behaviour was scored using the Racine scale. **Results:** The probability of reaching a generalised seizure decreased by 45% when PV interneurons were recruited, whereas no significant probability change was recorded when SST or VIP interneurons were stimulated. Epileptic behaviour was confirmed to be associated with seizure-specific EEG alterations. **Conclusions:** Our study stands as a proof of concept, indicating that specifically stimulating distinct interneuron populations of the hippocampus via excitatory DREADDs has the potential to significantly alleviate epileptic behaviour in freely behaving mice, depending on which interneuron subtype is recruited.

**Keywords:** Epilepsy, DREADD, Chemogenetics, Somatostatin

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## ASSESSMENT OF ESSENTIAL MICRONUTRIENTS IN HUMAN ORGANISMS

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**Background:** Vitamins are organic molecules that are essential for an organism in order to function properly. The organism cannot synthesize sufficiently these vitamins, it must be obtained from diet. Other groups of essential compounds that are necessary for health are: aminoacids, fatty acids, minerals. If the body is missing one of these elements, a deficiency disease will occur. **Objective:** The measurement of vitamin, aminoacid, fatty acid and mineral levels at medical students. **Material and methods:** The 2017 Quantum Resonant Magnetic Analyzer Machine was used to measure the levels of vitamin, aminoacid, fatty acid and mineral levels at 75 medical students aged between 19-21 years old from University of Medicine, Pharmacy, Sciences and Technology of Târgu Mureş. The measurements included the levels of 10 vitamins (e.g. A, B<sub>6</sub>, C, E), 10 aminoacids (e.g. Tryptophan, Phenylalanin, Threonin), 19 minerals (e.g. Ca, Fe, Zn, Mg, Cu) and 4 fatty acids (e.g. Linoleic acid, Arachidonic acid). The gained measurements were concluded in Microsoft Office Excel. **Results:** There was a significant deficiency at vitamin C, the majority was very low with 49%, 35% low and only 16% had normal. Other vitamin deficiency was present at B<sub>1</sub>, E, A and B<sub>3</sub> (<50%), but vitamins B<sub>2</sub>, D<sub>3</sub>, K, B<sub>12</sub> and B<sub>6</sub> were higher, especially the vitamin B<sub>6</sub> at 80% was normal. Among aminoacids Threonin (62%) and Tryptophan (59%) can be mentioned with low levels. The Phenylalanin and Methionine at 100% were between healthy parameters. At minerals significant differences present at Fe (18%), K (28%), Mg (41%). The lowest level of fatty acid is at Linoleic acid (21%) and Arachidonic acid (23%). **Conclusions:** The assessment revealed that the majority of the examined students have some kind of essential molecule deficiency that needs to be treated early on to avoid physiological changes and irreversible damage in their organism.

**Keywords:** Vitamin, Aminoacid, Mineral, Fatty acid

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## CLINICOPATHOLOGICAL ASPECTS OF GASTROESOPHAGEAL TUMORS

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**Background:** Despite modernization of diagnostic techniques and implementation of targeted therapy, gastroesophageal carcinomas still remains in first places of cancer-related death. **Objective:** To present preliminary data regarding clinicopathological aspects of tumors located in esophagus or gastro-esophageal junction, diagnosed in 2014. **Material and methods:** To complete the database of gastroesophageal carcinomas diagnosed in the Pathology Department of the Clinical County Emergency Hospital of Tîrgu Mureş, Romania, all consecutive cases diagnosed in 2014 have been evaluated. **Results:** During 12 months, 23 cases (5 biopsies and 18 surgical resection) of primary esophageal/gastroesophageal carcinomas were diagnosed in patients with the median age of 65.09±8.74 years (range 49-80 years), and a M:F report of 10.5:1 (21 males and 2 females). Most of the cases (n=18) were adenocarcinomas of the gastroesophageal junction, followed by squamous cell carcinomas (n=4) and neuroendocrine tumors (n=1). **Conclusions:** Although esophageal tumors are rare, all of them are malignant and mostly involve the gastroesophageal junction. This work was supported by a grant of the Romanian National Authority for Scientific Research, CNCS □ UEFISCDI, project number 20 PCCF/2018, code: PN-III-P4-ID-PCCF-2016-0006.

**Keywords:** gastroesophageal tumors, adenocarcinoma, esophagogastric junction

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## ISOLATION OF LYMPHOCYTE SUBPOPULATIONS USING BD FACS ARIA III CELL SORTER

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**Background:** The importance of lymphocytes in the immune system is widely known. The study of immunological response of lymphocyte subpopulations is critical for different pathologies. By sorting lymphocyte

subpopulations, the behaviour of a target lymphocyte subpopulation can be analysed in specific conditions. **Objective:** The aim of this study was Th and Tc lymphocyte subsets sorting from peripheral blood mononuclear cells (PBMC), using BD FACS Aria III cell sorter. **Material and methods:** PBMC were obtained by Ficoll cell isolation from heparinated whole blood. Labeling of lymphocyte subpopulations was done with a mixture of fluorophore tagged monoclonal antibodies: CD4-FITC/CD8-PE/CD3-PerCP. The ratio used for sorting was 400µL reagent to 1x10<sup>6</sup> lymphocytes. For sorting, cell-specific optimization of instrument parameters is performed: sort decision according to gating strategy, sort setup (stable stream and breakoff, focused and directed side streams, drop delay), drop formation and charging, cell subsets collection. Cell viability was verified with Annexin V and Propidium Iodide vs Trypan Blue. **Results:** The efficiency of lymphocyte subpopulations sorting was >98% for both CD4+ and CD8+ subpopulations. The purity of Th and Tc lymphocyte subsets was 99.8% from the CD3+ population. The cell viability was > 99%. **Conclusions:** Using FACS Aria III cell sorter, a very high efficiency and purity sorting can be obtained which will assure the quality of further studies on targeted cells. Cell-specific optimization of instrument parameters is essential for lymphocyte survival.

**Keywords:** Lymphocyte subpopulations, cell sorting, purity sorting

## THE UTILIZATION OF CONFOCAL MICROSCOPY IN DETERMINING DNA DAMAGE USING γH2AX ANTIBODIES

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**Background:** Confocal fluorescence microscopy is a research technique that allows one to optically slice thick specimens and to create high-contrast images in three dimensions. This technique has been used to identify γH2AX - a phosphorylated form of H2AX histone that appears on sites of double-strand breaks of the DNA. The γH2AX microscopic assay is a DNA damage indicator since histone phosphorylation is a consequence of specific DNA lesions, caused by genotoxic compounds. **Objective:** The objective of this study is to identify the DNA lesions produced by exposure of peripheral lymphocytes to tert-Butyl hydroperoxide (TBH) by using confocal microscopic assay. **Material and methods:** Peripheral blood mononuclear cells (PBMC) previously isolated on Ficoll were used in this study. 2 x 10<sup>6</sup> lymphocytes were cultivated for 72hrs in RPMI-1640 medium and activated with CD3/CD28 antibodies. 1 x 10<sup>6</sup> PBMC were treated with 200µM/L TBH for 20 minutes. The rest of the cells were used as untreated control. In the next step, the cells were permeabilized, fixed and then incubated for 2hrs at room temperature (RT) with the primary γH2AX antibodies. Then the secondary antibodies, tagged with Alexa 488 fluorophore, were left in contact at RT with the samples for one additional hour. Finally 4  phenylindole (DAPI) was used to stain the cell's nuclei. **Results:** Using the immunofluorescence technique, the images acquired in the Leica SP8 confocal equipment showed phosphorylated γH2AX foci formation at the site of DNA-double strands breaks in the treated lymphocytes. **Conclusions:** The technique was successful in revealing the presence of DNA damage and can be used in further studies concerning the kinetics of γH2AX foci formation, produced by various genotoxic compounds.

**Keywords:** confocal microscopy, DNA damage, γH2AX, antibody

## INCREASING THE EFFICIENCY IN THE ASSESSMENT OF THE CALLUS PROCESS USING INNOVATIVE METHODS

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**Background:** There are several contradictory studies on statins and fibrates effects regarding the bone callusing process and their protective role. The dispute on this opposite points of view is generated not only by the doses of statins and fibrates administered, but also by the methods used to assess the healing process of the bone. **Objective:** Our aim was to compare different methods in the evaluation of the callus process after bone fracture in rat models. **Material and methods:** We have rated three lots of oophorectomized rat models, which have been allocated to a control group, a simvastatin treated group and a fibrates treated group. The examination was made at 2, 4, 6 and 8 weeks after the moment of the bone fracture through X-Ray, Hematoxylin-Eosine staining and VIS-nearIR Spectrometry. **Results:** The radiological assessment followed the disappearance of the fracture line and

based on this criteria, the best evolution at 8 weeks was in the statin-treated oophorectomized rat models, which have been completely treated. The histological examination showed the same evolution at 8 weeks, the statin-treated oophorectomized group being also treated. The IR spectrometrical evaluation showed a better evolution at the fibrates-treated group. **Conclusions:** The results could vary inside the same lot of rat models according to the technique used.

**Keywords:** statins, fibrates, callus process, spectrometry

## VARIATIONS OF NEUROCRANIAL PARAMETERS AND THEIR CLINICAL IMPLICATIONS

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**Background:** The neurocranium has relations with vital elements, such as the cranial nerves, carotid arteries, dural venous sinuses and diverse nervous structures. Also, the neurocranium has different variations such as the presence of the wormian bones, ossification of the stylohyoid ligament, of the pterygospinous ligament or the presence, position and number of the parietal and mastoid foramina. **Objective:** We determine the prevalence of the clinically significant variations of some of the neurocranium structures in the population of Eastern Romania. **Material and methods:** Maximal length, width and height of the skull and the length of the pterygoid processes, styloid process and foramen magnum were measured using a ruler, a tailoring meter and a caliper in 30 male and female dry skulls belonging to the population of Eastern Romania. Also, the presence and position of different foramina, such as the mastoid foramen, were established by direct observation. **Results:** 8 skulls were brachycephalic and the rest were mesocephalic. The length of pterygoid process was between 18 and 41 mm, with a mean of 29 mm; styloid process length between 8 and 30 mm, with a mean of 16.1 mm and the foramen magnum length between 34 and 40 mm, with a mean of 35.9 mm. The mastoid foramen was present unilateral in 6 skulls, and bilateral for the rest. Variations directly causing pathologies were also present, such as ossification of the pterygospinous ligament (6,67%) or occipitalized atlas (3,33%). **Conclusions:** Pterygospinous ligament ossification may produce compressing of the mandibular nerve and cause trigeminal neuralgia. Also, occipitalized atlas may compress the vertebral artery, causing ischemia and the presence of the unilateral mastoid foramen may be an aggravating factor in posterior venous sinus obliteration. Thus, the presented neurocranium variations need to be taken in consideration through the preoperative imagistic examination because they may occur in the population of Eastern Romania.

**Keywords:** Skull, Pterygospinous Ossification, Mastoid foramen

## EFFECT OF ISOFLURANE ANESTHESIA ON AUTONOMIC NERVOUS SYSTEM STIMULATION / INHIBITION IN RATS

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**Background:** Autonomic nervous system (ANS) evaluation, a key step in many cardiovascular experiments, is often hampered by the interaction with anesthetic drugs. **Objective:** We aimed to evaluate whether isoflurane anesthesia, widely used in clinical and experimental practice, is suitable for ANS evaluation in rats. **Material and methods:** Six male Wistar rats were anesthetized with isoflurane (4 l/min, 2.5%). Systolic blood pressure (SBP) and heart rate (HR) were measured just prior to and 20-min after sympathetic inhibition (propranolol, 5 mg/kg) and stimulation (isoproterenol, 2.5 mg/kg), and parasympathetic inhibition (atropine sulfate and atropine nitrate, 2 mg/kg each) and stimulation (carbamylocholine, 0.4 mg/kg, and acetylcholine, 0.1 mg/kg). Six additional rats were used to assess the effects of atropine nitrate (2 mg/kg) in the absence of anesthesia. **Results:** As expected, propranolol induced a significant decrease in both the HR (349.8±10.6 vs. 252.5±4.5; p=0.01) and SBP (113.3±4.5 vs. 93.3±3.3; p<0.001), whereas isoproterenol significantly increased the HR (364.6±7.8 vs. 437.1±11.3; p<0.01). Both carbamylocholine and acetylcholine induced very subtle, but significant decreases in both the HR (both p<0.01) and SBP (p<0.05). In the anesthetized rats, atropine administration had no effect on HR or SBP (p>0.05 for both atropine sulfate and atropine nitrate). However, atropine nitrate significantly increased the HR in the non-anesthetized rats (p<0.001). **Conclusions:** Although isoflurane anesthesia did not seem to interfere with the sympathetic nervous system, it interfered with the functioning of the parasympathetic nervous system. Our data



suggest that interactions are unlikely to occur at central, receptor, or cholinesterase levels, and are most likely to occur at pre-ganglionic, ganglionic and/or post-postganglionic levels. Due to its effects on the parasympathetic nervous system, isoflurane anesthesia is not suitable for ANS evaluation. This work was supported by the UMFST Târgu Mureş Research Grant number 615/2/17.01.2019.

**Keywords:** blood pressure, autonomic nervous system, heart rate, isoflurane

## THE EFFECT OF AGE AND ARTERIAL HYPERTENSION ON CARDIAC ARRHYTHMOGENICITY IN RATS

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**Background:** Both ageing and arterial hypertension are recognized as major risk factors. However, the exact age and hypertension "load" required for cardiac arrhythmogenesis remains unknown. **Objective:** We aimed to evaluate the effect of age and arterial hypertension on cardiac arrhythmias occurrence in young and adult rats. **Material and methods:** The number of atrial and ventricular arrhythmias/24-h was quantified and compared between young (14-week-old; n=7) and adult (28-week-old; n=7) spontaneously hypertensive rats (SHRs) and their age-matched normotensive Wistar Kyoto (WKY) controls (n=7 each). Systolic blood pressure (SBP) was also measured in all rats. **Results:** : As expected, SBP was significantly higher in the young and adult SHRs compared to their age-matched WKY controls (p<0.01 and p<0.0001, respectively). Adult WKYs and SHRs displayed similar cardiac arrhythmic burden with their younger peers (all p >0.05), except for a higher number of atrial couplets/24-h in the young compared to the adults WKYs (0.99 [0.53-1.07] vs. 0.00 [0.00-0.26], p=0.01). There was no significant difference in cardiac arrhythmic burden between young or adult SHRs and their age-matched WKY controls (all p >0.05), although young WKYs tended to present more atrial premature contractions/24-h than the young SHRs (32.24 [15.19-49.29] vs. 17.76 [9.64-25.87], p=0.08). **Conclusions:** Although arterial hypertension is known to promote cardiac arrhythmias, mainly via proarrhythmic cardiac structural remodeling, short-term arterial hypertension does not seem to be associated with arrhythmogenic effects. These data support the need for early antihypertensive therapy in patients with arterial hypertension, as a strategy to prevent proarrhythmic cardiac remodeling and later cardiac arrhythmic events. This work was supported by a grant of the Ministry of Research and Innovation, CNCS-UEFISCDI, project number PN-III-P1-1.1-TE-2016-0382.

**Keywords:** adult age, arterial hypertension, cardiac arrhythmias, young age

# **CLINICAL - MEDICAL**

## RISK FACTORS ASSOCIATED WITH FAILED INDUCTION OF LABOUR IN MAYO GENERAL HOSPITAL.

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**Background:** Adverse maternal and perinatal outcomes are associated with post-term pregnancy and routine induction of labour by 42+0 weeks is advised to reduce these complications. Failed induction of labour is defined as no onset of labour pains after maximum dose of prostaglandin per vaginal i.e. 1-2 mg doses 6 hours apart three doses **Objective:** The objective of study was to assess the factors associated with failed induction of labour in Mayo General Hospital **Material and methods:** This retrospective audit was carried out in Mayo General Hospital to look at the indications, process and outcome of induction of labour based on data recorded in the OBTrace Databank from 1st January 2017 to 31 st Dec 2017. Induction was considered successful if the patient delivered vaginally and failed if it ended up in Cesarean Section **Results:** We reviewed 50 women for the study period of one year. 62 % of the women with induction of labor had successful vaginal delivery, 38 % of them had C section. Maternal age over 30 was significantly less common with successful IOL than failed IOL group at 34 % versus 70 %. Social induction, Propess use, low BMI, and male infant were the major factors affecting outcomes of IOL in the failed group. Probability of a normal birth was also reduced for women who were primiparous, had Bishop score of less than 5 and with prolonged latent phase. **Conclusions:** Maternal age, nulliparity, Propess use and poor Bishop score had strongest association with failed Induction of Labour. Social induction, prolonged latent phase, male infant, birth weight over 4500 gr were other significant risk factors for emergency caesarean sections in IOL.

**Keywords:** IOL, prostin, risk factors

## BONE AGE ASSESSMENT IN GROWTH FAILURE: IMPORTANCE, METHODS, SOURCES OF ERROR

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**Background:** Bone age assessment is a time-consuming method with a high variability rate, therefore it was proposed to replace the manual rating with an automated, computerized method. In 2008 BoneXpert was developed, an automated method which appears suitable for clinical use. **Objective:** The aim of the study is to determine the correlation and the degree of concordance in bone age assessment between the BoneXpert software and two human raters, using the Greulich&Pyle and Tanner-Whitehouse methods. **Material and methods:** A total of 58 hand radiographs of pediatric patients with growth failure were selected. The radiographs were rated with the Greulich&Pyle and Tanner-Whitehouse methods by an apprentice, an expert rater and by the BoneXpert software. **Results:** 60% of the cases were young female patients with a mean age of 9.85 and 40% were young male patients with a mean age of 9.93 years. The correlation between the standard and the automatic ratings for the GP method was 0.90 for the apprentice-BoneXpert and 0.96 for the experienced user-BoneXpert. The correlation between the standard and the automatic ratings for the TW2 RUS method was 0.90 for the apprentice-BoneXpert. The novice needed an average of nearly four times the median time of the resident physician for performing both GP and TW20 methods. BoneXpert performs GP and RUS methods in an average time of 0.07s. **Conclusions:** The BoneXpert automated method proves to be able to analyze bone age, the results being very close to those of the experienced user. An advantage of the automated method is the very short time needed for analysis compared to the accuracy. Although it allows a good appreciation of bone age, the disadvantages of the automatic method include the price and the need for a good quality radiograph in which the bones of the hand are properly exposed.

**Keywords:** Bone age, BoneXpert, Greulich-Pyle, Tanner-Whitehouse

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## ASSESSMENT OF RISK FACTORS FOR DIABETES MELLITUS TYPE 2 AND ITS COMPLICATIONS IN A MURES COUNTY ADULT SAMPLE

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**Background:** Diabetes mellitus is one of the most common pathologies of the 21st century characterized by a chronic hyperglycemic status that affects certain organs such as nerves, eyes, kidneys, heart and blood vessels. **Objective:** The purpose of this paper was to evaluate the risk factors in relation to the clinical manifestations of diabetes, to obtain an early diagnosis and to prevent complications, to an adult sample from Targu Mures city. **Material and methods:** We selected 120 diabetic patients from the Department of Diabetes, Nutrition and Metabolic Diseases of the County Clinical Hospital in Targu Mures, in 2018, who answered to a validated questionnaire after their consent, along with specific laboratory parameters from their hospital files. **Results:** We found that type 2 diabetes has an increased incidence in people with a family history, also the main risk factors are: female gender (55%), age over 60 (60,83%), obesity (48,33%) and sedentarism (42,5%), body mass index over 30 kg/m<sup>2</sup> (48,33%) and abdominal circumference greater than 102 cm (64,16%). Analyzing the lifestyle of the patients, we found that 86.66% of them had a high level of daily stress, 65% had a low fruit and vegetable diet, and 50% had 3 meals a day. During its evolution, diabetes leads to the occurrence of multiple acute and chronic complications such as diabetic ketoacidosis, hyperosmolar coma, retinopathy, nephropathy and diabetic neuropathy as well as vascular diseases. **Conclusions:** The risk factors involved in development of diabetes are due to an unhealthy lifestyle characteristic of modern society, that can be managed by proper community interventions and regular population screening.

**Keywords:** diabetes, risk factors, complications

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## CORRELATIONS BETWEEN ACUTE INFLAMMATORY RESPONSE AND VENTRICULAR FUNCTION EVALUATED BY SPECKLE TRACKING ECHOCARDIOGRAPHY

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**Background:** Adverse left ventricular (LV) remodeling following an ST-segment elevation acute myocardial infarction (STEMI) may lead to progressive heart failure. As this process is linked to systemic inflammation, interleukin-6 (IL-6) and C-reactive protein (CRP) may serve as predictors of the remodeling process and deterioration of ventricular function. **Objective:** To assess the correlation between inflammatory biomarkers and ventricular function evaluated by speckle tracking echocardiography in STEMI patients. **Material and methods:** Twenty-five patients with a first STEMI successfully treated by PCI underwent baseline determination of inflammatory biomarkers. High-sensitivity CRP (hs-CRP) serum levels were determined on day 1 and day 3 and IL-6 at day 1 following the acute event. All patients underwent LV function assessment by speckle tracking echocardiography (STE) at baseline and at 1 month. Based on peak levels of hs-CRP, patients were divided into two groups: first group with moderately inflammatory status and the second group with very high inflammatory status. **Results:** Global longitudinal strain (GLS) evaluated by STE was significantly correlated with high peak levels of hs CRP at baseline ( $P=0.0009$ ) and at 1 month ( $p<0.0001$ ). Patients with higher baseline hs-CRP levels presented significantly lower LV ejection fraction, higher end-systolic ( $p = 0.0021$ ) and end-diastolic ( $p = 0.0065$ ) volumes and a higher percentage of LV remodeling. **Conclusions:** Serum levels of inflammatory biomarkers such as hs-CRP and IL-6 in the post-infarction period are correlated with altered systolic and diastolic LV function determined by STE at 1-month follow-up.

**Keywords:** myocardial infarction, inflammation, left ventricle remodeling

## CUTANEOUS LARVA MIGRANS- NOT THE MOST WANTED SOUVENIR FROM YOUR VACATION

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**Background:** Cutaneous larva migrans (CLM) is a zoonotic infestation caused by accidental penetration and subsequent migration of larva of various parasites. CLM is a common skin disease seen in those who travel in tropical regions. Clinic manifestations of CLM are intense pruritus, erythematous papules, and vesicles, snakelike tunnels, often seen in the lower extremities, anogenital region, buttocks, hands, knees. The cases are preferably treated with oral antihelmintics: albendazole (400mg/day) or a unique dose of ivermectin (200mg/kg). **Objective:** We report here a typical case of CLM treated with albendazole in a patient with no history of traveling in tropical or subtropical geographic regions because of its rarity and its satisfactory response to the medical treatment. **Material and methods:** A 21-year-old female presented with a 15-day history of pruritic linear skin eruption located on the left fifth finger and dorsum of the hand. The patient had a history of trekking just before the development of the lesion 20 days ago. Initially, she noticed a small red spot, which progressed into a papule with a centered bleeding point. Dermatologic examination revealed about 10 cm long, raised, skin-colored and linear lesion starting from the palmar surface of the second interphalangeal joint and extending to the dorsum of the hand. There was also a 0.5 cm papule with a petechia in the center. **Results:** She was successfully treated with oral albendazole, 2 x 400 mg/day for 3 consecutive days. **Conclusions:** Although CLM is a self-limited disease, medical treatment should be kept in mind because it shortens the duration of the natural evolution and stops the disturbing manifestations. Our case report emphasize that CLM should be thought, especially in the differential diagnosis of linear lesions even if the patient does not have the history of traveling in tropical geographic regions.

**Keywords:** cutaneous larva migrans ,, albendazole,, case report.

## THE STIGMATISATION OF MENTAL HEALTH AMONG STUDENTS

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**Background:** Despite the vast social and medical developments our world has witnessed recently, mental health remains a controversial and stigmatised subject. Most individuals facing mental health issues still avoid facing these due to a distorted negative perception of them. **Objective:** Our aim is to analyse the stigmatisation of mental health among our fellow medical students and graduates, have a better understanding of the different etiologies of their stress (taking into account each individual's idiosyncrasies) and uncover their real views on mental health support and psychotropic drugs usage. **Material and methods:** An anonymous survey of 25 questions was made with Google Docs and shared, via Facebook, with students from various faculties and backgrounds. Responses were collected between the 14th to the 27th of February and only those attending university and 18 years old or older were included. **Results:** We accepted 185 participants, whom the survey categorized according to age group, gender, faculty, nationality and Romanian language proficiency level. Our goal was to differentiate each group's response to their causes of stress, their attitude toward seeking mental health support, and their sense of stigmatisation and discrimination from society, colleagues and professors. Surprisingly, even though the majority were medical students, only 33% of the participants answered "Yes" to whether they would seek mental health support. In addition, only 53% said they would actually take psychotropic drugs prescribed to them by a psychiatrist. **Conclusions:** Alarmingly, students in Romania continue to hold old outlooks on mental health. There are distinctive differences between foreign students' and romanian students' views and feelings of stigmatisation towards themselves and others. Medicamentous therapy for mental health issues continues to be disregarded as a viable option by many, including future physicians.

**Keywords:** Psychotropic Drugs, Mental Health Stigmatisation, Student stress, Survey

## RISK FACTORS SUMMATION AND MANAGEMENT OF A PATIENT WITH 3 PRIMARY CANCERS

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**Background:** Cancer is undoubtedly a genetic disease. There are multiple risk factors regarding not only a patient's genetic material but also exogenous factors. If this association may be clear in some tumours, analysing these factors is much more complicated in the rare cases of patients with multiple primary malignant neoplasms. **Objective:** We seek to consider and analyse the implication of major exogenous and endogenous factors in the case of a patient with three metachronous primary cancers, as well as his management. **Material and methods:** A 67 years old male was admitted to Regional Institute of Oncology Iasi carrying the diagnosis of rectosigmoid adenocarcinoma. His medical history records consist of two other oncological diagnostics: a right testicular seminoma (1992) and a non-small-cell lung carcinoma (2011). Both tumours were treated using radiotherapy, associated with orchiectomy, respectively right pneumonectomy and adjuvant chemotherapy. Both cancers were considered cured with no relapse occurring ever since. Patient's risk factors: former smoker, chronically exposed to hydrogen sulphite, known to be involved in the etiology of colon cancer. **Results:** Following a colonoscopy with biopsy, the histopathological examination and a computer tomography, a pT4N2M1 G2 rectosigmoidian adenocarcinoma with hepatic metastasis was diagnosed. Anterior rectal resection with colorectal anastomosis was performed, followed by FOLFOX 4 and Cetuximab chemotherapy. The biologic status of the patient is highly deteriorated due to prior oncological treatments. **Conclusions:** Lifestyle, radiotherapy, family history of oncological disorders and the possibility of a genetic defect are all to be considered. The exogenous factors can't be objectively evaluated in order to indicate their specific etiological role in this case. Genetic testing could offer a broader understanding of such diseases and evaluate the risk factors for family members, with implications in preventive strategies.

**Keywords:** Multiple neoplasms, Radiotherapy, Etiology, Genetic testing

## SMALL CELL LUNG CANCER HIDING BEHIND A PATIENT'S MULTIPLE RESPIRATORY PATHOLOGIES

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**Background:** Small cell lung cancer (SCLC) is a very aggressive type of lung neoplasia. In almost 60% of cases it is discovered in a metastatic stage at the moment of diagnosis. The risk factors associated with SCLC are smoking, secondhand smoking, air pollution, workplace exposure. SCLC is an usually silent, insidious lesion, most common symptoms being caused by metastases and paraneoplastic syndromes; local symptoms are non-specific: pleural effusion, hemoptysis, dyspnea, chronic cough. **Objective:** The aim of our presentation is to highlight that lung carcinoma can imitate other conditions such as acute pulmonary infections, making laboratory and radiological investigations paramount. **Material and methods:** We present a case of a 81 year-old man, former smoker (10 packs-year), with a history of pulmonary (chronic obstructive pulmonary disease, GOLD 2 stage), cardiovascular (permanent atrial fibrillation) and renal pathology (chronic kidney disease stage 2) who was admitted with grade 4 mMRC dyspnea, wheezing, cough, fever. Clinical: T=38 °C, pleural effusion, crackles on both pulmonary areas, SpO2=96% ; tachypnea; BP=140/80mmHg, pulse=106/min, liver 3 cm below the costal margin. Laboratory results showed: inflammatory syndrome (neutrophilic leukocytosis- WBC=25240/mm<sup>3</sup>, ESR=120 mm/h, PCR=10 mg/dL), impaired kidney function (creatinine=2.7 mg/dl, urea=90 mg/dl) and hepatocytolysis (TGO=45UI, TGP=60 IU). Chest X-ray raised the suspicion of lung cancer with secondary pleural effusion. **Results:** To confirm the diagnosis were performed: thoracentesis-hemorrhagic pleural effusions, exudate with ADA within normal limits, without cancer cells; bronchoscopy-extrinsic tracheal compression, right upper lobe collapse, mucosa folds infiltrated; bronchial biopsies-polygonal/fusiform cells, poorly differentiated, with central necrosis. These investigations have confirmed the diagnosis of small cell lung cancer. Thoraco-abdominopelvic CT revealed liver metastases. Therefore the patient was diagnosed with stage IV T3N3M1b

ECOG 3. The therapeutic strategy consisted of palliative chemotherapy. **Conclusions:** SCLC remains a diagnostic challenge, the essential investigations being chest X-ray, computer tomography and bronchoscopy with biopsy.

**Keywords:** Small cell lung cancer;, Chronic Obstructive Pulmonary Disease;, Metastases

## EPICARDIAL ADIPOSE TISSUE AND LEFT VENTRICULAR FUNCTION IN PATIENTS WITH ACUTE CORONARY SYNDROME

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**Background:** Epicardial adipose tissue (EAT) is a metabolically active tissue associated with an increased risk in patients with coronary artery disease. There is a variety of mechanisms that could account for this, such as changes in blood pressure, arrhythmias, diabetes and metabolic syndrome, all leading to an overall systemic inflammation. **Objective:** We intended to evaluate the importance of EAT as a marker of vulnerability, on the clinical evolution of patients with acute coronary syndromes. **Material and methods:** We included a number of 77 ACS patients (unstable angina and acute myocardial infarction) who underwent complete clinical examination and 2D transthoracic echocardiographic, with included measurement of the EAT thickness (parasternal long axis view, at the anterior wall of the right ventricle, during diastole) but also evaluation of the left ventricular diameters, volumes (diastolic, systolic), function (ejection fraction - EF). Patients were divided into 2 groups: Group 1 (n=57) with acute myocardial infarction and Group 2 (n=20) with unstable angina.

**Results:** Mean age of patients included in the study was 63.75 +/- 12.89, with male predominance. The average EAT thickness for the total number of patients was 8.833 +/- 1.559 mm. No significant differences were found between patients with UA and AMI regarding age (p=0.87), or cardiovascular risk factors, but there was a significantly higher value of cholesterol in patients with AMI (204.1 +/- 41.96, p= 0.0076) and also a significantly increased value of the end-systolic left ventricular diameter (33.69 +/- 4.821, p=0.0223). The thickness of the EAT was significantly correlated with the value of the BMI (p<0.0001) and also with age (p=0.002) in the overall study population. **Conclusions:** Epicardial adipose tissue is associated with increased levels of cholesterol and also with a higher end-systolic left ventricular diameter in patients with AMI, which translates into a negative outcome in patients with coronary artery disease. Furthermore, there is a significant correlation between the thickness of the EAT and the values of BMI and age.

**Keywords:** Epicardial adipose tissue (EAT), Coronary artery disease, Acute myocardial infarction

## THE CORRELATION BETWEEN THE PERIPLAQUE FAT AND THE VULNERABILITY MARKERS IN A PATIENT WITH STABLE CORONARY ARTERY DISEASE.

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**Background:** The periplaque fat, a part adipose tissue surrounding the coronary artery, increases the risk of an acute event through its proinflammatory activity. **Objective:** The aim of this study was to determine the periplaque adipose tissue effects located near a vulnerably coronary plaque. **Material and methods:** We enrolled 77 patients with specific coronary artery disease symptoms, undergoing a 128 multislice CTCA, with minimum one of 50% stenosis. After taking into consideration the volume and distribution of the periplaque fat, epicardial fat, vascular indices and plaque related parameters, we classified the study population into two groups: group 1- one marker of plaque vulnerability and group 2- more than one marker of plaque vulnerability. **Results:** The mean age was 62 +/- 11 years old. The patients enrolled in group 2 had remarkably higher volume of periplaque fat than the ones with only one or two vulnerability markers (147.5 ± 71.74 mm<sup>3</sup> vs. 207.7 ± 108.9 mm<sup>3</sup>, p = 0.006). It is also notable that as the periplaque fat volume increases, some atheroma parameters such as: non calcified volume (p < 0.0001), lipid rich volume (p = 0.005), and fibro fatty volume (p < 0.0001) will also get higher. We also observed that there is no significant correlation between the volume of the periplaque adipose tissue and the calcified volume (p = 0.9091) or the total volume of the lesion (p = 0.4). **Conclusions:** The periplaque fat located round of a coronary stenosis is related to a higher level of vulnerability on CTCA.

**Keywords:** periapical fat, CTCA, plaque vulnerability, epicardial fat

## THE LINK BETWEEN PERIODONTAL DISEASES AND CORONARY PLAQUE VULNERABILITY -RESULTS FROM THE ATHERODENT STUDY

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**Background:** Chronic inflammatory conditions such as periodontal disease (PD) can favor the appearance and progression of atherosclerosis up to an acute coronary syndrome (ACS), increasing the risk of atheromatous plaque rupture. However, the influence of PD on plaque composition has not been elucidated so far. **Objective:** We aim to assess the correlation between the PD and coronary plaque vulnerability. **Material and methods:** in the study were included 52 patients with unstable angina divided in 2 group as follows: group 1 (n=26) with low periodontal Index (PI) and group 2 (n=26) with high PI. Cardiac computer tomography (CCT) was performed in order to analyze the morphology and plaque composition, especially the vulnerability features of the culprit lesions. Dental status was also evaluated in all patients. Periodontal index (PI) was expressed by the presence and severity of the gingival index, plaque index, tartarum index, furcation index, mobility, pocket depth, loss of attachment and papillary bleeding index. **Results:** Total PI was significantly higher in patients with vulnerable plaque ( $p=0.0017$ ,  $RR=1.52$ ). Furthermore the vulnerability features were significantly correlated with the indices for the severity of the PD, especially with the loss of gingival attachment ( $p=0.009$ ) and papillary bleeding index ( $p=0.002$ ). Positive significant correlation was obtained between high PI and plaque volume in the culprit lesion ( $p=0.019$ ), respectively between total PI and volume of non-calcified plaque ( $p=0.002$ ). **Conclusions:** PD is directly correlated with the composition of atheromatous plaque and can serve as a marker indicating a higher risk of inflammatory-mediated plaque vulnerability.

**Keywords:** acute coronary syndrome, periodontal disease, atheromatous plaque

## PREDICTORS FOR AN ENHANCED INFLAMMATORY RESPONSE IN PATIENTS FOLLOWING AN ACUTE MYOCARDIAL INFARCTION

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**Background:** Systemic inflammation has been associated with the progression and severity of atherosclerosis, which can lead to acute coronary syndromes (ACS) including unstable angina (UA) and myocardial infarction (MI). MI patients with overexpressed inflammatory biomarkers have worse prognosis. **Objective:** To assess the factors associated with an enhanced inflammatory response following an acute MI, with the use of highly-sensitive C reactive protein and interleukin  $\square$  6 assays. **Material and methods:** We prospectively include 156 patients with ACS who underwent invasive coronary angiography and percutaneous revascularization, as well as complete clinical examination, laboratory testing and determination of *hs-CRP* and *IL-6* levels during day 7 following the acute event. Patients were divided into 2 groups: gr.1: UA (n=29); gr.2: MI  $\square$  STEMI and NSTEMI (n=127). **Results:** The mean age was  $64.18 \pm 12.71$  years old. There were no significant differences between groups regarding age, gender, BMI, nor cardiovascular risk factors. MI patients presented lower LVEF ( $44.42 \pm 6.88$  vs.  $50.07 \pm 6.61$ ,  $p=0.005$ ) and higher rates of multivessel coronary artery disease ( $p=0.04$ ). The *hs-CRP* and *IL-6* levels were significantly higher in MI compared to UA patients (*hs-CRP*:  $4.48 \pm 4.13$  vs.  $14.52 \pm 33.10$  nI/l,  $p=0.05$ ; *IL6*:  $12.41 \pm 18.04$  vs.  $32.62 \pm 138.0$ ,  $p=0.05$ ). In gr.2 (MI) there was a significant correlation between the *hsCRP* levels and the *hs-troponin* ( $p=0.003$ ,  $r=0.31$ ), glycemia ( $p=0.03$ ,  $r=0.19$ ), CK-MB ( $p=0.04$ ,  $r=0.52$ ), and with the LVEF ( $p=0.01$ ,  $r=-0.28$ ), which was not present in the UA group. Levels of *IL-6* were significantly correlated with the creatinine levels ( $p=0.03$ ,  $r=0.18$ ), CK-MB ( $0.0009$ ,  $r=0.78$ ) and the LVEF ( $p=0.01$ ,  $r=-0.27$ ) in MI patients, but not in the UA group. **Conclusions:** Inflammatory response following an ACS is more enhanced in patients with MI compared to those with UA. The predictors of an increased inflammation in MI patients include *elevated cardiac enzymes, glycemia, and an impaired renal function*. An exaggerated inflammatory response negatively impacts the LVEF in patients following an acute MI.

**Keywords:** Acute coronary syndromes, Inflammatory response, HS-C reactive protein, Interleukin-6



## INFLAMMATORY BIOMARKERS AND LEFT VENTRICULAR FUNCTION FOLLOWING REVASCULARIZED ACUTE MYOCARDIAL INFARCTION – A 2D ECHO BASED STUDY

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**Background:** A decreased left ventricular ejection fraction (LVEF) following an acute myocardial infarction (AMI) is associated with poorer patient outcomes. The inflammatory response after an AMI is crucial for cardiac repair, being also responsible for the ventricular remodeling process and heart failure. **Objective:** To evaluate the association between inflammatory serum biomarkers and the left ventricular function, in patients following AMI. **Material and methods:** This was a prospective observational study on 80 patients with revascularized AMI (STEMI and NSTEMI). All patients underwent complete clinical examination, usual laboratory testing (cell blood count, biochemical analysis, electrolytes), as well as immunoassays for determination of novel biomarkers: E-selectin, highly-sensitive C reactive protein (hsCRP), interleukin-6 (IL-6), adhesion molecules (I-CAM, V-CAM)(day 1). All patients underwent TTE at day 3 after the acute event for assessment of left ventricular ejection fraction. Study population was divided into two groups: group 1: with impaired LVEF <45% (n= 23); group 2: with normal LVEF ≥45% (n=37). **Results:** Mean age of the study population was 64.42±12.26 years old, 70% (n=56) males, 68.75% (n=55) with STEMI, 31.25% (n=25) with NSTEMI. Patients with an impaired LVEF (group 1) were significantly older (67.87±9.03 vs. 60.55±12.25, p=0.02), presented higher serum levels of hsCRP (27.54±54 vs. 9.97±19.74 nI/l, p=0.005) and IL-6 levels (20.90±22.22vs.9.47±12.47, p=0.004) respectively. No significant difference was observed between groups regarding the serum levels of adhesion molecules (I-CAM □ p=0.816; V-CAM □ p=0.661), or usual laboratory biomarkers. There was a significant negative correlation between LVEF and IL-6 (r=-0.33, p=0.008), V-CAM (r=-0.27, p=0.03), glycemia (r=-0.35, p=0.008), uric acid levels (r=-0.29, p=0.04), and, as expected, with the cardiac enzymes. **Conclusions:** Predictors for a depressed LVEF following an AMI include older age, high levels of uric acid, glycemia, and an increased inflammatory response, illustrated by the serum levels of hsCRP and IL-6. V-CAM adhesion molecule and cardiac enzymes were inversely correlated with the LVEF.

**Keywords:** Inflammatory Biomarkers, Left Ventricular Function, 2D Echocardiography, Acute Myocardial Infarction

## CONGENITAL CILIARY DYSKINESIA: IT RUNS IN THE FAMILY

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**Background:** Congenital ciliary dyskinesia is a rare genetic disorder with autosomal recessive transmission, characterized by the immobility of cilia or by varying the degree of mobility of the cilia, due to genetic malformations translated by their structural abnormalities. It determines pulmonary damage such as the impossibility of mucus removal, persistent coughing, and frequent bacterial infections. **Objective:** We present the cases of two patients, brothers, sent for admission in July 2016 at Marius Nasta Institute. A 42-year-old patient, a non-smoker, presents himself at the hospital, claiming dyspnea at low efforts, fatigue, chronic cough with minimal mucous expectoration. From the personal pathological history, pulmonary tuberculosis is distinguished at 16 years old and repeated respiratory tract infections. The 49-year-old, non-smoker, accused of dyspnea in small efforts, chronic cough with mucopurulent expectoration. Personal pathological history highlights a history of repeated infant respiratory infections. **Material and methods:** Electron microscopy shows structural abnormal cilia, with the absence of dynein arms. The diagnosis of bilateral bronchiectasis is confirmed in the context of congenital ciliary dyskinesia in two siblings, one of them also presents Kartagener syndrome. **Results:** Patients had good clinical development and are still in evidence of Section IV of Pneumology for comorbidity management. After diagnosis, patients received symptomatic antibiotic treatment due to the predisposition to respiratory infections and expectorant due to ciliary immobility. A regular check is recommended twice a year. **Conclusions:** Structural changes in the pulmonary airway, in the sense of bronchiectasis, are often secondary to life-threatening injuries. Cases are eloquent to highlight the comorbidities to which these patients are exposed and the diagnostic difficulties encountered. The presence of these anomalies in young people should draw the attention of the treating physician to look for congenital causes as well. The particularity of the cases presented is that of the late

diagnosis, despite the presence of significant family history.

**Keywords:** dynein, Kartagener, situs inversus, brothers

## SOLUBLE ADHESION MOLECULES ICAM-1, VCAM IN PATIENTS WITH ST AND NON-ST ELEVATION ACUTE MYOCARDIAL INFARCTION

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**Background:** Soluble adhesion molecules, including intercellular adhesive molecule (ICAM-1) and vascular adhesive molecule (VCAM), have been shown to have higher serum levels in patients treated for acute myocardial infarction (AMI), and also to independently predict worse patient outcomes. **Objective:** We aimed to evaluate the serum levels of ICAM-1 and VCAM, and the factors associated with their increased levels, in patients with AMI. **Material and methods:** The study included 135 patients with AMI, in which coronary angiography and PCI was performed. For all patients the following data were collected: medical history, clinical examination, laboratory, angiographic and echocardiographic parameters. Serum levels of ICAM-1 and VCAM were determined by immunosorbent assay (ELISA) in day 1 after the index event. Patients were divided into 2 categories: gr.1: STEMI (n=89), gr.2: NSTEMI (n=46). **Results:** The average age was 64.26±12.17 yo, with male predominance. There were no differences between groups regarding comorbidities and cardiovascular risk factors. The serum levels of ICAM-1 were significantly higher in patients with STEMI (373.1±309 vs. 217.1±162.5 ng/ml, p=0.0001), but VCAM levels were not different between groups (gr.1-1143±415.9 vs. gr.2-1161±449.9 ng/ml, p=0.907). There was a significant correlation between ICAM-1 and LVEF (r=-0.21, p=0.02), as well as VCAM and: age (r=0.29, p=0.0005); hscTnI (r=0.24, p=0.008); creatinine (r=0.23, p=0.006), LVEF (r=-0.25, p=0.007), in the overall study population. In STEMI patients, ICAM-1 was correlated with age (r=0.24, p=0.01), VCAM with: age, hscTnI, urea and creatinine, and inversely correlated with the LVEF. In NSTEMI the only significant correlations were for ICAM-1 with the urea levels and the LVEF (r=-0.39, p=0.01). **Conclusions:** ICAM-1 and VCAM are associated with an impaired LV function in patients with AMI. ICAM-1 levels are more expressed in STEMI compared to NSTEMI patients. VCAM is correlated with parameters that express an impaired renal function, which could be a result of inadequate clearance.

**Keywords:** Adhesion molecules, ICAM, VCAM, acute myocardial infarction

## THE INFLUENCE OF CYP2C19\*2 AND CYP2C19\*3 VARIANT GENOTYPES AND H. PYLORI INFECTION ON DIGESTIVE SYMPTOMS IN PATIENTS ON DUAL ANTIPLATELET THERAPY

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**Background:** High prevalence of upper gastrointestinal symptoms in patients with cardiovascular disease is a common finding due to consumption of gastro toxic medication or associated digestive diseases. The relationship between CYP2C19 polymorphism, Helicobacter pylori infection and some digestive conditions has been studied in various groups, due to CYP2C19 role in drug metabolism and detoxification of carcinogens and endogenous compounds. **Objective:** The objectives of our study were to investigate possible role of CYP2C19\*2 and CYP2C19\*3 gene variants, Helicobacter pylori infection and other clinical factors, as well as upper digestive endoscopic findings in patients with upper digestive symptoms and dual antiplatelet therapy (low-dose aspirin and clopidogrel). **Material and methods:** We enrolled 50 patients with digestive symptoms (epigastric pain, heartburn, nausea, vomiting-study group) and 145 patients free for upper digestive symptoms-control group, all taking dual antiplatelet therapy. They underwent an upper endoscopic examination and were successfully genotyped. An acute coronary syndrome has been excluded (based on enzyme and electrocardiography surveillance). **Results:** CYP2C19\*2 and CYP2C19\*3 gene variants did not differ significantly in the study group in comparison with control group (p=0.329, OR=1.368, 95%CI: 0.719-2.605, respectively (p=0.236, OR=3.917, 95%CI:0.346-44.290). Severe endoscopic lesions (p=0.188, OR=0.720, 95%CI 0.445-1.167) and bleedings marks (p=0.139, OR=0.607, 95%CI=0.314-1.174) were non-significant more frequent in symptomatic group in comparison with control-group. There was a significant difference regarding H. pylori infection, namely the infection was more frequent in patients with symptoms (p=0.011, OR:2.632, 95%CI:1.234-5.612), whereas renal diseases (p=0.017, OR=3.026,

95%CI:1.108-8.268), respiratory concomitant diseases ( $p=0.033$ ,  $OR=2.038$ ,  $p=1.012-4.103$ ) or concomitant anticoagulant treatment ( $p=0.016$ ,  $OR=2.194$ ,  $95\%CI: 1.098-4.383$ ) were surprisingly more frequent in patients without digestive symptoms. **Conclusions:** In patients on dual antiplatelet therapy, *H. pylori* infection is associated with digestive symptoms, but CYP2C19\*2 and CYP2C19\*3 variant genotypes, anticoagulants or comorbidities seem to not influence these symptoms occurrence.

**Keywords:** CYP2C19 polymorphism,, *Helicobacter pylori* infection,, dual antiplatelet therapy,, upper digestive symptoms.

## IMPORTANCE OF B-LINES AND LEFT ATRIAL STRAIN IN PATIENTS WITH SUSPECTED HEART FAILURE AND PRESERVED EJECTION FRACTION

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**Background:** The prevalence of heart failure with preserved ejection fraction (HFpEF), continues to increase likely because of common risk factors, including older age, female sex, hypertension, metabolic syndrome. Lung ultrasound and left atrial strain are promising screening tools to assess pulmonary congestion and left atrial dysfunction in patients with suspected HFpEF. **Objective:** The objective of the research was to evaluate the correlation of lung ultrasound with left atrial strain in patients with HFpEF. **Material and methods:** We enrolled thirty-six patients, 24 of them women, the mean age  $70\pm 6$  years with clinical signs of heart failure. Exclusion criteria were: ejection fraction  $<55\%$ , more than mild mitral and/or aortic valve disease, pulmonary disease, pulmonary arterial hypertension. Patients underwent comprehensive echocardiographic evaluation including left atrial strain analysis (peak atrial longitudinal strain-PALS), lung ultrasound assessment of B-lines on the antero-lateral and posterior chest wall, and NT-proBNP levels. **Results:** The mean ejection fraction was  $65,5 \pm 8,6\%$ . In 28 patients (85%) a significant number of B-lines ( $\geq 15$ ) was observed. We found a positive correlation between the number of B-lines and NT-proBNP levels ( $p<0,0001$ ,  $r:0,76$ ), left atrial volume ( $p<0,05$ ,  $r:0,45$ ) and PALS ( $p<0,05$ ,  $r:0,5$ ). We didn't find any correlation between the number of B-lines and E/e' ratio ( $p=0,1$   $r:0,28$ ), or between E/e' ratio and NT-proBNP level ( $p=0,2$   $r:0,2$ ). **Conclusions:** Lung ultrasound is a simple and accessible device to detect pulmonary congestion in HFpEF. B-lines correlate well with NT-proBNP values and with parameters of left atrial dysfunction. PALS is a promising reflection of pulmonary congestion and elevated NT-proBNP values than the conventional echocardiographic parameter E/e'.

**Keywords:** HFpEF, B-lines, lung ultrasound, strain rate imaging

## ENDOCRINE EMERGENCIES

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**Background:** The endocrine emergencies are less common, but in some ways more important simply because of their rarity. Although rare, endocrinological emergencies are severe due to the vital risk they imply, but rapid and effective therapeutic intervention after proper diagnosis can result in spectacular recovery of the patient. **Objective:** A high level of suspicion is often required to make a diagnosis, although some, such as myxoedema coma, are usually obvious. Treatment must be started before the diagnosis can be confirmed. **Material and methods:** The clinician may be confronted with several endocrine emergencies, the most important being: pituitary apoplexy, pheochromocytoma crisis, adrenal crisis, myxedema coma and thyrotoxic crisis. **Results:** Pituitary blood vessel breakage is uncommon endocrine crisis which can happen because of localized necrosis or drain of pituitary organ. This issue regularly includes a pituitary adenoma. Pheochromocytoma is an exceptional tumor of the adrenal organs that can give migraines, perspiring, palpitations, and paroxysmal hypertension. Pheochromocytoma emergency can prompt cardiomyopathy, pneumonic edema, and even all out circulatory breakdown. Adrenal emergency is a therapeutic crisis and conceivably dangerous circumstance requiring quick crisis treatment. It is a heavenly body of side effects that show serious adrenal deficiency brought about by lacking dimensions of the cortisol. Myxedema trance like state is an uncommon perilous clinical condition that speaks to serious hypothyroidism with physiological decompensation and thyrotoxic emergency is an uncommon yet extreme and conceivably hazardous difficulty of hyperthyroidism. **Conclusions:** All presented situations are entities that

need to be known and recognized by the clinician for the purpose of establishing emergency treatment.

**Keywords:** pituitary apoplexy,, pheochromocytoma crisis, adrenal crisis, myxedema coma

# **CLINICAL - SURGICAL**

## QUALITY OF LIFE AFTER TOTAL KNEE ARTHROPLASTY WITHOUT PATELLAR RESURFACING

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**Background:** Patellar resurfacing during total knee arthroplasty (TKA) remains controversial. The options vary between routine resurfacing, selective resurfacing and without patellar resurfacing. **Objective:** The purpose of this study is to decide the impact of the TKA without patellar resurfacing on the quality of life and to quantify both its physical and psychic part. **Material and methods:** This is a retrospective study between January 2011 and December 2014, carried out at the Orthopedic and Traumatology Clinic 2, in Târgu Mureş. A total of 40 patients who underwent TKA without patellar resurfacing were involved. In order to test the quality of life of these patients I utilised the Medical Outcome Study Short Form 36 (MOS SF 36) questionnaire. The Western Ontario and McMaster Universities (WOMAC) index was also calculated for the specific assessment of the disease in question, one year after surgery. **Results:** The results of the MOS SF 36 questionnaire shown that the patients included in the study have a quality of life comparable to that of the population considered normal. Also, the WOMAC mean index reveals that 80% of the patients have a score higher than 70, with a functional capacity between good and excellent. **Conclusions:** The patients with knee osteoarthritis who underwent TKA without patellar resurfacing have a good prognosis, with a success rate of total knee arthroplasty exceeding 90%, clinically achieving a quality of life comparable to that of the normal population.

**Keywords:** total knee arthroplasty, patellar resurfacing, knee osteoarthritis

## THE SUPPORT OF TRANSARTERIAL CHEMOEMBOLIZATION IN TREATMENT OF LIVER METASTASIS

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**Background:** Transarterial chemoembolization (TACE) has been investigated in patients with liver metastases (LM) from different sources. Limited experience and available data suggest that TACE can achieve disease stabilization or improvement, even though the patients are pretreated. **Objective:** The main goal of our study was to evaluate local tumor response and survival data after TACE with microspheres with irinotecan and lipiodol with 5-FU in the palliative treatment of liver metastases. **Material and methods:** Follow-up was performed from 1st of January 2014 to 30th of October 2018. A total of 16 patients with unresectable LM were investigated, but only 11 patients were followed up. In total, 23 chemoembolization procedures were performed (2-3 sessions per patient). All patients had multiple metastases (2-10). The local protocol consisted of lipiodol with 5 fluorouracil (4 patients), microspheres with irinotecan (9 patients), microspheres with doxorubicin (2 patients). Tumor response was evaluated with MRI and CT imaging at one month after procedure. The response was evaluated according to the RECIST 1.1. Survival rates were calculated according to the Kaplan Meier method and Fisher test for other correlations, in GraphPad 7.0 statistic software. **Results:** The results are partial response (13 metastases), stable disease (16 metastases), progressive disease (7 metastases, 2 patients), 6 new metastases, and with no complete response to any patients. We have not faced with post-embolization events. Median survival from date of diagnosis of liver metastases was 26 months and from the start of chemoembolization treatment was 14 months. The procedure with irinotecan microspheres was statistically significant in survival rate than those two treatment protocols. **Conclusions:** TACE is a minimally invasive therapy option for palliative treatment of liver metastases. It is a feasible method with no complications in our study. Although it is palliative, it increased the survival rate.

**Keywords:** TACE, irinotecan, liver metastases

## THE TREATMENT OF POSTRENAL ANURIA: NEPHROSTOMIE VS URETHRAL STENT

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**Background:** Anuria is a symptom which can be caused by urological, nephrological or kidney unrelated diseases.

Definition of anuria is production of urine of less than 100ml/day . Due to underlying aetiology three main forms of anuria can be distinguished: prerenal, renal and postrenal anuria. Postrenal anuria is mainly caused by uni- or bilateral infrarenal obstruction. Various causes such as urolithiasis, blood clot, ureteral tumor or external compression can lead to obstruction and dilatation of the upper urinary tract, resulting then in renal failure.

**Objective:** Our objective is to compare the retrograde stenting to the percutaneous nephrostomy in an acute setting. Meaning that the focus of the treatment is release of obstruction and dilatation of the urinary tract, easing the patients discomfort and preventing worsening of the patients status and complications. For this we are evaluating several parameters such as type of procedure and indication, hospital stay, infectiousness, retention parameters and others. **Material and methods:** At the moment we are collecting data from patients at the Medical IV hospital admitted to the Urology department. Our goal is an equally demographically distributed sample of 70-100 patients with a fitting indication for our study. **Results:** As the study is ongoing no complete results or conclusion can be presented at the moment. **Conclusions:** Comparing key aspects during the patients hospitalization will lead to an understanding of benefits and disadvantages of the treatment options.

**Keywords:** Urology, double J stent, PCN, post-renal anuria

## AN UNUSUAL CAUSE OF ACUTE SURGICAL ABDOMEN: BENIGN MULTICYSTIC PERITONEAL MESOTHELIOMA ASSOCIATED WITH ADENOMATOUS TUMOR

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**Background:** Benign multicystic peritoneal mesothelioma (BMPM) known as multilocular peritoneal cysts is an extremely rare disease which has the peritoneal mesothelium as a starting point, with an unknown pathogenesis. Although this disease is considered benign, relapse after surgery is reported in over 50% of cases and 2 cases of malignant transformation have been reported. **Objective:** We describe a 53-year old female who was admitted as an acute surgical abdomen caused by benign multicystic peritoneal mesothelioma, our case being unique in literature. Only immunohistochemical exam after surgical removal established the final diagnostic: benign multicystic peritoneal mesothelioma associated with adenomatous tumor. **Material and methods:** We performed laboratory investigations, which showed normal values. Moving forward, a CT examination of the abdomen and pelvis performed revealed a 40 mm interhepato-gastric cystic mass, diffuse peritoneal thickening and large cystic lesion in the right lower quadrant. In the end, a surgical intervention occurs revealing the presence of multiple cysts with clear fluid disposed on the peritoneum covering the small bowel, the mesentery, the omentum and a 40 mm interhepato-gastric cyst. **Results:** Three hypotheses have been proposed in the etiology of BMPM disease. One hypothesis argues that BMPM arises from an inflammatory process involving peritoneum, which results in hyperplastic and dysplastic reactive transformation of peritoneal mesothelial cells. Another theory supports the primary neoplastic origin without the involvement of a chronic inflammatory process. Other authors support the hormonal theory in which the development and progression of BMPM is closely related to sensitivity to sexual hormones, because BMPM has a higher incidence in women during the reproductive period. **Conclusions:** Establishing a preoperative diagnosis of BMPM is difficult, if not impossible. One of the causes of acute surgical abdomen may be BMPM. The malignant transformation of this disease is rare, but the disease recurrence rate is over 50%, and it is often recommended to be monitored through CT abdomen.

**Keywords:** Benign multicystic peritoneal mesothelioma, adenomatoid tumor, omentectomy

## PENILE SCLEROSING GRANULOMA FROM KANAMYCIN INJECTION

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**Background:** Sclerosing granuloma being a clinical pathologic entity , by developing of firm, flat, nodules that has devastating cosmetic and sexual consequences. Injection of variety of substances, into the men genitalia with the intent of penile augmentation , done by non-medical individuals. **Objective:** This study aims to know the management of the penile granuloma , excision of the necrotizing tissue and restoring the normal function of the organ. **Material and methods:** Concisely, we present 3 clinical cases ,that has been studied in the Urology Clinic of Targu Mures, for Penile granuloma , at the level of penile tegumental area, after injection with kanamycin: Additionally, this study has covered , the following surgical techniques : - Scrotal STSG (split-thickness

skin graft)- Penoplasty with scrotal tunnelization **Results:** All three cases have shown favorable postoperative progression by receiving one or more penile skin reconstruction surgeries. **Conclusions:** All masses with nonviable skin were removed and different techniques have been performed along our study, to cover those defects, including : STSG and scrotal tunnelization, in order to be effective and to cover the major skin loss , and providing a good quality outcome into the patients life.

**Keywords:** urology, granuloma, penile plasty, fibrosis of the penian tissue

## PANCREATODUODENECTOMY WITH INVASION OF PORTAL VEIN CONFLUENCE: VASCULAR RECONSTRUCTION AND INTRAOPERATIVE MANAGEMENT

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**Background:** Pancreatic cancer is the fourth leading cause of cancer related deaths. More than 80% of pancreatic cancer cannot benefit from surgery at the time of diagnosis, main cause being the late presentation of the majority of patients already presenting an advanced form of the disease by the time of the first diagnose. **Objective:** Our objectives are to improve the quality of patient life and to increase life expectancy by surgical intervention.

**Material and methods:** We present a case of a 55 years old woman, with a history of endometriosis for which she underwent a hysterectomy 25 years prior. During a follow up abdominal ultrasound, a pancreatic tumor was found and the Contrast-enhanced CT scan showed a pancreatic neck tumor with invasion of the portal vein confluence but without the invasion of hepatic artery and superior mesenteric artery. Pancreaticoduodenectomy was performed with en bloc resection of the portal vein confluence, reconstruction was made by end-to-end anastomosis between superior mesenteric and portal vein without graft interposition and reinsertion of the splenic vein into the left renal vein by end-to-side anastomosis. Gastrointestinal reconstruction was made by duct-to-mucosa pancreaticojejunostomy, , gastrojejunal anastomosis, cholecystectomy and hepaticojejunostomy. **Results:** The postoperative course was uneventful and the patient was dismissed on the 13th postoperative day without any complications. **Conclusions:** Pancreatoduodenectomy with minimal morbidity and mortality, and better postoperative quality of life can be done by only few surgeons in high volume centers who have the ability to perform a quality and curative resection.

**Keywords:** pancreaticoduodenectomy, pancreatic cancer, vascular reconstruction

## CLAVICULAR FRACTURE IN PEDIATRIC POPULATION – OPERATE OR NOT?

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**Background:** The clavícula is the best healing bone in the organism, its fractures are common. There are differences between adult and pediatric population. Differences are due to the mechanism of the production, the type of fracture, treatment, healing and complications. In children high energy trauma is a common cause, mostly resulting in greenstick or transversal fractures, conservative treatment is frequently used, they show better healing and less complications. Surgical treatment indications are not always clear, we have a few cases where osteosynthesis was needed, however it can be wrong treatment indication. **Objective:** The aim of the study is to research outcome and treatment indications in clavícula fractures. **Material and methods:** In our retrospective, descriptive study we included every patient treated in our clinic with clavícula fracture between 01.01.2017 and 31.12.2018, in total 71 patients, we included 66 patients with conservative treatment, by "8" form bandage or Dessault, and 5 patients who underwent operation. The patients were between 0 and 16 years of age with closed fracture. We have followed the patients radiologically and with clinical examination at 3 weeks and 3 months. We searched for radiological aspects, nonunion, shortening, pain, dysfunction. **Results:** Our lot was formed by 83 patients, but according to the exclusion criterias we reduced it to 71. 66 were treated conservatively, 5 patients were operated. Indications for operation were: 2 cases with free interpositioned fragment, 1 case with shortening in athlete, 1 case with nonunion after conservative treatment and 1 case with ligament destruction. In the conservative treatment group we had 1 nonunion, 3 cases with shortening. The surgical treatment group had no complications. **Conclusions:** A proper treatment method is essential for a good outcome. In some cases clinicians



undertreat clavicular fractures. Cases with shortening, in athletes, free fragments and ligamentar destruction can be indications for surgery. Open fracture, nonunion are absolute indication.

**Keywords:** Clavicula, Fracture, Treatment

## ULTRASOUND GUIDED FINE NEEDLE ASPIRATION BIOPSY USED IN THE MANAGEMENT OF DIFFICULT SALIVARY GLAND TUMORS

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**Background:** ENT specialists face a growing number of patients with head and neck masses. Associated pathologies sometimes represent unacceptable risks for classic excision biopsy. **Objective:** We present a series of 7 cases with salivary gland masses that benefited from the use of ultrasound guided fine needle aspiration biopsy in order to improve their diagnosis and management. All cases had associated pathology that made difficult the use of anesthesia in order to perform classic surgical biopsy. **Material and methods:** We present the technique for ultrasound guided fine needle aspiration biopsy emphasizing the advantage of the profound knowledge of the anatomical structures specific for an ENT specialist. Continuous real-time ultrasound is used to visualize the tip of the needle entering the lesion and avoiding facial nerve or vascular landmarks. **Results:** Therefore we had no accident or incident during these procedures. In one case the lesion proved to be benign thus reducing the risks and costs of preoperative CT imaging investigations followed by surgery. In another case the patient facing an extensive surgical procedure opted for oncologic treatment and palliative care based only on the pathologic result obtained through FNAB. A patient with multiple head and neck masses proved to be suffering of lymphoma overlying Sjogren disease and was further referred to the hematology department. **Conclusions:** Ultrasound guided fine needle aspiration biopsy has the following advantages: quick, non irradiating, cost efficient and with low associated surgical risks. We hope to promote the cooperation between ENT surgeons and imaging specialists towards using this method in solving difficult salivary glands cases with multiple associated pathologies.

**Keywords:** salivary, glands, ultrasound, biopsy

## RECONSTRUCTION METHODS OF POST TRAUMATIC PERIPHERAL NERVE INJURIES IN ORDER TO AVOID THE FORMATION OF NEUROMA. HISTOLOGICAL STUDY.

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**Background:** Peripheral nerve injury remains a challenge in reconstructive microsurgery, that's why new surgical techniques are performed, or the old ones are being improved. The most used method when possible is the end to end neurorrhaphy, lately helped with a boost of stem cells or high vascularized tissue around the suture. **Objective:** The purpose of the study is to analyze the effect of wrapping a muscle flap or an adipose flap around the primary suture of a traumatized motor nerve in order to see the nerve regeneration process from the histological point of view. **Material and methods:** Twenty- four adult Wistar Albinos rats were divided in three equal groups. The left sciatic nerve was trans sectioned and reconstructed with primary suture. For the first group the primary suture was left alone, for the second group the reconstructed site was wrapped in a local muscle flap, and the third group was wrapped in adipose flap. At 4, 6, 8 and 10 weeks the animals were sacrificed and the nerve tissue specimens were taken for histological examination. **Results:** From the histological point of view we observed that neuroma was found in all three groups. In the first and second group the modified nervous tissue was present all along the nerve ageing. However in the group with adipose flap, neuroma was found in 50% of the cases. **Conclusions:** The histological analysis of peripheral nerve regeneration is one of the most used methods to demonstrate the neuroma formation, even if there are other innovative methods used nowadays like NMR relaxometry and electric conductivity. In this study was demonstrated that wrapping adipose tissue around a repaired injured nerve can prevent the neuroma formation due to the fat cells stem like proprieties.

**Keywords:** neuroma, nerve injuries, fat cells, muscle cells

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## INNOVATIVE METHODS OF PERIPHERAL NERVE RECONSTRUCTION EVALUATED BY 1H NMR RELAXOMETRY

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**Background:** Plastic surgery major challenges are the nerve injuries, no matter if they are sectioned, crushed or compressed. For this, the science evolves and new methods of reconstruction and regeneration are being developed. **Objective:** The aim of this study is to evaluate from the structural point of view, how the muscle flap or the adipose flap wrapped around direct suture helps the regeneration of injured nerves. **Material and methods:** For this study, three equal groups of 8 Wistar Albino rats were used. The left sciatic nerve was cross sectioned and all of the nerves were reconstructed using direct suture. For the first group direct suture was performed, for the second group the suture was wrapped around a muscle flap, and for the third group adipose flap was used. Rats were sacrificed at 4, 6, 8, and 10 weeks after surgery. By 1H NMR relaxometry, the sciatic nerve for all rats was measured using a variety of impulse sequences correlated with the Laplace reversal analysis. **Results:** Nuclear magnetic resonance measurements were performed and the distribution of relaxation times for all three groups was obtained. For group one, a number of 5 peaks are seen, during the regeneration process the best response rate occurs at week 4 and 6. For the second group we've noticed a number of four peaks that can be or they are solved. For the third group, four more peaks are also obtained, the response rate being ascending from week 6. **Conclusions:** In conclusion, 1H NMR relaxometry can be used to evaluate the nerve healing process from the structural point of view. Significant differences were observed between the three types of reconstruction, the best method being the direct suture wrapped around adipose flap, followed closely by the second group where we used muscle flap, the last being just the direct suture.

**Keywords:** Sciatic nerve, regeneration process, 1H NMR relaxometry

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## MINIMAL PLEUROSTOMY "THE MAXIMAL SURGICAL GESTURE" IN SPONTANEOUS PNEUMOTHORAX

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**Background:** In primary spontaneous pneumothorax, by definition, there cannot be identified any underlying pulmonary disease, while the causative condition is known in secondary spontaneous pneumothorax. The spontaneous pneumothorax has a great incidence among young people, especially male gender is affected. The incidence of this pathology is more frequent among tall and thin persons, in the presence of the following: thoracic pain, hacking cough, dyspnea symptomatology may allude this diagnosis. **Objective:** The aim of the study was to provide information on the epidemiology and prevalence, moreover to analyze the outcome of conservative and surgical management of spontaneous pneumothorax. **Material and methods:** We conducted a retrospective study, which included 223 patients admitted, and treated for spontaneous pneumothorax from 01.02.2013-01.02.2019 in the General Surgery Clinic I of Târgu Mureș Emergency County Hospital. Patients were divided by the following criteria: spontaneous pneumothorax, recidivated pneumothorax, malignant/iatrogenic pneumothorax. Clinical data was gathered and analyzed from observation sheets, hospital database, and operating registry records, than analyzed with MATLAB. **Results:** From all the cases we had a masculine gender predominance 81%, with an average age of 50 years; frequent comorbidities were: dyspnea (82%), hypertension (56%), but also interstitial lung disease (37%), pulmonary fibrosis (34%), chronic obstructive pulmonary disease (26%) pneumonia, malignity. 191 patients were suffering from chronic tabagism (86%). The average hospitalization was 8 days. **Conclusions:** Our study shows that sex and age are determinant factors in the course of spontaneous pneumothorax just as the comorbidities and smoking. Treatment includes preventing complications, surgical resolving the pneumothorax, pain relieving, and properly informing the patient about this medical conditions.

**Keywords:** spontaneous pneumothorax, secondary pneumothorax, pleurostomy

## ENDOVASCULAR TREATMENT OF WIDE-NECKED INTRACRANIAL ANEURYSMS WITH THE BALLOON-ASSISTED COILING TECHNIQUE

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**Background:** The most common cause of non-traumatic subarachnoid hemorrhage is the rupture of an intracranial aneurysm. Eighty-five percent of saccular intracranial aneurysms arise from the arteries of the circle of Willis. Endovascular coiling is the first-line treatment for this pathology, but for wide-necked aneurysms the endovascular approach is difficult due to the risk of periprocedural coil migration or coil impingement into the parent vessel. **Objective:** The aim of this paper is to present a successfully treated aneurysm of the right internal carotid artery with an unfavorable dome-to-neck ratio, using the balloon remodelling technique and to discuss its relevant procedural details. **Material and methods:** A 83-year-old female patient, presented with acute onset headache and altered neurological condition. Head CT and CT angiography revealed subarachnoid hemorrhage and a saccular aneurysm on the right internal carotid artery. Catheter angiography confirmed the presence of the ruptured aneurysm. Through a right common femoral artery approach, the right internal carotid artery was catheterized and coil embolisation of the aneurysm supported by a remodeling balloon was successfully performed. **Results:** There were no intraprocedural or postprocedural complications, and the clinical status of the patient improved in the following days until discharge, one week later. **Conclusions:** The balloon-assisted coiling technique is a safe and effective treatment strategy for intracranial aneurysms with an unfavorable dome-to-neck ratio.

**Keywords:** intracranial aneurysm, endovascular treatment, balloon-assisted coiling, wide-necked aneurysms

## MID TERM RESULTS AND CLINICAL OUTCOME OF DEGENERATIVE SPONDYLOLISTHESIS TREATED WITH DECOMPRESSION AND INSTRUMENTED POSTERIOR FUSION

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**Background:** **Objective:** An analysis of consecutive cases of degenerative spondylolisthesis treated by one surgical team. To assess at a minimum 2 year follow up the patient satisfaction rate, complication rate, reoperative rate and radiographic results, with surgical treatment of lumbar degenerative spondylolisthesis grade I and II Meyerding by means of segmental posterior instrumented fusion with decompression. **Material and methods:** The potential study population consisted of 35 consecutive patients who had undergone no prior surgery for degenerative spondylolisthesis, 33 patients with grade II Meyerding spondylolisthesis and 2 patients with grade I Meyerding spondylolisthesis. (Average age 59 years; range 38-71 years), with mean follow up of 3 years (range, 2-4 years) who were treated with decompression and segmental (pedicle screws) instrumentation (+- intervertebral peek cages). We used the Oswestry Disability Index (ODI) to evaluate the clinical outcome. One patient died, the remaining 34 were included in the study. **Results:** There were 2 cases of instrumentation failure (broken screws with late fusion) and one superficial infection. There were no neurological deficits, no pseudoarthroses, no recurrent stenosis at the fused segment and no progression of deformity at the fused level. Before surgery the ODI index had a mean of 47% (severe disability) after surgery was 10% (minimal disability). 91% reported satisfaction with the procedure 86% thought their back and leg pain was significantly reduced than before surgery and 77% would have the procedure again if needed. Poor satisfaction (n=3) was associated with mechanical complications of the implants. **Conclusions:** From a clinical point of view, spondylolisthesis can cause serious infirmities, surgical treatment appears to lead to good clinical outcomes in short and mid term. However, surgical treatment should remain a backup solution, due to increased risks that may occur. Mechanical, neurological and even septic disaster complications may occur.

**Keywords:** spondylolisthesis, Oswestry Disability Index, ODI, Meyerding

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## OPTIMIZATION OF SURGICAL BONE DRILLING PROCESSES IN REPAIRING COMPLETE BONE FRACTURES

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**Background:** Repairing complete bone fractures requires surgical drilling to create guide holes for easy insertion of screws. In current clinical practice, electric handheld drills are also used. Nonoptimal forces and torques can cause temperature rises, causing bone necrosis as well as a poor quality of guide holes, resulting in poor screw fixation. **Objective:** To determine force and torque measurement during bone drilling in order to optimize parameters which avoid bone necrosis. **Material and methods:** In whole bones of animals, fixed in a vice, holes are practiced with a surgical drill whose rotation speed and feed rate are controlled by the computer. A sensor is mounted on the vice that measures the force and moment values during drilling. These values are normalized with the surface of the guide hole in order to eliminate geometric effects. **Results:** Using the numeric values recorded, the strength profile and torque profile are plotted for drilling depth, both for the unsmoothed and smoothed data. They have a gradual increase, starting from zero, as the drill comes in contact with the bone and becomes completely immersed in the bone, up to peak values. Then there is a gradual decrease of force and moment to residual values as the cortical drilling is performed. Variations of force and moment are also studied depending on the ultimate stress of the bone and the geometric and kinematic parameters of the drill. **Conclusions:** Orthopaedic surgeons use electrically operated drills, and drill bit advancement is achieved empirically by skill. The force and moment generated at the contact between drill and bone are influenced by the cutting parameters. Process optimization requires preoperative BMD scans of patients to allow engineering predictions about the appropriate drilling force and torque values followed by the use of a surgical drill bit equipped with digital force and moment displays.

**Keywords:** bone fractures, surgical drilling, guide holes, cortical screw

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## RESTORATIVE TOTAL PROCTOCOLECTOMY - A THERAPEUTIC OPTION IN CROHN'S DISEASE – CASE REPORT

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**Background:** Crohn's disease is an inflammatory bowel disease, that usually affects the distal part of the small intestine and the large bowel. This condition is more frequent in children and young adults. It is characterized by the presence of inflammatory and ulcerative transmural lesions that might lead to complications such as fistulas, abscesses, and obstructions. **Objective:** The surgical treatment is reserved for complicated cases, where the conservative treatment has no result. We present a case of a 25 years old woman who was admitted to The Surgery I Department diagnosed with Crohn's disease, affecting her entire colon and rectum, complicated with perianal fistulas. **Material and methods:** The onset was two years prior to her admission to surgery. After the patient was diagnosed with Crohn's disease, she started the medical treatment, but the evolution has progressively worsened. Taking in consideration the extension of the lesions to the entire colon and rectum, complicated with anal and perianal fistulas, and the patient's refusal for creating a stoma, the therapeutic option was to perform a restorative total proctocolectomy, without an ileal pouch or a temporary diverting ileostomy. **Results:** The procedure consisted in the removal of the entire colon and the proximal part of the rectum through abdominal approach and of the distal part of the rectum using a perineal approach, with preservation of the anal sphincters and anastomosing the distal ileum to the skin. The patient had no postoperative complications. The evolution was favorable, with good preservation of the continence function. **Conclusions:** The surgical treatment is reserved for the complicated cases of Crohn's disease. In this case, considering the young age of the patient and the refusal of creating an ileostomy, the total proctocolectomy technique used was the optimal choice, assuring the patient a good quality of life.

**Keywords:** Crohn's disease, restorative total proctocolectomy, continence function, ileostomy

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## SURGICAL MANAGEMENT OF VESTIBULAR SCHWANNOMAS

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**Background:** Vestibular schwannomas, also known as acoustic neuromas, are benign tumors which develop from the vestibular part of the eighth cranial nerve. In spite of their non-malignant nature, they can heavily affect the patients' quality of life, mainly through compression on the adjacent structures of the ponto-cerebellar angle. One of the most feared clinical manifestation is the facial palsy and, therefore, a careful management of the tumor should be considered in order not to injure the seventh nerve. **Objective:** As far as we are concerned, there are no published studies to assess the outcomes of the retrosigmoid surgical approach on the Romanian patients with vestibular schwannomas. Thus, our purpose is to present the situation of this pathology in our clinic and to emphasize the importance of an early diagnosis and of a proper treatment, according to the tumor grade. **Material and methods:** This retrospective study includes the patients from the Neurosurgery Department of the Emergency Clinical Hospital of Târgu Mureş, who are diagnosed with vestibular schwannomas and treated via retrosigmoid surgical approach, during a 12-year period, from January 2007 until December 2018. The data were collected from the Hospital archive and the Department database and were statistically analyzed using GraphPad InStat Demo. **Results:** Our study shows that, at the moment of diagnosis, the vast majority of patients (91.67%) have last stage tumors on Koos Grading System. Consequently, facial palsy is more likely to develop ( $p=0.0038$ ). Regarding the treatment modality, a near total removal proves to be a better choice to prevent either the occurrence or the aggravation of pre-existing facial palsy ( $p=0.02$ ). **Conclusions:** To conclude, an early diagnosis and an appropriate treatment method are of paramount importance for a better postoperative quality of life of the patients.

**Keywords:** Vestibular schwannoma, Facial palsy, Near total removal

# **NUTRITION AND DIETETICS**

## BREAKFAST ON WEIGHT LOSS: FRIEND OR FOE?

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**Background:** Since 1917, breakfast has been acclaimed the "most important meal of the day". We all know its benefits, but today, we inquire its veracity and it may be lacking. Recent findings suggest that breakfast consumption can lead to weight gain, in overweight individuals, and may be counterproductive for weight loss strategies. **Objective:** Our goal is to demystify the importance of breakfast consumption regarding weight loss. Furthermore, we aim to inform and raise awareness, within the medical student community, of new findings in the fields of nutrition and dietetics. **Material and methods:** We focused on a systematic review and meta-analysis of randomised controlled trials, based in Australia, published in January 2019, which evaluated the effect of breakfast on weight and energy intake. Also, an anonymous survey, of nine short questions, on the same topic was performed by our team and published in social media groups (Facebook), targeting medical students and graduates. The results were collected during the period of 14 to 27 of February 2019. **Results:** The review and meta-analysis revealed there is no supporting evidence that breakfast consumption promotes weight loss. In fact, all measured parameters (weight change, energy intake, metabolic rate, thermogenesis, levels of appetite and energy balance-regulating hormones, physical activity, etc) point towards the opposite. Regarding our survey, out of 207 participants, 84% answered "Yes" or "Maybe" when asked if breakfast could promote weight loss and prevent binge eating. Also, over 50% believes breakfast increases one's basal metabolic rate. **Conclusions:** Old myths regarding breakfast are widely believed by the general population and, more worryingly, by the medical community. This can have an impact on how we approach weight loss in overweight, obese patients. By continuing research and keeping updated on new trends, we can better counsel our patients and likely improve outcomes.

**Keywords:** Dietetics, Breakfast, Weight loss, Metabolism

## FOOD CHOICE MOTIVATION IN A ROMANIAN SAMPLE USING EATMOT QUESTIONNAIRE: A COMPARATIVE STUDY BETWEEN DIFFERENT EDUCATIONAL LEVEL

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**Background:** Poor nutritional choice is affecting our ability to lead a lifestyle free from chronic and debilitating healthy problems. Understanding the underlying reasons behind these choices would make it easier to design a targeted public awareness campaign to promote a healthy lifestyle. **Objective:** The aim of this study is to establish if the level of education has any link when it comes to making healthy choices. **Material and methods:** In this study we used the EATMOT questionnaire designed to test the psycho-social motivation associated with food choices. It a cross-sectional study in a sample of 338 participants age 18 years old and above. We split the sample into two groups; Secondary school graduates and University graduates, and compared their response to 10 items about Healthy Motivation (HM). We used the statistical SPSS 11.5 program to see if there exist any association between the level of education and the response to these motivational items. **Results:** Only item No.7 [I avoid eating processed foods, because of their lower nutritional quality] tested positive for an association ( $X^2(2)=10,774a$ ,  $p<.001$ ); university graduates(39.3%) being more likely to agree than secondary graduates(27.9%). However, when we performed the Student T test, we obtained no statistically significant difference in the mean response between the groups ( $t(331/882)=-1.5/05$ ,  $p>.269$ ). Items No.5 and No.9, corresponding to food that raised cholesterol and blood sugar levels respectively, both groups were more likely to consume food rich in cholesterol and avoid food that raised blood sugar. Item No.10 [I avoid foods with GM organism], 88.8% of the total participants strongly agreed. **Conclusions:** We can conclude, the level of education has no effect on the food choices we come to make. What's apparent however from this study, is the lack of knowledge about GM food and processed food in both participant groups. Therefore, suggest campaigns to target the misconceptions people have about these foods.

**Keywords:** EATMOT, Food motivation, Food choice questionnaire, Education

## NUTRITION APPLICATIONS ON THE HUMAN PSYCHE

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**Background:** All food information reaches the nervous system through the vague nerve. This nerve is a connection between our bodies: the physical and the mental. Therefore, what we eat becomes what we are. **Objective:** Checking for mental changes due to nutrition **Material and methods:** The analysis of scientific literature available on Pub Med, related to microbiotic interrelation with neural and psychiatric cells. Active participants were 85 people, male and female, including 83 from Romania and two from Canada - Calgary. Has been adapted a diet based on whole foods, without additives and questionnaires used before and after the diet change. **Results:** Patients had a positive feed-back with significant emotional and behavioral changes: for people with anger and nervousness crises, nerve episodes decreased by 92%. Patients with generalized anxieties opened up a lot, increased their circle of friends, wandered more much by nature and have hobbies they feared at first. Some patients with depression, managed to overcome the depressive episode without medication, and those who were treated with antidepressants, managed to reduce the dose (40%) and others to complete the treatment (45%), without trace of withdrawal. Processed and admixed foods, which cause slow destruction of the body, induce mental destruction, characterized by panic attacks, fear, disorientation, unjustified appetites, lack of morality. **Conclusions:** If those active people in the study are people who have outlined the wonderful idea of a healthy psychic being built by a healthy diet. Proper physical habits promote mental superiority. The formation of character is prevented by inappropriate treatment of the digestive system. Today, analyzing the recurrent feed used by the population, following this study, we can sincerely ask ourselves whether we still have the safety of the answer to the question: "Who am I? "

**Keywords:** nutrition, psychiatric disorders, additives, digestive - neuronal information

## AN INVESTIGATION INTO THE EFFECTS OF ENZYMES USED IN ANIMAL FEED ADDITIVES ON THE LIFESPAN AND BEHAVIOUR OF CAENORHABDITIS ELEGANS

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**Background:** To deal with the increasing food demands, the food industry has used hormones and antibiotics which have been banned from Europe following the discovery of their detrimental effects on animals and humans. Currently, enzymes are added to animal feed to accelerate food production rate of poultry, cattle, swine etc. Although the industry deems these as risk-free, their effect on *C. elegans* is not determined. **Objective:** To investigate the effects of enzymes used in 90% of European animal feeds on the model organism *C. elegans*, potentially indicating their effect on humans. **Material and methods:** Nematodes were cultured in the presence of varying quantities of animal feed containing both active and denatured enzymes. Other populations were cultured in the presence of pure enzymes (phytase,  $\beta$ -glucanase and xylanase) at concentrations emulating the amounts which withstand avian gastric degradation. A lifespan and four behavioural assays were performed; osmotic avoidance, chemotaxis, roaming and water thrashing assays. The cilia of OSM6::GFP mutant nematodes exposed to phytase and  $\beta$ -glucanase were imaged under a fluorescent microscope. **Results:** All tested conditions decreased lifespan of *C. elegans*. Xylanase and phytase had the most detrimental effects. The following showed statistically significant results in the behavioural assays: Osmotic Avoidance: All pure enzyme and active enzyme animal feed conditions Chemotaxis: All active enzyme animal feed, phytase and  $\beta$ -glucanase conditions Water Thrashing: Highest amounts of animal feed (regardless of active or denatured condition) Roaming: 2 week exposure to xylanase and 4 week exposure to phytase decreased nematode foraging abilities Cilia do not appear to be affected by the tested quantities of phytase and  $\beta$ -glucanase. **Conclusions:** The tested enzymes appear to reduce nematode lifespan and their ability to detect noxious substances, to forage and to react to stimuli. These negative impacts on the model organism raise questions about the effect of the enzymes (which withstand avian gastric degradation) on humans if they are indirectly consumed through poultry.

**Keywords:** Additives, Lifespan, Model organism, Detrimental



# PHYSIOTHERAPY

## EFFECTIVENESS OF AQUATIC PHYSICAL THERAPY VS. LAND-BASED PHYSICAL THERAPY IN PATIENTS WHICH UNDERWENT KNEE REPLACEMENT SURGERY

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**Background:** Knee replacement surgery can help relieve pain and restore function in severely diseased knee joints. It involves cutting away damaged bone and cartilage from your thighbone, shinbone and kneecap and replacing it with a prosthesis made of metal alloys, plastics and polymers. Compared to land-based exercise, hydrotherapy for knee rehabilitation has a number of positive affects including relieved pressure on the knee and improving circulation and range of motion. **Objective:** The purpose of this study is to compare the effects of a hydrotherapy resistance exercise program with a land-based resistance exercise program on strength and function in patients which underwent knee replacement surgery. **Material and methods: Subjects:** 2 groups, each consisting of 10 subjects which underwent arthroplasty procedures. **Method:** Both groups underwent 10 days of therapy, land-based physical therapy for group 1, and aquatic-based physical therapy for group 2. The next 5 months period both groups underwent 3 sessions of therapy per week. During this period we monitored articular mobility, pain intensity, physical fitness and overall quality of life. **Results:** □ **10 days of therapy mark** Group 2 recorded a higher range of mobility then group 1 ( $90.1^\circ > 87.2^\circ$ ). Both groups scored similar on the pain intensity scale and on the fitness scale. Both groups score similar on the KOOS test. □ **6 months of therapy mark** Group 2 recorded a higher range of mobility then group 1 ( $116.2^\circ > 109.1^\circ$ ). Both groups scored similar on the pain intensity scale and on the fitness scale. Group 2 scored 8.7 more units on the KOOS scale ( $96.3\% > 87.6\%$ ). **Conclusions:** In conclusion both land-based physiotherapy and aquatic-based physiotherapy are essential for a healthy recovery after a knee replacement procedure, but the data shows that aquatic-based physiotherapy, due to its convenient properties is more efficient in achieving a higher range of articular mobility therefore better improving the patients' quality of life.

**Keywords:** knee joint, hydrotherapy, Arthroplasty, Recovery

## KINETOPROPHILAXY IN SPORT PATHOLOGY

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**Background:** Kinetoprophilaxy is a branch of kinetotherapy covering an extremely large area of applications and concerns. However, kinetoprophilaxy studies the process of optimization of the health state and the prevention of getting sick of the human body, with the help of sport and exercises, which also applies to healthy persons to keep them away from illnesses and physical deconditioning, to the elders in order to prevent the evolution of the deconditioning and, also, to sick persons to prevent the aggravation or the complication of some illnesses. **Objective:** The purpose of this study is based on the finding and classification of all the causes of the accidents, mentioning the most frequently met. In these conditions it is totally necessary the prophylaxy of traumas that can be done by preventing the external factors such as some of these: improper training, inadequate terrain, or internal, reduced concentration of Calcium, Magnesium, or illnesses. **Material and methods:** The study was done on a group of 25 subjects with the age between 16 and 18, only males, within the junior team of the excellence center TGM. The method was the questionnaire, with closed and semi closed questions. **Results:** Following the application of the questionnaires resulted that most medical problems are: 40% muscle ruptures, 50% ankle and knee sprain, scoliosis and lordosis. After these results, a kinetoprophylactic exercise program was recommended in order to increase the elasticity of joint and periarticular structures as well as the correct treatment and recovery of the traumas. **Conclusions:** To sum up the aforementioned statements, we do expect to prove the benefic effects of the correct application of kinetoprophilaxy in pathology and sportive traumas in order to avoid accidents.

**Keywords:** Kinetoprofilaxy, health, sport, recovery

## FUNCTIONAL REHABILITATION IN PULMONARY HYPERTENSION FOR HEMODYNAMICALLY STABLE PATIENTS

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**Background: Pulmonary hypertension(PH)** is a disease that is characterized by high blood pressure that affects the arteries in a person's lungs and also the right chambers of their heart. Clinical classification of PH is comprehensively organized in five groups :idiopathic(PAH), due to left heart disease, due to chronic lung disease and/or hypoxia, chronic thromboembolic PH and pulmonary obstruction, and PH with unclear and/or multifactorial mechanisms. **Objective:** The aim of this study is to evaluate the impact of PH a light, refined exercise program, on patients quality of life along with the efficiency of the exercise plan. **Material and methods:** The study includes 19 patients from Mureş County Clinical Hospital diagnosed with Pulmonary Hypertension .Baseline, we evaluate patients quality of life by **emPHasis-10 Questionnaire** and functional capacity using **The 6-minute walk test**. We developed an intensity accessible Physical Therapy program,suitable to all patients. Patients are being exposed to the exercise program at the moment of the admission. After discharge, patients continue the exercise program at home, 3 times a week until they are scheduled for readmission according to a follow-up plan. Patients are reassessed with the emPHasis-10 Questionnaire and The 6-minute walk test. **Results:** Based on the emPHasis-10 Questionnaire the patients were included into one of the four different categories built on their functional capacity:mild disability(score 0-10) six patients , moderate disability(10-20 score) five patients,severe disability(score 20-30) four patients and crippled(score 30-50)no patient. Also, based on the ADL assessment we have drawn the conclusion that their capacity to enterprise high energy activities is severely affected. **Conclusions:** The importance of the training exercises, for this particular type of patient, relies on the patient's motivation to get out of their safe/comfort zone and start living a more active lifestyle in spite of their condition.

**Keywords:** Pulmonary hypertension, questionnaire, exercise, ADL

## COMPARATIVE STUDY OF RECOVERY METHODS IN RHEUMATIC LOW BACK PAIN: THE "WILLIAMS" METHOD VS. THE "BACK SCHOOL" & STRETCHING METHOD

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**Background:** One of the main symptoms that determine us to seek medical care related to rheumatic diseases is lumbar pain, generally referred to as low back pain . This pain has a sudden onset after intense exercise, weight lifting or exposure to cold ambient, sometimes radiating to different segments of the body: other back regions, abdomen, pelvis or lower limbs. **Objective:** The aim of this study is to compare the efficiency of the "Williams" Method vs. stretching exercises introduced by the "Back School" & Stretching Method. **Material and methods:** We divided the patients into two groups, each containing twenty members. Group "A" followed the "Williams" Method exercise program, while the group "B" has been subjected the "Back School" and Stretching Method. All the patients followed a ten day therapy program, with one session per day, under the supervision of qualified personnel, which took place at the Mureş County Emergency Clinical Hospital. As evaluation methods we used the Oswestry Low Back Pain Disability Questionnaire, the Visual Analogue Scale (VAS), the Schober's Test and the Finger-ground distance Test to determine the lumbar spine mobility. **Results:** The final decision will be based on determining which group presented a more significant decrease in pain intensity and an increase in lumbar mobility. The first ten patients that followed the "Williams" program have reported a decrease pain intensity by an average of two points on the VAS and the finger-ground distance has been reduced too by an average of three centimeters. **Conclusions:** At this stage the conclusions cannot be drawn with certainty yet, but the Stretching and "Back School" Method are expected to deliver better results, being a more modern approach, better focused on the goals we hope to achieve.

**Keywords:** low back pain, exercise, stretching

# NURSES

## THE EXPERIENCE OF THE VASCULAR SURGERY CLINIC IN THE MINILAPAROTOMY TREATMENT OF LERICHE SYNDROME

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**Background:** The term of Leriche Syndrome describes a rare clinical entity called Acute Aorto-Iliac Occlusive Disease (AIOD) which presents the triad formed by claudication, absent femoral pulses and erectile dysfunction. The risk factors for it include hyperlipidemia, diabetes, smoking and hypertension. The indication of surgical intervention occurs in type II which is classical occlusive aorto-iliac disease, and type III affection. **Objective:** The use of the minilaparotomy in the ABF, AF, IF bypass is a new technique of low limb revascularization that has the desire to reduce the time of surgery and reduce the exposure of an aortic segment required for anastomosis. **Material and methods:** a retrospective study was performed on patients admitted to the vascular surgery clinic at the Mures County Emergency Clinical Hospital in 2017 and 2018. During this period ABF bypass surgery using the minilaparotomy was performed in 23 patients with Leriche syndrome. The duration of the operations was between 50-85 minutes. The length of the minilaparotomy incision was 4-6 cm. The mean time of aortic clamping was between 4-8 minutes. Their post-operative evolution was followed. **Results:** 18 of the 23 patients included in the study resumed their auscultatory intestinal transit on the day of surgery. All patients received water from the first day postoperatively. The average postoperative hospitalization was 4 days. Reduction of postoperative pain was also observed. **Conclusions:** Minilaparotomy has many advantages over the short duration of surgery and early recovery of patients.

**Keywords:** Leriche syndrome, Minilaparotomy, vascular surgery

# PHYSICAL EDUCATION AND SPORT

## IMPROVING THE MOTRICITY AND TECHNICAL PERFORMANCES IN SECONDARY SCHOOL BASKETBALL TEAMS

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**Background:** Basketball is a fast moving game that involves a lot of variety, including shooting, dribbling, passing, rebounding, defense and much more. It is a team sport that involves two teams of five active players each trying to score points against one another by throwing a ball through a 300 cm high rim, where they can score from 1 to 3 points under organized rules. It is an indoor/outdoor game. **Objective:** Our main goal is to find the best training program that will enhance the performance of a basketball in 3 months time. **Material and methods:** We evaluated two teams from the 8<sup>th</sup> grade so that they have approximately the same level of performance in gameplay. The parameters that we measured in order to find the best compatible teams were player speed, hoop throwing skills, stamina, height, and body mass index. After we found the compatible teams we applied a set of rules for one of the teams, and the other one trained exactly the same as before. We emphasized on a healthy diet, a minimal daily exercise that included skill improvement, repetitions, tips and tricks from experienced players, and mentoring about team play. **Results:** After a one month program, we started to see improvements in the gameplay of our selected team. In the second month, we noticed a rebound effect from the other team that got motivated by the improvement of the selected team. At the end of our study, we noticed that our selected team had significant improvements on all the parameters that we evaluated initially, whilst the other team had minor improvements. **Conclusions:** The training program that we used gave a significant boost to the selected team, thus the parameters that we selected for our study have an important link to the performance of the team.

**Keywords:** basketball, training program, enhanced performance, short term results

## DEVELOPING MOTOR SKILLS FOR SECONDARY SCHOOL STUDENTS

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**Background:** The applicative route is a common method with very good applicability within the physical education classes, having the main purpose of forming the basic, applicative and sporting motor skills. **Objective:** In the study, we aimed to identify the efficiency of using the applicative routes with resources of gymnastics, in order to improve the general motor skills. **Material and methods:** The research period was October 15th 2018 - December 15th 2018, on two samples: a control one and an experimental one, consisting of 27 subjects in secondary school.. The study included 2 tests, an initial one and a final one, at the beginning and end of the study period, and independently variable included 15 applicative routes adapted to the specifics of age and the concerned objectives. **Results:** The statistical analysis of data reveals differences between the two tests, and between the two groups, in favor of the final test and the experimental group. On the initial test, the values of the given times on routes were closer on the two groups, but at the last test the differences were major between the two samples. **Conclusions:** Following the development of research, the hypothesis has been confirmed. It is worth noting that after crossing the various applicative routes, with the aim of developing the motor skills, the experimental group has achieved a remarkable progress. The subjects have developed and strengthened their motor skills in a very accessible way for me and a very pleasant way for them, as students on the secondary school.

**Keywords:** motor skills, applicative route, physical education

## "SELF-HELP": ENOUGH FOR SPORT PERFORMANCE?

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**Background:** In sports competitions there is an interdependent relationship between the athlete's stress/anxiety, the "management" of these two human reactions and the level of performance. The athlete can be significantly affected, and the competition itself can break the competitor's emotional balance. **Objective:** Proving that there is

a direct connection between the level of anxiety, the need of psychological counseling and level of sport performance. Even if the athlete is capable of self-help, this is not enough to guarantee the success in the long-term. **Material and methods:** We have determined and compared competitive anxiety in the case of sportsmen using the Sport Competition Anxiety Test (SCAT) questionnaire. These questionnaires were shared on-line. The target group consisted of athletes who are still involved in performance sports. 88 questionnaires were validated. The 15 items of the questionnaire test have targeted the athlete's emotions during pre-competition times. Each athlete voluntarily responded to some questions related to the necessity of psychological-counseling, the existence or the absence of the "emotional-training". All validated data has been interpreted in Excel. **Results:** Considering the athletes who practice individual sports, the level of stress/anxiety is much higher. In the case of team sports, the level of anxiety differs, the lowest level was marked in the case of football players. Considering the athletes who practice team sports, the collegial support between the players was more important than self-help. In the case of individual sports, self-help is important, even though the stress level is much more increased. In all cases, the coach has the psychologist's role. Out of the 88 athletes, only 2 benefit from sport psychological-counseling. **Conclusions:** In order to achieve sport performance, it is not enough for athletes to benefit from motivational quotes. The specialized psychological counseling is just as important as physical-training. Through sport-counseling, the stress tolerance can be trained, an aspect neglected even today.

**Keywords:** performance, sport counseling, competition, training

## STUDY ABOUT THE AGILITY LEVEL IN PRIMARY SCHOOL CHILDREN, AGED 9-10 YEARS.

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**Background:** Physical agility is that the ability to vary the direction of the body in an efficient, economical and effective approach. So as to attain this, it's necessary to mix sure motor skills, such as: speed, strength, coordination and balance. Agility is set by the method of conducting, adjusting, reworking and adapting the shape to sure motrical actions and activities, so as to attain the simplest performance. **Objective:** The aim of the inquiry is to discover the agility level of children, and to notice the differences between boys and girls related to this study. **Material and methods:** To perform this study, two agility tests were applied in two different general schools, `George Popa` Nr. 2 Gymnasium School and `Mihai Eminescu` Nr. 1 Gymnasium School, both of them from Mediaş, with a total number of 100 subjects, boys and girls, aged between 9 and 10 years. The analyzed period was January-February 2019 and we applied two tests, the "T" agility drill test and the "L" agility drill test. **Results:** The research is currently in the processing and interpretation phase of the registered information, and it will be detailed at the "Marisiensis" International Scientific Congress, 2019. **Conclusions:** This study will provide and make an overview about the agility level, aiming children between 9 and 10 years of age, and make a difference between the two human genders. Also, using these types of tests, we can investigate the efficiency of the physical education system, more precisely how do specialist teachers work to develop agility.

**Keywords:** agility, human movement, motricity, coordination, physical analysis

## COMPARISON OF THE SPEED QUALITY LEVEL, THROUGH THE 30 METER SHORT TEST, AT CHILDREN FROM PRIMARY CYCLE.

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**Background:** The motrical quality speed is not just how quickly someone can run, but is under the influence on their acceleration, maximal speed of the human movement. The human movement speed, requires a very good level of strength and power, but also depends on the body weight and air resistance. The body's ability to accelerate (speed) is one of the main fitness components, important to achieve performance in many sports. **Objective:** Our purpose was seeing the difference between a football athlete and a non-athlete with a 30-meter acceleration test and to predict the results on other athletic events. **Material and methods:** The study consisted of the analysis and statistical processing of the results of two samples consisting of children who practice football and children who do not practice sports regularly, aged between 10 and 11 years. The analyzed period was from



December 2018 to February 2019. **Results:** Athlete students who practice several times a week and are more skilled are also supported by the results. The performance of children who practice sports/football are better than the results of children who do not practice sports regularly. The children who practice sports had the advantage of specific training, as opposed to children who does not practice, because they practice only in physical education hours. **Conclusions:** As a result of our study, we were able to highlight the results of the two groups and, most importantly, to predict the results that these children may have on other specific athletic tests: 60m, 100m and 200m.

**Keywords:** running, speed, acceleration, decelaration, human movement

# **PRECLINICAL DENTAL MEDICINE**

## TOOTHBRUSH, ALLY OR ENEMY?

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**Background:** Previous studies showed that bacterial plaque adheres to the toothbrush even from the first use. It is of a particular interest to see if those can cause an actual infection just by using them. **Objective:** The objective of the study was to count and identify the bacterial load on toothbrushes, in a given time. **Material and methods:** Sterile toothbrushes were provided to 15 volunteers, which were further divided into 3 groups of 5 people according to how many days they brushed (1day/1 week/15 days). The toothbrushes were collected, bristles cut (330 mg of each), placed in sterile tubes in 3.3 ml TSB medium and thoroughly vortexed for 10 seconds to displace the bacteria in solution. Then 50 µl of each sample were inoculated on blood agar plates and incubated for 18-24h at 37°C. The number of bacterial CFU/g of bristles was calculated. **Results:** The bacterial colonies were counted and bacteria were presumptively identified by biochemical tests and Gram staining. In the 1-day group: saprophytic bacteria: Gram-positive cocci and Gram-negative bacilli (E. coli). In the 1-week group: Gram-negative bacilli. In the 15-days group: Gram-positive and -negative cocci, Gram-negative bacilli, saprophytic flora. In the 1-day group, only two samples presented a bacterial load of up to 10<sup>5</sup> CFU/g. In the 1-week group, all samples were colonized, with a bacterial load between 2x10<sup>4</sup> and 4x10<sup>5</sup> CFU/g. Surprisingly, in the 15-days group only two samples were colonized, but with a very high bacterial load of up to 5x10<sup>5</sup> CFU/g. **Conclusions:** Pathogenic bacteria were not found, only saprophytic. However, some species considered opportunistic or part of enteral flora were found, so attention should be drawn to the condition of toothbrush storage.

**Keywords:** bacterial load, toothbrush, oral hygiene

## FIGHTING THE GAG REFLEX DURING DENTAL IMPRESSION: LIMITATION

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**Background:** The gag reflex may appear during dental impression if the dentist is not using proper techniques or if he uses too much impression material. **Objective:** Establishing the ability to combat vomiting reflex during dental impression using non-medical methods. **Material and methods:** On a group of volunteer 155 students from the Faculty of Dental Medicine, UMFST Tg-Mureş, who have undergone dental impression with alginate. All this students also received a questionnaire with 5 questions related to gag reflex. We studied and evaluated the impact and limits of combating the vomiting effect that it is very often seen during this type of work, through the use of non-medical methods. These non medical methods include: high leg method, salt crystals, astrigent solutions, the use of a special impression tray to combat the feeling of vomiting. □□□□ we applied each non-medical method, the frequency and intensity of the vomit reflex was monitored. We also observed really carefully the efficiency and the limitations of the applied methods. With the volunteer students where these methods did not work, we tried to take the dental impression using elastomeric impression materials. **Results:** The results gathered from the volunteers we studied were: 132 clear cases where no vomiting reflex occurred, 16 cases with low or moderat vomiting reflex and there were 7 cases of extreme, intens vomiting reflex to the point where the dental impression could not be performed, even if we replaced the impression tray or the impression material. **Conclusions:** This study was made on informed and „ prepared" volunteers from a dental point of view presented a better outcome, that were not effective in the methodes applied to other categories of patients. The limitation of non-drug antiemetic methods depend very much on subject compliance, the degree of „ dental education" and last but not least, the skill of the therapist involved

**Keywords:** Gag reflex, Students, Dental impression

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## CLINICAL-STATISTIC STUDIES ON THE FREQUENCY OF FRONTAL EDENTATION IN YOUNG PEOPLE

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**Background:** In spite of the cario-prophylactic efforts and the early hospitalization of crown-root fracture, frontal edentation in young people remains under the attention of specialists, both as frequency and as therapeutic solutions which must restore the physiognomic function in particular, but also allow the development of the arcade segment to continue until the bone growth is complete. **Objective:** The objective of this paper is to present the prevalence of the edentation in the frontal area in a group of patients aged between 14-21 years from both the urban and rural Braila area. **Material and methods:** The study was conducted on a number of 123 subjects, 60 female and 63 male with ages between 14-21 years from urban areas, two high schools in Braila and 53 from rural areas from two schools in Ianca and Urleasca who addressed the dentist to resolve the edentation. The patients were examined in the dental office and in the absence of superior lateral incisors, lower central incisors panoramic radiographs for the diagnosis of dental aplasia were indicated. Data was processed statistically. **Results:** Frontal edentation holds an increased share in the studied group with values between 12% in urban areas, 9% in rural areas, the etiology being influenced by: traumas, aplasia and dental caries complication. We found that female gender has a predominance of the frontal edentation by anodontia, while the male sex is more frequently affected by the traumatic avulsions of the superior incisors. **Conclusions:** 1. Frontal edentation in young people is an emergency, and the adopted solutions are provisional given that bone growth processes are not completed. 2. Increased frequency of frontal edentation in young people involves a series of preventive measures and a careful monitoring of dental fractures with total avulsion.

**Keywords:** Edentation, Prevalence, Avulsions, Anodontia

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## DIRECT DENTAL COMPOSITES: MICROSCOPIC IMPERFECTIONS AT MACROSCOPIC PERFECTION

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**Background:** Composites are one of the most aesthetic and used materials in the dentistry world. **Objective:** Demonstrating the existence of some microscopic-visible imperfections and the influence of some factors on direct composites, during their manipulation. **Material and methods:** We have studied 2 last generation composites: one nano-composite and one nano-hybrid, bulk; as well as a universal composite. We have realised for each determination, 5 samples, with the diameter of 1cm and 2mm deep, respectively 1cm by 4mm deep. Also, we have filled the cavities of extracted teeth and made teeth entirely out of the same composites, and later sliced in 2mm sections. We observed the influence of some external factors, which can occur during the manipulation and application of the composites, the microscopic aspects showing some imperfections, demonstrated during the application and after, at different time intervals. The factors involved in the appearance of the imperfections, include: Stainless steel spatula, different brushes, light curing under various circumstances, polyvinyl-polyether impression material, materials which contain Eugenol oil, alcohol, different colouring materials and the disobeying of some tasks. **Results:** After comparing the microscopic aspects of all the samples with the control group, we have observed a series of surface modifications, including porous surfaces, the presence of particles in the structure of the composite and even structural and coloristical changes. The microscopic analysis of the slices done on the extracted teeth or "fantom" models, showed the presence of some flaws. **Conclusions:** Macroscopic perfection is beaten by the microscopic imperfection. The apparent correctness from the clinical practice, can often have unapparent imperfections, which can affect the filling material, under the influence of some factors, which can be often referred to as "common".

**Keywords:** composites, surface-imperfections, microscope

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## VARIOUS FIXATION MATERIALS FOR ZIRCONIUM-THE SAME RESULT?

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**Background:** Zirconium is a modern material from which prosthetic works can be made, and their cementing was and still remains a great challenge for the doctor. **Objective:** The comparison of three cement systems used to fix zirconium to determine the existence of critical points, since not only cement but also the technique, cementing protocol, and taking into account particularities can affect the success of this sensitive stage. **Material and methods:** The following cements were used for this study: a self-adhesive resin, a resin-modified glass ionomer luting cement, a last-generation dual-purpose resin adhesive, aluminum oxide microparticles, sandblaster, extracted teeth, zirconium sheets / blocks. We performed the *in vitro* study on prepared extracted teeth at which zirconium samples were cemented and reliability tests were performed on the three types of cements. Also, assessing the simplicity / complexity of the working protocol and the influence of disruptive factors: temperature, saliva, photopolymerization, working time, pre-sandblasting of zirconium, use of organic solvents that can affect the success of cementing. **Results:** The tests showed that the best results were recorded by the last generation resin cement, due to the composition as well as the cement film, the technique and the working conditions. Failure to comply with the work protocol, minimal disturbance of some factors, improper sandblasting or it's absence can irreversibly affect cementation. **Conclusions:** Aluminum oxide sandblasting is primordial, cementing in the absence of absolute isolation with rubber dam helps maintain optimal conditions of the zirconium. Fixing zirconium to dental hard structures and successful cementation depends on observing the conditions of the surfaces that come into contact.

**Keywords:** cementation, zirconium, sandblasting, efficiency

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## THE INFLUENCE OF AN EXTERNAL INTERACTION WITH YOUNGER PATIENTS IN PREVENTING SEVERAL ORAL AND PSYCHOLOGICAL DISORDERS

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**Background:** It is known that a large number of population have a fear of visiting the dentist, mostly determined by an unpleasant experience in their youth or by the terror caused by so many misconceptions about the dental office. **Objective:** The aim of the study is to influence younger patients to trust dentists, eliminate dentophobia and to prevent some oral-psychological traumas as "bulimia nervosa" , by educating them about the signs and consequences of such diseases. **Material and methods:** The study was carried out in a high school, in all students varying from grade 9<sup>th</sup> to 12<sup>th</sup>. As permitted by the teachers, we had 45 minutes in which we presented the students a course, applied a survey and asked them to answer questions on oral hygiene and oral diseases. **Results:** As a pleasant surprise, teens had developed an interest and an understanding of what truly meant to have a healthy oral cavity and were pleased to have an experience like this outside the dental office. **Conclusions:** In order to dismiss the backward mindset that associates dental office with pain and also prevent some future oral disorders especially in young patients, one must take an openly and honest action in their direction and have some external interaction, outside the dental clinic.

**Keywords:** Prevent, oral-psychological traumas, dentophobia, younger patients

# CLINICAL DENTAL MEDICINE

## BOPT TECHNIQUE

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**Background:** The main concern in fixed prosthodontics is the geometry of the finish line. The commonly used preparations are ones with different types of finish lines or feather edge. Biologically oriented preparation technique is a type of tooth preparation without a finish line, designed to create a prosthetic emergence profile that simulated the shape of natural teeth. **Objective:** This study aim is to provide information about the biologically oriented preparation technique (BOPT) through clinical cases. **Material and methods:** Several patients who need fixed prosthetic treatment was selected. BOPT technique was chosen for marginal preparation. This technique consists of the preparation of both the tooth and gingiva at the same time, creating a vertical axial plane (gingitage technique). **Results:** After several weeks, during which a interims restoration is used in order to obtain clot preservation, the healing process will determine the reattachment and thickening of the gingival tissue, which will adapt to the new emergence profile. Once the healing process is finished, the final restorations are performed and cemented on the prepared teeth. **Conclusions:** Although this technique is relatively new and in order to have scientific value more clinical and biological studies are needed, it can be concluded that it is a less invasive technique, the impression making is simpler, the retentions are increased due to the telescopic design, and the finals restorations from an esthetical point of view are perfect integrate.

**Keywords:** Finish line, BOPT, Emergence profile, Gingival Zenith

## CONTRIBUTIONS TO THE STUDY OF COMMON ARTIFACTS AND ERRORS EXISTING IN CONVENTIONAL AND THREE-DIMENSIONAL RADIO-IMAGING USED IN THE ASSESMENT OF ENDO-PERIODONTAL PATHOLOGY

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**Background:** Radioimaging used in dental medicine practice is essential in establishing the correct diagnosis and choosing the optimal treatment plan. The superposition of anatomical plans over certain distorted images called radiological "artifacts" makes interpretation of the two-dimensional image offered by retroalveolar x-rays, OPT and tridimensional images (CBCT) difficult and sometimes false. **Objective:** The purpose of this study is to differentiate the artifacts and errors in intraoral radiographs or CBCT images, from the actual affections of the area of interest, by performing new x-rays. **Material and methods:** To accomplish this study we have visualized and compared 230 retroalveolar radiographs, 45 OPGs, and 35 CBCTs. We used 2 radio-imaging systems: X-Ray Soredex for retroalveolar X-ray and OPG, and for CBCT we used the i-CAT Scanner with OnDemand rendering and visualization software. In the case of radiographs showing artifacts or possible errors, radiographs were repeated at a maximum of 5 days or a one tooth CBCT was performed, and in the case of OPGs, retroalveolar radiographs were performed to confirm the diagnosis. **Results:** From the total of 230 retroalveolar radiographs, in 30 cases (13%), the diagnosis and treatment plan were changed by repeating the X-ray or performing a one tooth CBCT. In the case of OPG, in 11% of the cases we found differences compared to retroalveolar radiography. A number of 10 CBCTs (27.57%) where there were prosthetic works with metallic component or implants, we found specific artifacts, but their presence did not influence the diagnosis. **Conclusions:** In order to distinguish artifacts and errors in radiological paraclinical investigations, osteo-dental anatomy or pathological disorders, it is necessary for practitioners to know the source of these errors and the various types of artefacts that may occur, and perform radiographs to establish the diagnosis and appropriate therapeutic plan.

**Keywords:** Artifact, Diagnosis, CBCT, Intraoral X-ray

## ORAL HYGIENE AND DENTAL CARE FOR CHILDREN WITH SPECIAL NEEDS IN TÎRGU MURES

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**Background:** Providing primary preventive oral health care for children with special needs is not sufficiently practiced in Romania. The situation in Tîrgu Mureş is the same, where special needs children do not receive enough dental care because their behavior is a challenge for the practitioners. **Objective:** The aim of this study was to assess the oral hygiene status before and after supervised dental education among a sample of school-based, differently abled children between the age of 7 and 18 years from the School Center for Inclusive Education in Tîrgu Mureş. Dental students from the University of Medicine, Pharmacy, Sciences and Technology of Tîrgu Mureş provided supervised dental education and conducted the study. **Material and methods:** 55 children with special needs were examined for dental caries and plaque accumulation using decayed, missing and filled teeth index (DMF-T/df-t) and plaque index. Engagement exercises and the circular scrub method of tooth brushing were taught. The parents were questioned about dental hygiene habits. The data were collected and results were statistically analyzed. **Results:** From the 55 children 30 children are brushing once a day. Five children from this group brush their teeth without help (DMF-T mean  $3.8 \pm 3.34$ ). The other 23 children are brushing twice a day (DMF-T mean  $1.80 \pm 1.75$ ). From this group 16 children brush their teeth with help, 4 children visit a dentist at least once a year and the 12 children visit the dentist only in emergency. We did not find a statistically significant difference between the two groups regarding the caries index ( $p=0,23$ ). **Conclusions:** Based on our results, the most important goals to encourage independent daily oral hygiene. The study shows the importance of a special dental care program in schools for children with special needs and of a better dentist-children collaboration.

**Keywords:** Special needs children, oral hygiene, tooth brushing, dental students

## ENAMEL EVALUATION AFTER DEBONDING: AN IN VITRO STUDY. METAL BRACKET VS. CERAMIC BRACKET

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**Background:** Fixed orthodontic therapies include several procedures that can affect the enamel surface. **Objective:** The aim of this study is to assess variation of enamel changes after debonding metal and ceramic brackets, by means of scanning electron microscopy. **Material and methods:** An in vitro study was conducted on six human premolar specimens, extracted within two months. On half of them metal brackets was bonded and on the other half ceramic brackets was bonded using a light cure adhesive paste and a two step, etch and bond technique. The brackets were placed on the center of the buccal face of the clinical crown. With a straight debonding plier the brackets were debonded after 24 hours. Adhesive Remnant Index (ARI) was determined by visual observation of the specimen with naked eye. Post- debond scans were aligned with the baseline and the surface changes were quantified. A quantitative analysis was made on the debonded brackets to determine the presence or absence of enamel on the base pad. **Results:** Evaluation of pre-bonded and post clean-up enamel surface revealed no crack and the roughness increased in both, ceramic and metal brackets, with the increase being higher for the latter. The enamel band (perikymata), the artificial caries or the superficial fissures revealed in the pretreatment stage were replaced with the loss of the prismatic structure and the presence of remnant adhesive. No enamel substance was found on the base pad. The  $ARI_{tooth}$  was higher for the metal bracket, than for the ceramic one. **Conclusions:** According to our present investigation, it can be concluded that both metal and ceramic brackets are safe for use in orthodontic treatment, with no iatrogenic damage in form of cracks or fissures.

**Keywords:** bracket debonding, dental enamel, scanning electron microscopy



## CUTANEOUS MALIGNANT TUMORS OF THE HEAD AND NECK. CLINICAL AND THERAPEUTIC CHARACTERS.

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**Background:** Skin cancer is the most commonly diagnosed form of cancer in the United States, exceeding lung, breast, colon and prostate cancer combined. 85-90% of the cutaneous malignant tumors are located on the head and neck, 50% of the patients aging over 65 at the moment of diagnosis. The frequency of malignant tumors diagnosis rises by 3-7%/year. In the past, these types of tumors were commonly diagnosed in people over 50. Lately, the incidence has started to rise among younger population. **Objective:** The aim of this paper is to study the incidence, the age of diagnosis, the affected anatomical regions, the histological type and the invasion level of the cutaneous malignant tumors of the head and neck among the population of Mureș county between 2015 and 2017. **Material and methods:** This retrospective study used data from patients admitted to the Oral and Maxillo-Facial Surgery Department at the Emergency Clinical County Hospital of Târgu Mureș between 01.01.2015-31.12.2017, selected from the archive using diagnostic code C44.3 and histological examination results following surgery or biopsy. **Results:** Most patients were in the 70-79 age group (35.35%), the average age of diagnosis being 72.13 years old. The majority of patients came from rural areas - women (31.31%), men (27.77%). Most patients needed 1 day of hospitalization. Histopathology determined 8 diagnosis: basal cell carcinoma (67.11%), squamous cell carcinoma (21.33%), metatypical carcinoma (4.88%), actinic keratosis (3.55%), malignant melanoma (1.33%), trichilemmal carcinoma (0.88%), verrucous carcinoma (0.44%) and microcystic adnexal carcinoma (0.44%). Most lesions were located in the nasal and genio-mandibular areas. 4.44% of the lesions infiltrated the contiguous structures and 10.66% of them were relapses. **Conclusions:** Skin cancer mostly affects people over 60 from rural areas, with a slightly male predominance, lesions being located especially in the nasal region. Most patients needed only few days of hospitalization. Only a small percent of the tumors affected other tissues and were relapses, according to the type of the tumor.

**Keywords:** skin cancer, basal cell carcinoma, squamous cell carcinoma, melanoma

## THE EFFECT OF CALCIUM HYDROXIDE RESIDUE FROM THE MAIN ROOT CANAL ON THE OBTURATION OF LATERAL CANALS

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**Background:** Among other factors the success of endodontic treatment also depends on the obturation of lateral canals. Stagnation of calcium hydroxide in the main root canal might interfere with the penetration of endodontic sealer in lateral canals. **Objective:** I will demonstrate in a vitro study the stagnation of calcium hydroxide residue can prevent penetration of the sealer in lateral canals. **Material and methods:** In this study we used 16 one rooted teeth with one principal endodontic canal, we divided them in two groups: 1. experimental group which contains 10 teeth. 2. control group which contains 6 teeth. We created lateral canals on the mezial and distal radicular surface, with the aid of hammer drill Einhell bavaria BSG 130 and as K-reamers with different dimension. In the experimental group we used calcium hydroxide as an initial material filling followed by using endomethasone as a sealer after removing calcium hydroxide from the main endodontic canal. In the control group we used the sealer endomethasone only. **Results:** The experimental group the full rate of completely filled lateral canals by sealer was 19,69 % The control group the full rate of completely filled lateral canals by sealer was 29,82 % **Conclusions:** Residual calcium hydroxide from the main root canal can hinder the penetration of endodontic sealer in the lateral canals.

**Keywords:** lateral canals,, calcium hydroxide,, sealer

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## ASPECTS OF THE IMPACT OF MOBILE ORTHODONTIC APPLIANCES ON LIFESTYLE

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**Background:** Dentomaxial anomaly have an increasing prevalence among the population, and the degree of addressability increases among children, but also in young adults. At a lower age, there is the possibility of influencing growth processes, moderating the dental eruption, influencing the dentomaxilar functions and correcting vicious habits. Mobile devices with which to intervene at an early age have the above mentioned advantages, but also the great disadvantage that they are based on the patient's compliance, which can be quite low. **Objective:** This study aims to evaluate how patients have become accustomed to orthodontic appliances and the impact they have had on buccal dentistry and eating. **Material and methods:** We have conducted a clinical-statistical study among children carrying orthodontic appliances and the impact they have on their lives with a questionnaire of 13 questions. Children up to the age of 10 were helped by parents in completing the questionnaire, and after this age they completed themselves. Completion took 10 minutes, the questionnaires returned, and the responses were processed statistically with Excel. **Results:** Most of the responses have highlighted the fact that orthodontic treatment is very important, and adaptation with the orthodontic device has gone through quickly, without any problems. The brush frequency and brushing time increased when wearing the devices. Most relate well to colleagues or are part of the enviable group. Many find aesthetics and health as a major benefit, then improve mastication. **Conclusions:** The method of questionnaire investigation is a quick one, accepted by both parents and patients, and the answers represent a feed-back of orthodontic treatment. We have noticed an increased tendency to the desire for orthodontic treatment within the studied population segment.

**Keywords:** Dentomaxial anomaly, orthodontic appliances, clinical-statistical study, lifestyle

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## THE BALANCE BETWEEN ETHICS AND AESTHETIC DENTISTRY - WHAT SHOULD WE DO?

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**Background:** The concept of beauty is a subjective matter, influenced by a multitude of elements, ranging from the individual itself to the environmental factors. However, it seems that the natural beauty has remained a constant winner over time. **Objective:** As the healthcare has moved towards a patient-centred approach, dentists have started to adopt distinct strategies to satisfy the patient, even though these are not always medically ethical. The purpose of this paper was to identify and analyse different perception regarding to special treatments requests of the patients between doctors with few versus multiple years of experience. **Material and methods:** Seventy two dentists of various ages have been given a 10-item questioner. The dentist's duties in a patient-centred healthcare involve respecting patients' views in conjunction with a treatment plan justified by the ethical laws. **Results:** We have found that dentists diverge from the ethical laws in order to obtain the quickest and most optimal result for the patient. Indeed, in order to have a "happy" patient, whose ideals are sometimes unrealistic, procedures result in the unnecessary loss of valuable tooth substance. Doctors which have more clinical experience are likely to be more non-invasive and conservative when it comes to "special needs" and request of the patient. **Conclusions:** Beauty is a sensitive area of discussion, but it always begins in an original form. Moreover, it can be argued that there is no right or wrong in the patient's preferences and a doctor's work is driven by these, but practitioners must never forget the ethical duties they are working under.

**Keywords:** treatment, ethics, perception, sensitive

## VIABILITY OF DENTAL INTRUSION IN THE CONTEXT OF COMPLEX PERIODONTAL THERAPY. AN FEM STUDY.

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**Background:** Interdisciplinarity is an essential concept in the contemporary therapeutic planning of difficult periodontal cases. Orthodontics begins to represent an indispensable stage in complex periodontal therapy, bringing its contribution significantly both by correcting some favorable factors and by optimizing the level of attachment. **Objective:** The present research aims to analyze the FEM method of reacting affected periodontal tissues in the dental intrusion simulation and identifying possible periodontal hazards or limitations of this therapy. **Material and methods:** Using CATIA software we realized a mandibular mathematical model that faithfully reproduced alveolar bone, periodontal ligament and mandibular front group. Both the structural and design features of the above-mentioned structures have been respected. We performed loads of the model created by applying an optimal vertical force of 0.25 N on the inferior central incisor in the periodontal condition, moderate periodontal (33%) and severe (66%) periodontal disease. **Results:** Our study revealed that the evaluated parameters exhibit an exponential increase with the severity of the periodontal disease but this clinically correlates with the decrease of the periodontium and especially of the periodontal ligament. The statistical interpretation of the results has shown that the use of biological force does not jeopardize post-intrusive periodontal predictability. **Conclusions:** Dental intrusion is a viable therapeutic solution for complex periodontal therapy that can create real premise from the perspective of attachment gain. Although our study indicates this solution as optimal, it is important to emphasize that in the clinical context it is essential to control the bacterial plaque during treatment as well as professional synergy between specialists.

**Keywords:** dental intrusion, periodontal therapy, periodontal disease, FEM method

# PHARMACY

## BENEFITS AND RISKS ASSOCIATED WITH BETA-ALANINE DIETARY SUPPLEMENTS USED BY PROFESSIONAL AND AMATEUR ATHLETES

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**Background:** Beta-alanine is a highly important, non-proteinogenic amino acid, helping in building the structure of carnosine (dipeptide), alongside histidine. A shift in muscular pH during effort, either by formation of lactic and pyruvic acids or mobilization of fatty acids from the adipose tissue and consecutive action of lipolysis, involves the existence of a buffer system with strict local effect; effect played by the histidine present in the chemical structure.

**Objective:** The wide usage of beta-alanine, as dietary supplement, raises the issue of establishing an efficient dosage interval for amateur sportsmen, while also finding possible side-effects to which the users are exposed when overdosing, in the need of obtaining fast effects, or when the drug is interacting with other used supplements. **Material and methods:** A study of scientific databases: PubMed, Science Direct, Toxnet, using as key words "beta-alanine", "sports", "dietary supplements". **Results:** Studies show that using carnosine in supplements is less efficient than using beta-alanine, as the latter is captured directly at the muscular level, and thus not subjected to a digestive process. Consumption of 4-6 g of beta-alanine/day improves exercise performance and reduces neuromuscular fatigue. However, in high dosage, it may cause paraesthesia.

**Conclusions:** Using drugs, even in proper doses, is not always enough; the degree of effort and the physiological particularities of each individual should be taken into account. The side effects can be reduced by using multiple smaller doses or by using prolonged release pharmaceutical forms.

**Keywords:** beta-alanine, dietary supplements, sports nutrition

## TOXICOLOGICAL RISKS BROUGHT BY THE FASHION AND CLOTHING MATERIALS

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**Background:** Recently, the demand of fashion for colors needs the use of the azo dyes. Black, not being a color, is obtained by combining several azo dyes with different light absorbing proprieties. There is a possibility, that in certain situations the azo dyes in contact with the sweat and the skin, will form a group of highly toxic substances: aromatic amines due to the dermal bacteria. These degradation products are linked to the bladder cancer (class I; IALC) and skin allergies. Moreover, in most cases, due to exposure to sunlight, aromatic amines are likely to be transformed in reactive species. Considering the potential risk, the European Union banned several azo dyes from clothing materials, currently 24 azo dyes being on the 'black list'. **Objective:** The market was tested in order to analyze how many clothes are toxicologically tested and see the link between the country of origin and the probability for the clothing material to be tested for compliance with the European regulations. **Material and methods:** The label of several type of clothes verified in order to see if there is a statement regarding the testing for banned substances. In the full price range were verified in this work. **Results:** Products sold in some stores and supermarkets of European origin were toxicologically tested, while the majority weren't tested so we cannot establish if their products contain or not toxic components. **Conclusions:** Special attention must be paid when choosing clothing products, especially the ones for children. If not toxicologically tested, a good choice might be modern synthetic materials that incorporate the dye and it's a low probability that it will be released in the sweat and also a careful wash of the clothes before use should be implied, especially in the case of infants which are prone to skin allergies.

**Keywords:** azo dyes, textiles, aromatic amines, colorants

## EVALUATION OF THE RISK OF USING CR(III) FOOD SUPPLEMENTS CONTAMINATED WITH CR(VI)

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**Background:** Chromium is a toxicological important metal because exerts double functions in the human body

depending the oxidation state: Cr(III) is an microelement needed for several biological functions; on the other hand Cr(VI) is a known toxicant and is classified as class I carcinogenic agent according to IARC and has an accepted daily intake of 3 µg/kg (FDA). **Objective:** The purpose of this work was to develop a simple, fast and low cost method to check the presence of Cr(VI) in food supplements containing Cr(III) **Material and methods:** A photometric method was developed using the oxidant properties of Cr(VI) that will oxidize iodide to iodine which will form a blue color in the presence of soluble starch. There is a need to centrifuge the starch solution before use in order to eliminate larger particles that could confer turbidity to the solution so the Lambert Beer equation will not be applicable for Cr(III) measurement. The wavelength ranges of measurements was between 350nm-950nm, with maximum absorption (0.321) at 600 nm. **Results:** The developed method is extremely simple and allows the quantitative determination of Cr(VI) in the presence of Cr(III) and the matrix used in the manufacture of the food supplements without any interference. The detectability of the method allows the measurement of Cr(VI) amounts far lower than the accepted daily intake. Two products containing Cr(III) available in pharmacies were analyzed and no Cr(VI) was detected. **Conclusions:** Results show that the most widely available Cr(III) containing products sold in pharmacies do not contain Cr(VI) in amounts that pose a health hazard to the consumers. The proposed method is extremely useful in this case because the most used method for metal analysis, atomic emission or atomic absorption spectrometry and mass spectrometry will not differentiate between the two oxidation states of Cr.

**Keywords:** food supplements, chromium toxicity, human health

## ULTRAFILTRATION METHOD FOR PLASMA PROTEIN BINDING DETERMINATION – ADVANTAGES AND LIMITATIONS

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**Background:** Plasma protein binding (PPB) has a critical role in both pharmacokinetics and pharmacodynamics of a drug, being amongst other properties like lipophilicity, solubility, ionization and metabolic behavior a key part in the characterization of a new compound, which should be studied in the early stages of drug development. **Objective:** The aim of the study was to underline key aspects regarding practical strategies for PPB determination. **Material and methods:** Scientific literature research on platforms such as PubMed, Science Direct, Medline and systematic analysis. **Results:** One of the most used methods is ultrafiltration, which is largely accepted due to its advantages: rapidity, simplicity, accuracy, the possibility of approximating physiological conditions. Ultrafiltration has, however, some disadvantages which could limit its use, so it is of great importance to know and understand how to overcome them. Nonspecific binding of the drug to the filter membrane or the ultrafiltration unit represents one of the biggest challenges in PPB studies, especially for lipophilic compounds. Several studies were made to overcome this limitation and encouraging results were obtained: pre-treatment of the ultrafiltration units with solutions of Tweens or benzalkonium chloride; incubation and the ultrafiltration device in plasma followed by a mass balance approach to determine the recovery of the drug; slight modifications of the classical ultrafiltration technique. The effect of volume ratio of the ultrafiltrate to the sample solution was also considered as a limitation, but more recent studies have stated that this was only a misunderstanding. Other limitations: sieve effect, Gibbs-Donnan effect, protein leakage and the necessity of a rigorous control of the temperature and pH. **Conclusions:** Ultrafiltration remains a reliable method for the determination of PPB, even in the case of more challenging compounds, but the methodology of the study should be carefully chosen based on the properties of each analyte in order to overcome the limitations, and subsequently validated.

**Keywords:** protein binding, ultrafiltration, drug

## BIOSYNTHESIS OF SILVER NANOPARTICLES USING AQUEOUS EXTRACTS OBTAINED FROM PICEA ABIES L. AND FAGUS SYLVATICA L. BARK

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**Background:** The synthesis of silver nanoparticles is usually performed by physical and chemical methods, but this non-biological methods leads to high toxicity for living organisms and it is preferable to use biosynthesis. In order to satisfy the cost and pollution considerations, researchers chose the biosynthesis using extracts of plants. **Objective:**

The aim of this research was to obtain silver nanoparticles using aqueous extracts from beech (*Fagus sylvatica* L.) and spruce (*Picea abies* L.) bark. **Material and methods:** Silver nanoparticles were obtained in special conditions using aqueous solutions of  $\text{AgNO}_3/\text{AgC}_2\text{H}_3\text{O}_2$  and aqueous extracts with different pH in ultrasonic bath at 60°C for 3 hours. At certain time intervals the absorbance was measured at UV-VIS. The synthesis of silver nanoparticles was confirmed by the change in mixtures color. The silver nanoparticles were characterized by Fourier-transform infrared spectroscopy and ultraviolet-visible-near infrared spectroscopy. **Results:** It was found that silver nanoparticles have a limited absorption range in UV-VIS, FT-IR and the shape and sizes depends on the type of extract and pH. Color change occurred more quickly in case of spruce extracts in comparison to those of beech. **Conclusions:** Using biosynthesis we have obtained silver nanoparticles that have different shapes and sizes depending on the experimental version we used.

**Keywords:** biosynthesis, silver nanoparticles, beech bark, polyphenols

## POSSIBLE BIOCHEMICAL MECHANISMS INVOLVED IN POUPARTON B CYTOTOXICITY IN ZEBRAFISH LARVAE

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**Background:** Cytotoxicity is a highly important factor, and testing on Zebrafish larvae is a very good way to notice in an early phase of reaction which can occur as a result of biotransformation in organisms of different active substances. **Objective:** This type of tests offer a theoretical vision about potential toxicity by extrapolate the results obtained experimentally on animals to human species. In this case the vascular and muscular cytotoxicity is targeted for this natural extract called Pouparton B, because of the multiple number of compounds in addition to the main substance. **Material and methods:** The experimental test was accomplished using an incubation technique for Zebrafish larva in 6-well plate, where larvae were treated at different intervals with doses of natural extract containing Pouparton B, in different dilution. Pouparton B from leaves of *Poupartia Borbonica*, a plant with antimalarial potential, extracted with Ethyl acetate. Using the Flash chromatography technique and HPLC preparative we have obtained the pure extract. Initially, 15 larvae are introduced in 6-well plate, with 10 ml DMSO 0,4 %. From every well with a pipette are taken out 5 ml and instead there are introduced 5 ml of extract in different dilution. **Results:** By testing this compound, the result is a contact toxicity, with damage on certain parts of the body, for example the shape of the tail which curved a bit. About the arteries and muscular fibers, on UV, everything looks normal. The modification of the tail is probably a toxicity based on membrane oxidation or probably a DNA Disturbing. **Conclusions:** This compound doesn't have a specific toxicity on an organ or system, just a contact dermatitis. Related to the structure, the existence of hydroxyl groups could be the reason of the toxicity. This conclusion is based on comparison of the compounds similar structure, less hydroxyl groups, and lower toxicity.

**Keywords:** contact toxicity, Zebrafish, in vitro

## METHOD DEVELOPMENT THROUGH EXPERIMENTAL DESIGN FOR THE SEPARATION OF TRAMADOL ENANTIOMERS BY CYCLODEXTRIN MEDIATED CAPILLARY ELECTROPHORESIS

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**Background:** Pain is one of the most feared sensations felt by human beings, and tramadol is the most frequently prescribed opioid analgesic worldwide being used in the treatment of moderate to severe, acute and chronic pain. Tramadol has a unique architectural structure and the presence of the two asymmetric carbon atoms lead to the existence of four stereoisomers; in therapy it is used as a racemic mixture of (1R,2R)-tramadol and (1S,2S)-tramadol. The differences between the pharmacological profiles of the two enantiomers are well documented, as a complementary and synergistic analgesic interaction between the two enantiomers has been described. **Objective:** The aim of this research was to develop an alternative method for the chiral separation of tramadol enantiomers using capillary electrophoresis (CE) and cyclodextrins (CDs) as chiral selectors. **Material and methods:** A preliminary screening at four pH levels using several different native and derivatized, neutral and ionized CDs was used in order to establish the optimum chiral selector. Method optimization was accomplished through a

preliminary "one factor at time" technique followed by a face-centered central composite design approach. **Results:** The best results were obtained when using 25 mM sodium tetraborate buffer at p H 11.0, 5 mM carboximethyl- $\beta$ -CD as chiral selector, 17,5 kV voltage, 15 0C temperature, 30 mbar/ sec hydrodynamic injection. We achieved the enantioseparation of tramadol enantiomers in approximately 6 minutes with a chiral resolution of 2.80. The analytical performance of the method was verified in terms of precision, linearity, accuracy, detectability and robustness and was applied for the determination of tramadol in pharmaceuticals. **Conclusions:** CE using an anionic CD as chiral selector in a basic environment and experimental design approach for method optimization proved to be an interesting in the preliminary chiral analysis of tramadol.

**Keywords:** tramadol, chiral separation, capillary electrophoresis, experimental design

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## DIFFICULTIES IN MEASURING THE AMOUNT OF CYANIDE BY VARIOUS METHODS AND THEIR APPLICATION IN THE TOXICOLOGICAL RISK ASSESSMENT OF CLASSIC CIGARETTES VERSUS IQOS SYSTEM

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**Background:** Cyanide is one toxic compound present in environment, food and cigarette smoke, reason why its measurement in complex matrix is essential (for example cigarette smoke). We tried several published methods in the scientific literature to estimate their ability of determining the concentration of cyanide in classical cigarette smoke versus that produced by the IQOS system. **Objective:** In this paper we compared several methods published to determine the amount of cyanide in order to find the right one for detecting even low concentration of cyanide in cigarette smoke. **Material and methods:** A first method of visible-spectrum detection was not possible due to the high intensity of visible light absorption of the reagents. Furthermore, interference of airborne oxygen was observed at low concentration. Other colorimetric methods used reagents that produce a strong color even in the blank sample that will hinder detection of low amounts of the analyte. Mass spectrometry is not a good option because of the reduced volatility of cyanide and its unspecific mass. Gas chromatography is also difficult to apply because cyanide can not be volatilised from every sample, and ion chromatography is questionable due to the complex matrices. An old method proven to be effective is based on colorimetry with detection at 580 nm using a derivatization with barbituric acid and pyridine. We improved the method by diluting 10 and 100 times the amount of reagent added (to reduce the color intensity of the blank), which resulted in the possibility of easy detection of low cyanide concentrations. **Results:** Recently published methods proved to be ineffective in detecting low cyanide amounts. It has been observed that with advanced dilution the reagent greatly improves the capacity of detection even if the reaction time increases to 12 hours. **Conclusions:** The method using barbituric acid and pyridine proved suitable for determining cyanide in cigarettes and similar complex matrices.

**Keywords:** Cyanide, Detection, Cigarettes, Colorimetry



# **MILITARY MEDICINE**

## EXPERIMENTAL SIMULATION FOR COUNTERMEASURES IN THE AIRBORNE ATTACK ON A STRATEGIC OBJECTIVE

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**Background:** Biological attack with biological agents of war (ABR) or bioterrorist can be committed with different biological weapons that disseminate biological agents, whether living or not, and may target strategic, operative, tactical or punctual (biocrime) objectives. The most efficient way of massaging, in short and large areas is aerosolization leading to pulmonary lesions with short incubation and serious evolution as well as general contamination of living and non-living surfaces in the attacked area. **Objective:** The simulation of such biological attacks is difficult, the only known experiment is the one performed by the British Army during the Cold War. The role of this simulation is to highlight the consequences of the air strike. Another objective of the study was to evaluate the possibilities of optimizing specific logistics. **Material and methods:** The constructive simulation was experimented on a computerized system using NATO militarized software, in which the scenario of the air strike was applied in the JECATS program. **Results:** The consequences of the air strike have been highlighted: contaminated surfaces, number of contaminated civilians and militants, where the number of patients and death in different situations can be calculated: no treatment, classical treatment, and modern treatment. Also, the possibilities of optimizing the specific logistic (supply and replenishment, multimodal transport, etc) were tested. **Conclusions:** The conclusions are surprising in terms of quantity and cost. Extremely large numbers of exposed people are estimated, many of whom are contaminated. Medical countermeasures are very difficult for the civilian population because of mass illness and lack of forces and means.

**Keywords:** air attack, loss estimation, medical countermeasures, sanitary logistics

## NEW APPROACHES FROM THE PERSPECTIVE OF THE STUDENT'S ADAPTING PROCESS TO THE MEDICAL-MILITARY UNIVERSITY ENVIRONMENT

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**Background:** The paper aims to highlight the psychological maturity differences of the medical student which appeared after a year of college. We analyzed how the medical-military student adapts and begins to develop his approach to studying in order to ensure academic success. We also considered the changing ideas and vision of the respondent with regard to the future. **Objective:** The study followed the complex development of the military student from the perspective of: social life, accommodation and adaptability to the military university environment, as well as the future planning of a medical career; the same target group □ first year 2017-2018, second year 2018-2019, military students. **Material and methods:** This investigation was based on the following psychological methods: conversation, explanation and questionnaire. **Results:** Applying the questionnaire to the same target group - the military medical students from the first and second year of the Faculty of Medicine, including 8 items that followed the personal approaches regarding the following: social life, having as a point of reference, the desire to spend more time with themselves I -19% II-35,3%, accommodation (I-50-% II-41,2% found themselves in the major change of the environment in which they work), the future perspective (although 70% want to become military doctors in military hospitals, after one year of college the percentage of undecided students increased from 5% to 18%) **Conclusions:** After elaborating the obtained results based on the study undertaken, we emphasize the changes from the perspective of the military medical students on all three topics approached. This highlights the maturing process expressed through a self-development and self-knowledge, referring to their future evolution.

**Keywords:** student, military-medicine, self-development

## EXTRACORPOREAL LITHOTRIPSY FROM THE POINT OF EXPOSURE TO RADIATION

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**Background:** In 1980, the first disintegration of urinary calculi was carried out through the first lithotripter, the first generation, this prototype being manufactured by Dornier. This technique revolutionized the treatment of urinary lithiasis, which was traditionally treated through open surgical interventions before. First generation was abandoned in favor of the evolution of these devices, with new lithotripters such as the one used in this study: siemens lithoscope, 4th generation. **Objective:** I conducted this study to highlight the efficacy of lithotripsy sessions based on localization of calculi and to establish the correlation between the radiation doses according to the location of the calculi, the level of impulses according to the localization. With the occasion of this research I will group the patients according to their age. **Material and methods:** Through surgical protocols at the urology clinic, I extracted the data of the lithiasis patients treated between May 8, 2017 - October 20, 2017. The data required for this study was: the company and model of the lithotripter with which the sessions were performed, the age and sex of the patients, the location of their stone, the radiation dose, the energy level and the number of impulses designed for the successful disintegration of the stone. **Results:** In the selected timeframe, we had 255 patients, most of whom were female. The most frequent localization of stones was inferior calices, and the number of impulses generated was 3000 in 83,14 % of cases. **Conclusions:** The study carried out provided useful data that proves the efficacy of Eswl treatment and the importance of doses and impulses of radiation in the various localization of the urinary stones.

**Keywords:** lithiasis, lithotripter, shock wave generation, radiations

## IEDS. THE UNPREDICTABLE ENEMY OF MODERN WARFARE

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**Background:** The Afghan military theatre represents a new type of battlefield, in which massive armies have been substituted by small, mobile units, guerrilla attacks and an increased presence of IEDs, representing a new danger to NATO soldiers. The usage of these devices has massively increased during recent years, especially when compared to other theatres of war throughout history. **Objective:** This paper aims to highlight the effect of IEDs on combat personnel and to analyse the impact that these devices have had on NATO operations in recent years, starting from an analysis of these devices, and including methods of countering these types of threats. **Material and methods:** There has been only one example of documented analysis regarding the impact of IEDs during military operations. This paper includes a review of medical reports of a Polish Military Contingent deployed within Operation Enduring Freedom, from the 1st January 2010 to the 3rd December 2011. The reports document all cases of combat injuries and their causes, while also emphasising IED - related casualties. **Results:** In the previously mentioned interval, 380 Polish soldiers were reported injured, 87% of cases happening during active deployment and 13% not being related to any type of combat operations. Most IED - related injuries were characterised by amputations, associated most frequently with severe body deformation and damage to the spine. The average number of casualties suffered from IED attacks was significantly higher than the number of injuries from other attacks, and higher than the number of non-combat injuries. **Conclusions:** IEDs pose severe medical and logistics problems due to the frequency of these attacks, and the complicated and life-threatening injuries they cause. Although there have been many attempts on discovering and countering this type of devices, the threat is ever present, and military personnel are still at a high risk of falling victim to these deadly "assassins".

**Keywords:** Combat Injuries, NATO, Afghan Theatre, IEDs

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## RESEARCHES TO ACHIEVE THE INSULATED CONTAINERS FOR AIR TRANSPORT OF CONTAGIOUS PATIENTS WITH EXTREMELY DANGEROUS BIOLOGICAL AGENTS

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**Background:** Infecto-contagious diseases with extremely dangerous living biological agents, bacteria and viruses from the risk groups 3 and 4, shall submit to the danger not only for life of patients but also to all of the people that come into contact, directly or indirectly: personal health care, transporters, other patients, etc. The recent epidemic of Ebola, caused by the spread of a 4th risk group virus, covered countries in West Africa but has expanded cvasipandemic via those leaving the area: transferred patients , convalescents , contaminated medical staff etc.

**Objective:** Patients with very serious condition should receive extra care in intensive care units of infectious diseases facilities, but they did not exist in the area, therefore the patients were transported by air, for long distances, to their country of origin or those which could give such specific care. **Material and methods:** The patient must be isolated from the exterior, to avoid secondary contamination, but so as to allow at least a minimum of hygienic and alimentary comfort and the possibility of applying pharmacological and non-pharmacological treatment and emergency interventions to control and maintain vital functions during transport. **Results:** We designed at the request of the Department for Armaments, different types of medicalized containers that can be transported by Hercules or Spartan aircrafts, but they have not been manufactured since the epidemic entered the phase of regression and were no longer needed. **Conclusions:** We had and we still have situations where these patients must be multimodally transported, including by air, so we need to have insulating containers for contagious patients with extremely dangerous germs. Fortunately, there are possibilities of realization of such facilities in the country, on functional types.

**Keywords:** biological agents, Ebola, medicalized container, medical countermeasures

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## THE EFFICIENCY OF ADALIMUMAB IN TREATING A PATIENT ASSOCIATING PSORIASIS AND HIDRADENITIS SUPPURATIVA

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**Background:** Hidradenitis suppurativa , also known as acne inversa , is a chronic , inflammatory disease , characterized by multiple recurrences that profoundly impact the patient's quality of life . **Objective:** Due to the numerous pathogenic pathways and risk factors involved , hidradenitis suppurativa represents a complex therapeutic challenge , usually requiring the combination of multiple treatment schemes , including : topical and systemic antibiotics , surgical debridement , biologic therapies . The characteristic inflammatory response resembles that cited in psoriasis , involving high levels of TNF $\alpha$  , IL-1 , IL-17 , IL-10 . **Material and methods:** We present the case of a patient associating psoriasis and hidradenitis suppurativa who was treated with Adalimumab , a TNF $\alpha$  inhibitor , which led to a significant improvement in both pathologies . **Results:** The mean age of diagnosis is around 23 years of age , its debut usually corresponding to the onset of puberty . **Conclusions:** The most commonly affected areas are represented by apocrine gland bearing areas , such as : axillary , inguinal , anal and genital regions . Hidradenitis suppurativa and psoriasis are inflammatory skin diseases which have significant impact on the quality of life. Adalimumab proved to be efficient in reducing symptoms of both diseases , being , in our opinion , the first therapeutic choice in these challenging cases .

**Keywords:** Adalimumab, Psoriasis, Hidradenitis

## THE CHEMISTRY OF NERVE AGENTS AND TOXICOLOGICAL EFFECTS OVER HUMAN BODY EXPOSURE

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**Background:** Even if many countries have signed the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, the treaty which aims to eliminate the weapons of mass destruction, the danger of attacks with toxic agents is still present in the world. For terrorists, the nerve agents are particularly interesting due to their extreme high toxicity and their immediate effects in the absence of an antidote. Nerve agents are organic combinations of phosphorus. This kind of toxic substances inhibits the Acetylcholinesterase, enzyme which participates in the transmission of the nervous flow. **Objective:** The project involves knowledge regarding nerve agents, the effects these substances have on the human body and their chemical properties, which help us act for decontamination in case of chemical attacks. In order to know how nerve agent's related chemicals are produced, we aim to synthesis the diisopropyl methylphosphonate (DIPMP), a chemical scheduled 2.B.04 in the Convention. This compound it's a precursor for, or a by-product of the synthesis of sarin, chlorosarin. **Material and methods:** The reaction takes place in a three neck flask equipped with thermometer, dropping funnel, magnetic stirrer and a reflux condenser connected to an inert gas supply, between methylphosphonic dichloride and isopropanol, catalyzed by 4-(dimethylamino) pyridine in benzene as reaction solvent. The compound was purified by a high vacuum fractional distillation, and the confirmation was made by a triple quadrupole GC/MS/EI. **Results:** The reaction yield was 55%. The purity was over 98%. **Conclusions:** The synthesized compound has a real importance when it's related with a real attack. Being a degradation product or a by-product from the synthesis of sarin, knowing it's chemistry and having the right method to identify it, helps us to confirm or to invalidate the use of a sarin, when analyse the samples collected from the attacked area.

**Keywords:** nerve agents, synthesis, acetylcholinesterase

## RARE CAUSE OF UPPER DIGESTIVE HAEMORRHAGE EXTERIORIZED BY MELENA IN A PATIENT WITH VASCULAR AND PARENCHYMAL DECOMPENSATED HEPATIC CIRRHOSIS OF TOXIC ETHANOLIC ETIOLOGY

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**Background:** Upper digestive haemorrhages in cirrhotic patients is one of the major emergencies of gastroenterology pathology, the most common cause for their production being esophageal and gastric varices. **Objective:** The purpose of this paper is to report an interesting and complex case of upper digestive haemorrhage of extravascular cause exteriorized by melena in a patient known with hepatic cirrhosis. **Material and methods:** S.I. Patient aged 70 known with hepatic cirrhosis of toxic ethanolic etiology, Child Pugh class C, esophageal varices grade I/II, history of radio-treated pharyngeal neoplasm, radical pharyngitis, dispensarised in the Gastroenterology Clinic without observing the periodic monitoring program, arrives in the emergency room accusing dizziness and palpitations. Rectal cough at admission was positive for melena. Serologically, it was found a hemoglobin value of 7.2 g/dl. **Results:** The emergency gastroscopy revealed the presence of a submucosal formation with the ulcerated center Forrest II B in the gastric angle on the large curvature, with endoscopic appearance suggestive of GIST, erosive gastroduodenitis and esophageal varices grade I/II. **Conclusions:** The cause of the haemorrhage in this patient known with hepatic cirrhosis turned out to be the presence of the submucosal formation with endoscopic appearance suggestive of GIST. I wish to emphasize the importance of monitoring and observing the recommendations for the biochemical, ultrasonographic and endoscopic periodic evaluation.

**Keywords:** hepatic cirrhosis, haemorrhage, GIST submucosal formation

## MECHANISMS OF IMMUNOSUPPRESSIVE ROLE OF LIVER SINUSOIDAL ENDOTHELIAL CELLS

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**Background:** In the liver, several types of cells are involved in antigen presentation. In addition to myeloid antigen presenters such as Kupffer cells or dendritic cells, liver sinusoidal endothelial cells (LSECs) can express MHC and costimulatory molecules and are capable of presenting antigens. **Objective:** Targeting LSECs could be of therapeutic use in treatment of autoimmune disorders. Being in permanent contact with blood from systemic and portal circulations, LSEC is an important player in taking up and eliminating blood-borne soluble antigens and in determining the nature of the immune response such antigens stimulate. Generally, LSECs promote tolerance in both MHC I and II systems. Naïve CD4+ T-cells primed by LSECs using the MHC class II pathway can differentiate into two types of regulatory T-cells (Tregs): one expressing Forkhead-Box-Protein P3 (FoxP3) and the other lacking this transcription factor. These peripherally induced Tregs are important in maintaining tolerance to antigens that are not presented in thymus. This tolerogenic effect of LSECs has been rather controversial because they constitutively carry low levels of MHC II, but the exposure of MHC class II molecules may rise under the influence of inflammatory cytokines. **Material and methods:** Data analysis of scientific papers regarding the fascinating roles of liver sinusoidal endothelial cells in the immunologic microenvironment of the liver and the prospects of using these mechanisms therapeutically. **Results:** There are encouraging studies which used this technique and succeeded in curing experimental autoimmune encephalomyelitis in mice so we consider that this topic should be furthermore researched. **Conclusions:** LSECs possess the most potent endocytic capacity in the body; therefore, developing special nanoparticles which can deliver autoantigen peptides only to LSECs could be an efficient way to induce tolerance for the autoantigen.

**Keywords:** Liver sinusoidal endothelial cells, Autoimmune disease, Regulatory T-cells

## BECOME AN EXPERT IN YOUR FIELD

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**Background:** As we know, when we talk about "military medicine", we refer at the activity brought in health maintenance by military medical personnel in uniform, being also a scientific and logistic activity supported by the army. It is a kind of weapon, a specialty in the army and a part of civil medicine. **Objective:** This is why we chose to accentuate more the meaning of the signs of military medicine. Given the fact that we wear every day our military uniform and we see these symbols correlated with military medicine, we felt the need to transpose everything into a small presentation just to improve your knowledge and to own a stable foundation. **Material and methods:** The signs military medicine will help you understand better which are the liabilities of a military doctor. Further more, it has been made a comparisson between the signs of military medicine in our country, Romania, and the signs of military medicine in other countries, such as USA, Canada, France, Germany, Russia. **Results:** You will be able "to spread your wings and fly away", to improve your knowledge and why not, to learn something new. And, what is the most important thing, as the legend goes, everything begins from something real, everything has a well-known history, which is associated with the past, the present and the future. The same thing is happening with the signs of military medicine: 1. "a snake convoluted on a rod", the rod of Asclepios; 2. the two colours (burgundy and white); 3. the Red Cross. **Conclusions:** The presented symbols are common in the International Military Medical World in various forms, being the signs of many armies for their sanitary services.

**Keywords:** signs of military medicine,, military doctor,, International Military Medical World

# **FUNDAMENTAL SCIENCES - PHARMACY**

## INFLUENCE OF SENSORY BOUQUET – TASTE, SMELL AND COLOR ON FOOD INTAKE AND METABOLISM

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**Background:** Food flavor perception is the result of a combination between senses, olfactory, gustatory, visual, and even the auditory and tactile ones. The ensemble created by these senses has a strong impact on the appetite and a direct influence on food digestion, a decisive factor in the metabolism. **Objective:** The aim of this paper is to emphasize the influence of organoleptic characteristics of food, like smell, taste and color on the appetite and food consumption, as well as highlighting the effects of different flavors on the metabolism. **Material and methods:** The analysis of scientific literature available on Pub Med, Medline, Toxnet, using as key words "flavor perception", "food color", "food taste", "food smell", "metabolism". **Results:** Data from medical literature demonstrate that the central nervous system has an essential role in assimilating the sensory interactions and in the perception of flavors. Senses have a defining role in food preference, human species tending to associate the smell, taste and color with previous culinary experiences, creating food patterns in food consumption. Also, food flavor is important in the absorption and metabolism of nutrients, involving the brain, the oropharyngeal region and the parasympathetic nervous system, releasing saliva, gastric acid, pancreatic enzymes and hormones. **Conclusions:** Color, smell and taste create expectations in consumer, depending on previous experiences, the perceived flavor being able to influence the physiological phenomenon of absorption and metabolism of nutrients in human organism.

**Keywords:** flavor perception, food smell, food taste, metabolism

## THE EFFECT OF ARBUSCULAR MYCORRHIZAL FUNGI ON THE ARTEMISIA ANNUA MEDICINAL PLANT UNDER DIFFERENT SOIL TYPE CONDITIONS

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**Background:** *Artemisia annua* (Asteraceae) is an annual herb used for centuries as traditional Chinese medicine for cerebral fever. Since the discovery of artemisinin, the plant has been used in medicine for its cytotoxic and inhibitory effect. Arbuscular mycorrhizae can be used to increase the concentration of artemisinin, essential oil and guaiacol peroxidase in plant as well as plant biomass, growth, phosphatase activity, nutrient status and leaf chlorophyll content. **Objective:** The aim of this study was to investigate the effect of arbuscular mycorrhizae on biomass, glandular trichome density and artemisinin content in case of *Artemisia annua* plants cultivated on different soil types. **Material and methods:** *Artemisia annua* seeds were germinated on coconut fiber peat disks. The seedlings were transplanted in pots with three different soil types (Gleysol, Luvisol, Anthrosol) and sterile peat. Half of the plants were inoculated with *Glomus intraradices* and *G. mosseae* spores. The plants were moved outside in May and were separated into 16 blocks (20 plant/block) using a double nested block design. The fresh and dry weight of root, leaf and stem were measured periodically. Scanning electron microscope was used to evaluate glandular trichome density of the leaf. Artemisinin concentrations were determined by HPLC analysis. **Results:** Overall, treated plants presented a significantly higher fresh biomass in case of root and stem only in August, while leaf fresh biomass remained higher (with 25.98%) also in September. Significant differences in biomasses were found in case of Luvisol in August and Anthrosol in September. Dry biomasses presented the same trends. Glandular trichome density increased in treated plants with 25.63% on soil, and 33.30% on sterile peats. Inoculated plants had a significantly higher artemisinin concentration than control plants. **Conclusions:** The treatment was not effective in all of the applied soil types. Significant improvements on pharmaceutically important properties of the plants were observed in case of Luvisol and Anthrosol.

**Keywords:** *Artemisia annua*, artemisinin, arbuscular mycorrhiza, glandular trichome density



## DETERMINATION OF ANDARINE USING COMPLEXATION WITH METAL CATION, BY UV SPECTROSCOPY

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**Background:** Andarine is a selective androgen receptor modulator (SARM) developed to replace anabolic-androgenic steroids in the treatment of osteoporosis and muscle wasting disease. Due to their performance enhancing properties, SARMS have been misused by athletes and bodybuilders. Therefore, the World Anti-Doping Agency added them to the Prohibited List in 2008. SARMS can be illegally purchased via the Internet and they are available as food supplements. Therefore, various methods have been developed for the detection of these substances including enzymatic hydrolysis and detection of their metabolites using mass spectrometry, HPLC and target analyte detection. **Objective:** This study aims to find more affordable and less time-consuming method for detecting andarine using UV spectroscopy. **Material and methods:** The amido- and hydroxyl group of andarine has been used to create complexes with five metal cations ( $\text{Co}^{2+}$ ,  $\text{Cu}^{2+}$ ,  $\text{Fe}^{3+}$ ,  $\text{Ni}^{2+}$ ,  $\text{Zn}^{2+}$ ). The acetate salts of these metals have been dissolved in methanol in order to obtain highly concentrated (close to saturation) solutions. All complexes have been analyzed with UV spectroscopy by scanning within 190-450 nm possible changes in the adsorption of the andarine solution after the addition of the metal cations. **Results:** Analysis of UV spectra exhibit a 5 nm shift in the UV band in the case of andarine- $\text{Cu}^{2+}$ , andarine- $\text{Zn}^{2+}$  and a higher shift in the case of andarine- $\text{Fe}^{3+}$  compared to pure andarine solution spectrum. No shift was noticed in the case of andarine- $\text{Co}^{2+}$  and andarine  $\text{Ni}^{2+}$  as preliminary results. **Conclusions:** A possible complex between andarine and 3 of the analyzed cations ( $\text{Zn}^{2+}$ ,  $\text{Fe}^{3+}$  and  $\text{Cu}^{2+}$ ) was obtained due to the maxima shift noticed compared with pure andarine solution. The developed method is suitable and rapid, allowing qualitative determination of andarine in a matter of minutes from analyzed samples. Further analysis should be performed in order to develop and validate a quantitative determination of andarine from market products.

**Keywords:** Andarine, Selective androgen receptor modulators, Andarine-metal complex, UV-VIS spectroscopy

# **PHARMACEUTICAL SCIENCES - PHARMACY**

## THE EFFECTS OF TRIBULUS TERRESTRIS ON TESTOSTERONE LEVELS OF DIABETIC RATS

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**Background:** Diabetes mellitus, being defined as a group of metabolic diseases characterized primarily by hyperglycemia, has become a major issue for the individual, medicine and society. It is one of the main risk factors of erectile dysfunction, as it affects the vasculature and the hormonal system. Lately, amongst athletes, but also among people with erectile dysfunction, consumption of supplements containing *Tribulus terrestris* (TT) has increased dramatically. TT is recommended as an enhancer of human health and energy, being used by Ayurvedic medicine as a remedy for low libido, impotence, infertility and erectile dysfunction. This upward surge had increased the chance of adulteration, which poses a significant risk for consumers. **Objective:** The purpose of this study was to track the effects on reproductive parameters of diabetic rats following chronic treatment with 2 TT products: an extract prepared in our laboratory and a supplement bought from an online store. **Material and methods:** Five groups of Wistar rats, randomly divided, were used in this experiment: normal control received vehicle only, diabetic control received vehicle only, positive control received TT extract, TT group received TT extract and TTC received the content from capsules. After 12 weeks, blood sample was collected and testosterone level was measured using an LC-MS/MS method. **Results:** Testosterone levels were significantly decreased in diabetic group compared to healthy control group. Administration of TT extract did not influence the levels of testosterone in diabetic rats compared to diabetic control group, but the group that received the content from the capsules had a significantly higher level. **Conclusions:** Testosterone levels were not influenced by the treatment with TT extracts but the administration of TT capsules significantly raised the secretion of testosterone. These results ask for a further research in the chemical profile, because of the possibility of unexpected adulterations.

**Keywords:** diabetes, *Tribulus terrestris*, testosterone, erectile dysfunction

## ANOREXIGENIC DRUGS IN THE TREATMENT OF OBESITY: PAST, PRESENT AND FUTURE

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**Background:** Obesity is a medical condition in which the subject carries an excess weight; and represents a great problem in modern society. Obesity is related to multiple reasons, including diet, lifestyle, pathological conditions, genetic factors or the use of certain medications. It can increase risks in developing health problems but losing weight can be sometimes a difficult and frustrating problem. Several treatment options are available, including regular exercise and dietary changes but also pharmacological treatment. **Objective:** The aim of the study is an evaluation of the actual state of anorexigenic medication, taking in consideration the controversies related to anti-obesity drugs involving failures in clinical development and withdrawals due to adverse effects. **Material and methods:** Comparing several studies regarding pharmacokinetic, pharmacologic and pharmacotoxicologic profiles of certain drugs can be a solution and an important tool in understanding obesity pathology and the processes underlying its pharmacological treatment. **Results:** Although based on historical data we can state that anti-obesity medication failed to meet expectations, however in recent years an emergence of new therapeutic options can be observed. The aim of modern pharmacotherapy is to loose weight, but also to improve other associated pathologies such as diabetes, hyperlipidemia and cardiovascular diseases. **Conclusions:** Obesity represents a growing worldwide pandemic with high health and economic consequences. Pharmacotherapy combined with lifestyle changes are the current choices used to diminish the consequences of this pathological condition and its sequelae. However pharmacological treatment has a significant history of health risks, consequently new treatment pathways are a necessity and a challenge for modern medicine.

**Keywords:** obesity, anorexigenic drugs, slimming products, diet

# POSTER - SURGICAL

## RUPTURED ABDOMINAL AORTIC ANEURYSM WITH MASSIVE RETROPERITONEAL HEMATOMA - CASE REPORT

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**Background:** An abdominal aortic aneurysm (AAA) can evolve asymptomatic until it over expands or ruptures, when the clinical picture of the patient is serious and life-threatening. There is about a 65% mortality rate before arriving at the hospital for the patients who suffered an AAA's rupture. **Objective:** The following case shall seek to emphasise the necessity of always considering an unexpected pathology despite a seemingly clear general image of the patient and also to stand out the elected surgical approach which eventually saved the patient. **Material and methods:** We present a 68 years old male patient with widespread atherosclerosis, mitral and tricuspid moderate insufficiency, mild pulmonary hypertension and with a surgically treated gastric ulcer in antecedents. The patient presented with very few symptoms: all specific signs of ischaemia in the left leg which lasted for three days and moderate back pain which lasted for months. Paraclinical tests revealed his diagnostic: chronic infrarenal rupture of an abdominal aortic aneurysm with a massive retroperitoneal hematoma and occlusion of the left common iliac artery, profound and superficial left femoral arteries. Considering his condition and also his background, an open surgical approach was required but at high risk. The intervention aims to prevent the patient from an imminent physical danger. The chosen procedures consisted in aortobifemoral bypass with a Dacron vascular graft. A bilateral transfemoral thrombectomy using a Fogarty catheter was also performed as well. **Results:** Postoperative evolution was slowly favorable, with the disappearance of ischaemic symptoms, but with hepato-renal failure, remitted under specific therapy. He was discharged on the fourteenth postoperative day. **Conclusions:** This case highlights the particularities of an apparent evident general picture inconsistent with the seriousness of the actual medical status. For this patient, choosing the sensitive and the only accessible path in managing the case avoided the predictable complications and saved the patient's life.

**Keywords:** ruptured aneurysm, aorta, hematoma, bypass

## ENDOVASCULAR ANEURYSM REPAIR (EVAR): A CASE REPORT

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**Background:** Endovascular aneurysm repair, also known as EVAR is a technique used to repair an aneurysm of the abdominal aorta. It involves placing a stent in the aneurysmal area of the aorta, that is introduced percutaneously through two small incisions made in the groin to expose the femoral arteries. **Objective:** This paper revolves around the case of a 65 years old male patient known with multiple cardiovascular diseases, including essential high blood pressure, previous myocardial infarction and chronic obliterative arteriopathy of the lower limbs that also presents an aneurysm of the abdominal aorta with a medial diameter of 63 millimeters. **Material and methods:** An angiography of the aorta has been done, alongside with implantation of an aortic prosthesis with bilateral extension to the common iliac artery and post-dilatation balloon. **Results:** The aneurysm was successfully repaired with no blood leak into the aneurysm. This prevented it blocking or bursting and the patient returned to a normal life following a 4 weeks recovery period, without any complications. **Conclusions:** EVAR or endovascular aneurysm repair is a technique that resolves abdominal aneurysms with far better outcome for the patient and far shorter recovery time than classical open procedures do.

**Keywords:** endovascular, aneurysm, angiography

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## RECONSTRUCTION OF THE APICAL REGION OF THE NASAL PYRAMID IN A YOUNG MALE PATIENT

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**Background:** The nasal pyramid is an essential anatomical element of the face, with a mainly aesthetic and functional role. During traumatic accidents, the nasal pyramid attenuates the shock. The loss of a part of the nose has great relevance on perception of the beauty of the face and can result in a catastrophic quality of life impairment. Reconstructive surgery of the nasal pyramid can be a challenge for surgeons, but luckily the nasal reconstruction methods are vast. **Objective:** The aim of this case presentation was to describe one of the surgical methods of the nasal pyramid reconstruction in a young male patient. **Material and methods:** We describe the case of a 36 years old male patient admitted in the Plastic Surgery Department diagnosed with partial nasal pyramid amputation after a trauma occurred 4 years ago. The patient had undergone surgery in the first year after the trauma in another hospital, but he was not satisfied with the result. In our department we have decided to use autologous grafts from the bilateral auricular cartilages to reconstruct the septum, and to cover the soft tissue defect from the nasal tip and wings a frontal pedicle flap was performed. **Results:** The postoperative results of this method showed that the flap was totally viable and there were no signs of local complications. Two weeks after the initial reconstruction, the forehead pedicle was divided. Near-normal functional and cosmetic results were restored and his quality of life was improved. At this moment the patient is under follow-up. **Conclusions:** The frontal pedicle/forehead flap is a robust tool in the arsenal of the reconstructive surgeon and overwhelmingly provides patients with excellent results. In our opinion it should be considered the gold standard of nasal reconstruction.

**Keywords:** reconstruction, nasal pyramid, pedicle flap

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## RECONSTRUCTION OF NASAL SIDEWALL DEFECT WITH SUPERIORLY BASED NASOGENIAN FLAP

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**Background:** The junction of the cheek and nasal sidewall represents a gentle transition zone that can be sometimes difficult to reconstruct and it represents a challenging task by deciding which technique it is the best for the patient. It is important to take into consideration the defect dimensions, its etiology and topography. **Objective:** The aim of this case report was to describe the surgical reconstructive method of the left sidewall of the nose after tumour excision. **Material and methods:** We present the case of 60 years old female patient admitted in Plastic Surgery Department of Tîrgu Mureș for a left side nasal tumour which had appeared 4 years ago, increasing in size in the last months. The clinical examination revealed a 1×1 cm in diameter, mobile and pedunculated tumour with no ulcerations, necrosis or other lesions associated. Under general anesthesia it was performed a complete removal of the tumour and sent for histopathological examination afterwards. The tumour excision was followed by reconstruction of the left lateral wall of the nose, therefore the defect was paired and a superiorly based nasogenian flap was raised on a subcutaneous pedicle. **Results:** The postoperative evolution was favourable with no signs of local complications, the patient being discharged in the third postoperative day. The recovery and the aesthetic outcome was highly remarkable. **Conclusions:** The success of the reconstruction of the nose defects depends on the type of defect and its placement. Based on the aesthetic principle, the nasogenian flap technique that we used had showed very good results on this patient.

**Keywords:** Tumour excision, Nasogenian flap, Reconstruction

## KIDNEY EXPLANTECTOMY AFTER A CHRONIC RENAL ALLOGRAFT REJECTION

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**Background:** Kidney nephrectomy after a failed transplant is a not so common procedure, due to the risks involved. There are studies showing that a failed kidney allograft acts as a focal point of immunoreactivity that can perpetuate chronic inflammation, which is a major risk factor for cardiovascular death in patients receiving chronic dialysis. **Objective:** This study aims to emphasize the difficulty in the surgical management of a patient with a failed kidney allograft, nephrectomy being indicated, sparing immunotherapy and removing inflammation sources. **Material and methods:** We present the case of a 24-year-old woman diagnosed with chronic renal insufficiency who underwent a renal LIF transplantation in 09.01.2015. On 01.2018 the patient is diagnosed with chronic renal allograft rejection due to non compliance and restarts hemodialysis. On 29.06.2018 the patient presented with one-week hematuria and inferior abdominal pain syndrome (distention, severe swelling, redness). An abdominal ultrasound shows a renal graft with hydronephrosis grade I/II, without perigraft collections, with a graft volume of about 200 ml. The blood analysis reveals a nitrogen retention (creatinine 6 mg/dl, urea 90 mg/dl) and anemia (11.4 g/dl). Explantectomy is being practiced. The third day after the surgery, the patient shows a sudden decrease of hemoglobin level from 10.1 g/dl to 5.4 g/dl. The abdominal ultrasound shows left ilioinguinal haematoma. Another ilioinguinal exploration performed urgently reveals an important quantity of clots and a capsular renal-look mass, but no active bleeding source. The postoperative condition improves after isogroup iso Rh transfusion (7.6 g/dl). **Results:** The histopathological examination revealed a case of a chronic, cellular mediated, graft rejection. Moreover, it shows that the capsular renal-look mass was in fact a component of the haematoma, as a result of tissue and blood vessel damage. **Conclusions:** Non-compliance with immunosuppressive medication is frequent in renal transplant recipients, non-compliant patients swinging between subtherapeutic and toxic doses of immunosuppressants.

**Keywords:** kidney, nephrectomy, transplant, rejection

## THE WEXNER SCORE FOLLOWING INTERSPHINCTERIC RESECTIONS – ANALYSIS OF FIRST 60 CASES

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**Background:** The quality of life (QoL) in patients with low rectal cancer is an important issue that needs to be improved. Since the majority of the surgeries for low rectal cancer requires the presence of the stoma, the quality of life is dramatically influenced. Sphincter saving procedures such as the intersphincteric resections constitute a modern solution which improves the quality of life by avoiding the colostomy. **Objective:** The main aim of this study is to demonstrate the efficiency of a modified intersphincteric resection for low rectal cancer. The second aspect that has been considered is the oncological outcome following this modified technique. **Material and methods:** We conducted a prospective, continuous study in which we included all patients who underwent this modified intersphincteric resection between 2013 and present. A total of 60 patients were enrolled. Wexner's preoperative score was calculated and during the follow up this score was calculated at 6 months, 1 year and 3 years following surgery. During the follow up we also took into account the survival and complications rate. **Results:** The average preoperative Wexner score was 5.65 (all patients received preoperative radiotherapy for downsizing and downstaging). An average of 9.4 was recorded at 6 months following surgery. Long term tracking of the batch yielded a mean Wexner score of 8.3 at 1 year, respectively 6.2 at 3 years following surgery. We recorded a total of 9 complications of which: muco-submucosal necrosis (7%), stenosis (3%) and local recurrence (3%). **Conclusions:** This modified intersphincteric resection in low rectal cancer is safe and feasible and improves the quality of life without sacrificing the oncological outcomes. Most patients report a satisfactory continence for fecal matter and gas at 1 year postoperatively, objectively reflected by the values of the Wexner score.

**Keywords:** low rectal cancer, intersphincteric resections, Wexner score

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## INTESTINAL AND MESENTERIC METASTASIS AFTER MALIGNANT MELANOMA OF THE THIGH

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**Background:** Malignant melanoma is the most common cutaneous tumor that metastasizes in the gastrointestinal tract. One third of these metastases are affecting the small intestine and 75% of them are being located on the mesenteric margin of the jejunum. **Objective:** The aim of this report is to present a clinical case of a patient with intestinal and mesenteric metastases of a malignant melanoma of the thigh. **Material and methods:** We present a 62-year-old male patient with of known history of right thigh malignant melanoma admitted to the Surgical Clinic 1, Emergency Clinical County Hospital of Tîrgu Mureş. Prior to the admission the patient had a surgical excision of the malignant melanoma of the right thigh in 2014 followed by imuno-chemotherapy. During the follow-up after a PET-CT scan was detected multiple pelvic nodules with high fixating of fluorodeoxyglucose (FDG). The patient undergoes surgical intervention: an exploratory laparoscopy was performed where we discover tumoral mass located at the terminal ileum and multiple adenopathies located in the mesenter of the jejunum, close to duodenojejunal flexure. Due to the ineffectiveness of the laparoscopic exploration of the root of the mesentery the operation was converted and we performed a ileojejunal resection with enteroenteral anastomosis. **Results:** The postoperative evolution was favorable, without surgical complications and with the discharge of the patient in the 7th postoperative day. **Conclusions:** The ineffectiveness of the laparoscopic exploration of the root of the mesentery can leave undetectable adenopathies and conventional approach seems to be necessary.

**Keywords:** malignant melanoma, intestinal metastasis, mesenteric metastases

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## A RETROSPECTIVE DESCRIPTIVE STUDY ABOUT THE RISK FACTORS INVOLVED IN THE APPERANCE OF THE INCISIONAL HERNIAS

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**Background:** Incisional hernias are defects in the abdominal wall resulting from a trauma or from surgery with the protrusion of certain organs from the abdominal cavity. **Objective:** The purpose of this study was to evaluate the risk factors for the occurrence of the incisional hernias considering factors such as endogenous factors (hypoproteinemia, diabetes mellitus, consumption syndrome) and exogenous factors (working conditions, postoperative infections, type of abdominal incision). **Material and methods:** A retrospective-descriptive study (2009 - 1 January 2018) was conducted, from a group of 411 patients admitted in the Clinic of Surgery 1 of the Emergency County Clinical Hospital Tîrgu-Mureş having as main diagnosis the incisional hernias. The patients included in the study were hospitalized between 2009 and January 2018. Patients whose data did not correlate with the model of investigation were excluded from this study. Microsoft Access was used to analyze statistical data, GraphPad Prism (Qui square test) was used to perform statistical correlations. **Results:** Hypoproteinemia and consumptive syndrome have caused the disruption of the scarring process in all its phases. In 31 patients (7.5%) of the batch, incisional hernias association with malnutrition and cachexia had statistical significance ( $p = 0.002$ ). An important factor for the occurrence of incisional hernia is diabetes mellitus ( $p = 0.67$ ), 37 patients (9.25%) were diabetic. **Conclusions:** Incisions in the abdominal medial line cause an increased incidence of incisional hernias. Obesity, consumption syndromes with hypoproteinemia are factors favoring the appearance of the incisional hernias. Major determinant factors involved are the occurrence of the surgical emergency intervention and septic time.

**Keywords:** hypoproteinemia, incisional hernias, retrospective study, consumption



## COMPARATIVE STUDY OF CLASSIC - VERSUS LAPAROSCOPIC TREATMENT OF THE HIATAL HERNIAS -EXPERIENCE OF THE SURGICAL CLINIC 1 – SCJU TIRGU MURES

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**Background:** Hiatal hernia is defined as the protrusion, the ascension of the esophagus, alone or with a portion of the stomach (gastric fornix) in the thoracic cavity through the hiatal ring. **Objective:** The purpose of the study was to evaluate the advantages between classical and laparoscopic surgery of hiatal hernia according to sex, age and other criteries. **Material and methods:** We have conducted a retrospective-descriptive study over a period of 13 years (2005 - 2018). 164 patients with the main diagnosis of hiatal hernia were admitted in the Surgical Clinic 1 of SCJU Târgu-Mureș. The inclusion criteria is the confirmation of the hiatal hernia (gastroscopy and barium passage) **Results:** The highest incidence of the disease was recorded in patients with body mass index ranging from 25-29.9 (40% of cases). Following the time elapsed from first symptoms to surgery, there is a statistically significant correlation between the onset of the disease 2 years ago, the age of the patient (between decades 5 and 6), and the body mass index (25-29.99) -  $p = 0.022$  **Conclusions:** Although with a higher learning curve, interventions for minimally invasive hiatal hernia have definite advantages, both economically (lower hospitalization) and medical (minimal pain, cosmetic result, social reinsertion).

**Keywords:** hiatal hernia, laparoscopic surgery, classic surgery

## ANGIOGRAPHY UTILITY IN ARTERIAL STENOSIS : A CASE REPORT

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**Background:** Angiography is a medical procedure that consists in the usage of contrast dye, commonly containing iodine, and x-ray image to detect blockages in the arteries that are entailed by a plaque buildup. **Objective:** This paper presents the case of a 62 years old male patient with a history of cardiovascular diseases, who displayed a 90% stenosis of the left subclavian artery associated with dyspnea and fatigability. **Material and methods:** Clinical examination emphasizes essential high blood pressure; the 12-lead ECG points out sinus rhythm without any suggestive ST-T variations. Paraclinical investigations lay out a decreased APTT of 21.40 sec (normal 23.0-31.9) and RAPTT of 0.87 (normal 0.90-1.10) and also an increased fibrinogen level of 324.40 mg/dL (normal 170-320mg/dL). The exploration angiography laid out a 90% stenosis of the left subclavian artery. The medical record of the patient lists metabolic diseases such as diabetus mellitus type 2 and dislipidemia, which can be considered factors that contribute to the training of the superior arterial thrombosis and embolism. In virtue of the clinical and paraclinical investigations the patient was diagnosed with severe stenosis of the left artery and significant stenosis of the right artery. **Results:** In accordance with the left subclavian artery catheterization with a VER 4F catheter, the crossing of the subprolusive lesion was carried out, followed by the implantation of the pre-installed stent, which points out, at the check-up, an accurate apposition of the stent to the vascular wall, complete recanalisation of the vascular approached segment and accurate angiographic flow. Bilateral vertebral arteries and basilar artery are shown as permeable. **Conclusions:** Angiography is not only an accurate imaging procedure, but also a non-invasive technique which allows the arterial catheterization in terms of more fast-track recovery of the patients with co-morbidities, minimizing the risk of developing post procedural embolisms.

**Keywords:** Angiography, Stenosis, Cardiovascular-disease

## CLOSURE OF AN OROANTRAL COMMUNICATION USING BICHAT'S BUCCAL FAT PAD

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**Background:** An oroantral communication (OAC) is an open connection between the oral cavity and a maxillary sinus. Its appearance is relatively common in oral surgery. Oroantral communications less than 2 mm in diameter tend to close spontaneously, whereas those larger than 3 mm require surgical closure. Numerous techniques for

their closure have been described, including proximity or distance grafts and flaps, such as the pedicled Bichat's buccal fat pad. **Objective:** The aim of this case presentation was to describe an optimal method for the closure of an oroantral communication using Bichat's buccal fat pad. **Material and methods:** We present the case of a 43 years old female patient who was admitted at the Oral and Maxillofacial Clinic with the diagnosis of a right oroantral communication which appeared after a number of sinus lift and bone addition surgical interventions. At the clinical examination, the patient presented in the right hemimaxilar, premolar-molar region, a fibrous and scarred mucosa with two fistulous vestibular orifices associated with an oro-antral communication of big dimensions, extended from 1.6 to 1.4. After an adequate preparation, the surgical team performed, under general anesthesia, the complete removal of the right maxillary's pathological content, including polyps and hypertrophic mucosa. Nasal contraopening and the introduction of a wick into the sinus were also performed. Because of the extended bone destruction and scarred mucosa, the large defect was closed using Bichat's buccal fat pad. The endosinus wick was removed after 48-72 hours. **Results:** The patient's postoperative evolution is slow, but favourable. She didn't develop any acute complications. The buccal fat pad had a fast and complete epithelialization, without fistula or discomfort. **Conclusions:** The buccal fat pad, because of its numerous advantages (location next to the defect, easy harvest with no visible scarring, own rich blood supply), should be considered the best option when closing oral defects.

**Keywords:** oroantral communication, bone destruction, fibrous mucosa, Bichat's buccal fat pad

## IS THERE LIFE AFTER KNIFE? LAPAROSCOPY IN POLYTRAUMA - CASE REPORT

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**Background:** Worldwide, polytrauma represents a significant concern of survival rate and a real challenge in surgery field especially when it comes from aggression. Nowadays, domestic aggression becomes a real health concern which leads to multiple traumas associated with a high risk of morbidity and mortality. **Objective:** The main purpose of this case report is to emphasize the utility of laparoscopic approach in polytrauma, unveiling in the same time the importance of laparoscopic diagnosis. **Material and methods:** Our case is about a female patient, 34 years old, a victim of a domestic violence, which was stabbed seven times with a kitchen knife, her wounds leading to hemopneumotorax, minimum hemoperitoneum, hemorrhagic shock and severe anemia. The material used for this case presentation include the patient's file record, intensive care file records, anaesthesia files and the surgical protocol. **Results:** The first postoperative day, the patient was stable, the hemorrhage stopped and the wounds started to heal. The outcome of the patient was good and she was dismissed after 8 days. **Conclusions:** The laparoscopic approach gives the comfort of a precise and minimal invasive intraoperative diagnosis, offering in the same time the chance to surgically cure the spotted lesions.

**Keywords:** Polytrauma, Heteroaggression, Laparoscopic, Knife

## HISTOLOGICALLY CONFIRMED ENDOMETRIOSIS AFTER SURGICAL DIAGNOSIS AND TREATMENT OF AN INGUINAL HERNIA- CASE PRESENTATION

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**Background:** Endometriosis is a painful condition in which tissue that normally lines the uterus- endometrial glands and stroma- develops outside of it, usually in the pelvis, affecting the ovaries and fallopian tubes and rarely in the lower abdominal region. **Objective:** Finding out the real etiology of a pseudotumoral tissue found in the right inguinal region. **Material and methods:** I present the case of an 28 years old woman who presented to the surgery clinic number 3 of the County Clinical Hospital accusing the following symptoms: pain in the right inguinal region and the appearance of a pseudotumoral formation in the right inguinal region. The onset of symptoms was 1 week ago. The routine bloodtest revealed an increased number of erythrocytes and increased hemoglobin and hematocrit values. The clinical and surgical diagnosis was: Right inguinal hernia without obstruction or gangrene, unspecified as a relaps, which is why the surgical treatment of the pseudotumoral formation was performed. The main steps of the operation were the following: right inguinal incision followed by the dissection of the subcutaneous tissue, the Camper and Scarpa fascia and the aponeurosis of the abdominal external oblique muscle. **Results:** While performing the operation the doctor noticed the lack of intestines in the inguinal canal, the

canal was containing a non-specific tissue which was sent to the histopathological examination. The histological examination described the presence of stroma and endometrial glands in the connective-adipous tissue excised, which confirmed the diagnosis of endometriosis. **Conclusions:** The ectopic endometrial tissue grew inside the inguinal canal, which is why it has raised the suspicion of inguinal hernia. The removal procedure could be followed by a gynecological consultation and continuation of the medical treatment of endometriosis.

**Keywords:** endometriosis, inguinal hernia, histopathological examination, surgical excision

## THE MODERN BENTALL IN SURGICAL APPROACH TO MARFAN AORTIC ROOT

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**Background:** Postoperative pseudoaneurysm of the aortic root is a difficult surgical problem and often a fatal complication of cardiac surgery. The diagnosis of iterative aortic dissection in Marfan Syndrome is critical for effective treatment. An aggressive surgical strategy such as Bentall technique, followed by life-long cardiovascular monitoring is used in order to save and prolong the survival of these patients. **Objective:** The goals of Bentall operation are to provide structural and functional restoration of the aortic root. **Material and methods:** We present the case of a 47-year-old woman diagnosed with Marfan Syndrome at 8 years old. She reached the Emergency Unit of the Emergency Clinical Hospital "Sf. Spiridon" Iaşi for retrosternal chest pain with abdominal irradiation, occurring at rest and accentuated in movement and dyspnea in low effort. She had suffered a surgical intervention for ascending aorta dissection and bicuspid aortic valve disease ten years beforehand. **Results:** Computed tomography revealed an aortic pseudoaneurysm located at the sinotubular junction accompanied by a periprosthetic hematoma. Chronic dissection was present all along the descending aorta, as well as dissection of the left subclavian. The patient successfully underwent repair of the ascending aortic pseudoaneurysm and concomitant aortic valve replacement using the modern Bentall procedure at the Institute for Cardiovascular Diseases. After medical and surgical treatment the patient's evolution was favorable. **Conclusions:** Aggressive aortic surgery with graft replacement in Marfan Syndrome determines these patients' survival in this kind of life threatening surgical emergency. The evolution of ascending aorta replacement techniques has substantially reduced the risk of sudden death and improved the quality of life of these patients.

**Keywords:** Marfan Syndrome, Iterative Aortic Dissection, Bentall Technique

## PARTIAL EVISCERATION OF ILEUM AND OMENTUM FOLLOWING A BLUNT TRAUMA IN INGUINAL REGION WOUND AFTER HE FELL INTO A SEWER

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**Background:** Abdominal evisceration following blunt trauma is a rare condition and suggests extreme energy forces transmitted to the patient. **Objective:** The objective of this study is to present a case of partial evisceration of ileum and omentum following a blunt trauma in inguinal region. **Material and methods:** We report the case of a 34-year-old woman, who was admitted, in emergency setting, in the First Surgical Clinic, Emergency County Clinical Hospital of Targu Mures between 23.02.2019-27.02.2019. During the clinical examination the patient was haemodynamically stable and we could notice an right inguinal wound with partial evisceration of the ileum and omentum. From the anamnesis we found out that the incident happened by accidentally falling into a sewer. Emergency surgery is performed consisting of the following procedures: surgical ward of the wound, exploration of the abdominal cavity, reducing the viscera into the cavity, hemostasis, laparorrhaphy, subcutaneous drainage, suture of the skin. **Results:** The patient presents a favorable postoperative evolution with bowel movement resumption on the first postoperative day, normal urinary output, clean surgical wound. The patient is discharged at 4 days following surgery in general good health. **Conclusions:** Exploration of the abdominal cavity is crucial in the treatment of a partial evisceration after a blunt trauma. Primary repair of the abdominal wall is the recommended approach.

**Keywords:** blunt trauma, evisceration, falling

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## GIANT BORDERLINE OVARIAN TUMOR

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**Background:** Giant ovarian tumours are rare, mostly of them are benign but around 10% are borderline. They are usually common between third and fifth decade of life. **Objective:** The aim is to present the case of a giant ovarian borderline tumor in a woman weighing 50 kg. **Material and methods:** We report the case of a 64-year-old woman, who was admitted in the First Surgical Clinic, Emergency County Clinical Hospital of Targu Mures, between 20.06-20.06.2018 with giant right adnexal tumor with compressive phenomena, superior vena cava syndrome, left ovarian tumor, cachexia. The clinical examination revealed an abdomen eased by the presence of a pelvi-abdominal tumor with distended veins on the abdomen and in the upper chest. The radiological examination such the abdominal ultrasound wasn't useful because of the thickened tumor wall so a CT scan was performed revealing a large mass in the abdominal-pelvic cavity with the displacement of the surrounding organs. Interdisciplinary consultation (gynecology and gastroenterology) have not provided more details. Laboratory analyses show anemia and hypoalbuminemia. From the patient's personal background we found out that she had 2 natural childbirth and she suffers from ischemic heart disease and hypothyroidism. **Results:** After the correction of the anemia and hypoalbuminemia the patient had undergone an exploratory laparotomy, total hysterectomy with bilateral adnexectomy and the excision of a peritoneal lipogranuloma. The postoperative evolution was favorable, without surgical complications and with the discharge of the patient in the 9th postoperative day. **Conclusions:** Women with abdominal-pelvic masses constitute a challenging condition in general practice because the clinical and paraclinical investigations are usually nonspecific.

**Keywords:** borderline ovarian tumor, superior vena cava syndrome, adnexectomy

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## BOWEL OBSTRUCTION CAUSED BY A DOUBLE INCARCERATED INGUINAL AND UMBILICAL HERNIA.

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**Background:** Hernias are the cause of 20% of small bowel obstruction. Bowel obstruction (BO) accounts for 5% of surgical admissions. It occurs when intestinal peristaltic movements are impeded and thus requires a thorough assessment for an adequate treatment. **Objective:** We present a case of a man with a BO caused by a double incarcerated inguinal and umbilical hernia. **Material and methods:** A 69 year old male patient was admitted to the emergency room with abdominal pain, loss of appetite, vomiting, altered status. Inspection and palpation revealed two big, irreducible and painful masses in the umbilical and left inguinal region, whereas percussion and auscultation revealed tympanism, high pitched peristaltic sounds respectively. An abdominal Xray revealed multiple hydroaeric levels in both the small and large intestine. **Results:** Intraoperatively, a BO caused by a double incarcerated inguinal and umbilical hernia was found. We began with the left inguinal hernia by performing an open hernia repair, orchiectomy, kelotomy, reintroducing a viable ileum into the abdominal cavity, performing a single layer abdominoplasty and inserting a drainage. Then we dealt with the umbilical hernia, performing a kelotomy, reintroducing a viable transverse colon into the abdominal cavity and ended with mesh abdominoplasty along with a drainage insertion. Postoperative status was uneventful, the drainages were removed and the patient was discharged on day 4. **Conclusions:** BO is a condition which has to be dealt with carefully. A clinical examination, a simple blood work and abdominal Xray are enough for a correct diagnostic. After assessing the cause, a surgical approach must be considered. We presented this case because of its uniqueness by the presence of both the inguinal and umbilical hernia by which both the small and the large bowel were trapped thus leading to the obstruction.

**Keywords:** bowel obstruction, double, incarcerated hernia

## GALLSTONE MECHANICAL ILEUS WITH CHOLECYSTIC-DUODENAL FISTULA-BOUVERET SYNDROME

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**Background:** Bouveret syndrome is a rare form of mechanical ileus with a low encounter rate (2-4%) characterized by the complication of a fistulized biliary lithiasis at the duodenal or gastric level through which gallstones migrate to the enteral level. It mainly affects the elderly population and patients with a long history of biliary lithiasis with a high mortality rate. **Objective:** The aim is to present the surgical management and diagnostic challenges of a Bouveret syndrome. **Material and methods:** We present a 83-year-old female patient with of known history of biliary lithiasis admitted to the emergency department in a general altered state with nausea and vomiting. An abdominal echography is performed with the visualization of a distended gallbladder with multiple diffuse lithiasis. She is enrolled in the 1st Surgical Clinic in Tîrgu Mures Emergency County Hospital. The patient undergoes surgical intervention: We perform an exploratory laparoscopy where we discover a mobile intraluminal tumor-like formation accompanied by inflammation of the hepatic pedicle and multiple adhesions with no visualization of the hepatic biliary system. Based on protocol the operation is converted to an exploratory laparotomy where we discover a cholecystic-duodenal fistula. We perform an antropyloric-duodenectomy (DII) with gastro-duodenal anastomosis, enterotomy enterorrhaphy and classic cholecystectomy. **Results:** We extracted a 3x2 cm gallstone form the ileum and removed the gallbladder with the closing of the duodenal fistula. The patient was transferred to the ICU for postoperative monitorization but she died in 3rd postoperative day by acute cardiac failure. **Conclusions:** In the case of a low cholecystic-duodenal fistula, restoring the transit through the Pean anastomosis is the most appropriate. Mechanical Ileus by biliary calculus is a rare complication of biliary lithiasis with non-specific symptoms and with predilection in elderly patients that can mislead the initial diagnosis. Associated comorbidities hinder treatment and lead to severe prognosis for the patient.

**Keywords:** antropyloric duodenectomy,, cholecystic-duodenal fistula,, Bouveret syndrome

## DIAGNOSIS OF NASOPHARYNGEAL CANCER: CASE REPORT

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**Background:** Nasopharyngeal cancer is a relatively rare neoplasia but still with a growing incidence in our country and it raises important questions regarding diagnosis and treatment. The nasopharynx form the upper part of the pharynx, anteriorly is in direct continuity with the nasal passages through the choanae, inferior with the oropharynx and its roof is in the close proximity of the base of the skull. **Objective:** In this study we want to draw attention to the diagnosis of nasopharyngeal cancer because this anatomical region is hidden, difficult to approach and most frequently it remains unexplored. The region presents complex anatomical relationships and the symptoms of this disease are frequently borrowed from adjacent organs. **Material and methods:** In this paper, we present a 45-year-old male patient who presented for a consult at the otorhinolaryngology (ENT) Clinic complaining of otalgia, decrease of hearing of the right ear and the appearance of a right lateral cervical swelling. **Results:** Following a thorough anamnesis, the ENT and endoscopic examination of the nasopharynx and the ear there was some suspicion of a nasopharyngeal tumor. A computed tomography scan of the region of the head and neck has been performed and it highlighted an epipharyngeal tumor. The following investigations included an X-Ray, the usual laboratory tests which were in normal parameters and Ig G for Epstein-Barr was elevated. A biopsy was performed and the histopathological examination confirmed the positive diagnosis of epidermoid carcinoma of the nasopharynx T2aN2M0 stage IIB. The patient was directed to the oncology service in order to receive specialized treatment. **Conclusions:** The pathological changes from the cavum are usually "silent" regarding their function, which is why these affections from this level are frequently misdiagnosed and/or late diagnosed. These mistakes can lead to the aggravation of the prognosis and sometimes can cost the patient's life.

**Keywords:** Nasopharyngeal carcinoma, cavum, cancer, diagnosis

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## OPTIMAL FIXATION OF CORTICAL SCREWS IN BONE FRACTURE REPAIR

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**Background:** In bone fracture repair, orthopaedic surgeons fix the screws through the holes of the fixation plate or directly into the bone by applying a tightening torque, which is determined empirically. A clinically important topic is more accurate control of the clamping torque of the screw. **Objective:** To determine the cortical screw optimal clamping torque in the bone fracture repair. **Material and methods:** The experiment is performed on animal bones of the same type. In the bones there are guided orifices in which cortical screws are fastened by applying an empirically determined clamping torque. It is then simulated accidental overloading of the screws, which can occur during surgery, by applying overloading moments that damage the threads of the thread in the bone. The defining parameters of the intervention are calculated: torque ratio and normalized torque. **Results:** The numerical values recorded with the help of digital screwdrivers allow the torque variation curve to be represented. It increases linearly from zero as the friction between the spirals and the bone appears, up to a "threshold torque" value when the screw head comes into contact with the bone / washer / fracture plate. There is a torque that allows for sufficient clamping, and the continuation of the clamping results in a "peak failure torque" over which the screw assembly is completely failed. Images with mounts are presented. **Conclusions:** Surgeons use manual surgical screwdrivers and apply empirical clamping torques without accurately measuring. Actual empirical peak clamping torque ranges between 66-92%, sometimes screws being less or too tight. The peak clamping torque can be predetermined according to the type of screw mounted and the bone density. This is calculated analytically and validated by experimental measurements, being recommended midway between the "threshold torque" and the "peak failure torque".

**Keywords:** cortical screw, bone fractures, peak clamping torque, peak failure torque

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## MANAGEMENT OF BIMALLEOLAR EQUIVALENT FRACTURE

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**Background:** The deltoid ligament in the unbroken ankle assures restraint to eversion and external rotation of the talus on the tibia. The moment when the deltoid ligament breaks, there appears a bimalleolar equivalent and the surgeon finds himself in front of many diagnostic and therapeutic challenges. The talar neck fractures shows a high rate of complications, such as avascular osteonecrosis and post-traumatic osteoarthritis, which can be reduced through an adequate management. **Objective:** The treatment of isolated lateral malleolar fractures with the torn deltoid ligament is still controversial. There is no unity regarding the optimal cure or the preferred surgical method for the treatment of the deltoid ligament's acute lesions during an attachment. Retraction of the ligament with subsequently healing in a non-anatomic position causes instability, persistent medial pain with the function loss and with a high risk of early arthritis. Our study tries to analyze the results of the ligament's fixing during the attachment of an ankle fracture. **Material and methods:** The subject, a 46 years old man, shows up in the clinics with bimalleolar equivalent fracture and talar neck contortion. The diagnosis is confirmed by Röntgen rays. First of all, there is done the fracture deduction on an open focus and osteosynthesis with plate and nails, a nail for tibia-perone diastasis and deltoid reconstruction. **Results:** The deltoid ligament tears are rare, so it is very important to manage with careful assessment with through clinical examination and appropriate imaging, by examining the whole fibula, the lateral ligaments and the syndesmosis, in order to exclude the lateral lesion or the fibula fracture. **Conclusions:** So far there are arguments, which attest that this surgery is an effective way of treating a broken ankle with a torn ligament, by open reduction, internal fixing and repairing the broken ligament. These can heal the median instability and has a satisfactory efficacy.

**Keywords:** deltoid ligament, ankle, surgery, bimalleolar equivalent

## MONOBLOC THYROIDECTOMY USING THUNDERBEAT™ OPEN FINE JAW

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**Background:** The introduction of the new sealing devices in thyroid surgery benefits both the patients and the surgeon. An effective method for controlling haemostasis without affecting the recurrent nerves during thyroidectomy is crucial because of the high risk of haemorrhage. **Objective:** The aim is to present a total monobloc thyroidectomy using Thunderbeat™ Open Fine Jaw. **Material and methods:** We report the case of a 75-year-old woman, who was admitted in the First Surgical Clinic, Emergency County Clinical Hospital of Tîrgu Mureş with multinodular goiter. The fine needle procedure (FNA) suggests a lymphocytic thyroiditis. Thunderbeat™ device was used after the skin incision for sub skin fat dissection, both thyroid gland and isthmus dissection and to seal the vascular pedicles. **Results:** The patient had undergone an extracapsular total complete thyroidectomy for a multinodular goiter with retrosternal extension of the gland. There was no complication during surgery but after the extubation she presented dysphonia, hoarse voice and wheezing so she was transferred in ICU for a better monitorization. The postoperative evolution was slowly favorable with the regression of the dysphonia, wheezing and hoarse voice. **Conclusions:** Using Thunderbeat™ device in complete thyroidectomy may be useful because of the ergonomics of the device, proper haemostasis and fine tissue dissection. Further studies are needed to prove the superiority of this device in open thyroidectomy. Dysphonia, wheezing and hoarse voice were probably the result of elongation of the recurrent nerve or of the postoperative inflammation.

**Keywords:** Thunderbeat™ device, monobloc thyroidectomy, goiter

## STENT INTERVENTION FOR SEVERE OCCLUSIVE DISEASE. CASE REPORT

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**Background:** Various peripheral arterial occlusive lesions have traditionally been managed with surgical therapy. Placement of a metal stent across a stenotic or occluded blood vessel is intended to maintain the patency of the vessel and reestablish flow through it by providing internal structural support **Objective:** The aim of this case presentation is to demonstrate the benefits of stent placement intervention for the right common iliac artery with severe stenosis: greater than 60% **Material and methods:** A 73 years old male patient accusing severe inferior right member claudication, right forearm numbness, paraesthesia was diagnosed on Angio CT examination with right common iliac artery stenosis (greater than 60%), a permeabil bilateral femoral-popliteal bypass with stenosis over 60% on left side anastomosis and also femoral artery occlusion in the middle segment. These pathological findings directed the surgical plan to stent placement intervention for the right common iliac artery with severe occlusive disease **Results:** The patient had favorable evolution without postoperative complications such as bleeding (hematoma or pseudoaneurysm), infection, distal embolization, arterial spasm, stent fracture after a primary stent placement indicated as initial intervention for iliac stenosis **Conclusions:** Stent placement intervention for the right common iliac artery with severe occlusive disease is the best procedure, able to reestablish the flow through to a stenotic blood vessel

**Keywords:** occlusion, stent intervention, bypass

## SURGICAL TREATMENT FOR LOW RECTAL CANCER: BETWEEN SAVING AND SACRIFICING THE SPHINCTER FUNCTION

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**Background:** Worldwide, the prevalence of colorectal cancers(CRC) is over 1.5 million cases with a tendency of increasing number. CRC is the second most commonly cancer in females and the third in males, causing 861000 deaths in 2018, hence the high interest in finding the best approach. Although the preoperative neoadjuvant

therapy is important, surgery still remains the cornerstone for low rectal cancer treatment. **Objective:** This study aims to compare the early postoperative outcomes of sphincter preserving techniques used for low rectal cancers with those that sacrifice the anal sphincter function. **Material and methods:** Since 2005 until 2015, 303 patients were admitted to the Surgical Department 1, Emergency Clinical County Hospital of Târgu-Mureş and underwent surgery for low rectal cancer. The total number of patients was divided into two groups: one with a sphincter saving technique and the other who underwent a sphincter sacrificing surgery. The early postoperative outcomes were analyzed and compared using statistical analysis software. **Results:** For 166 patients (54.78%) a sacrificing sphincter function surgery was performed, followed by a postoperative mortality of 1.2%. For the group of 137 patients (45.21%) that underwent a sphincter-saving surgery, the most commonly used technique was an anterior recto-sigmoidian resection with low colo-rectal anastomosis (low Dixon's procedure) in 82 cases (59.85%). Low rectal resections, followed by colo-anal anastomosis, were performed in 45 cases (32.84%) and in 10 cases an intersphincteric rectal resection was done. The postoperative mortality in this group was 2.9%. **Conclusions:** Sphincter saving techniques, respecting the principles of oncological resections, represent sustainable solution for the surgical treatment of low rectal cancer. They are not inferior as early postoperative results to sphincter sacrificing procedures, and due to the preservation of the sphincteric function bring an improvement on the patient's quality of life.

**Keywords:** low rectal cancer, surgical treatment, sphincter saving technique, postoperative outcome

## EVALUATION AND MANAGEMENT OF NECROTIZING SOFT TISSUE INFECTIONS: CASE REPORT

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**Background:** Necrotizing soft tissue infection (NSTI) is often a complication of a chronic disease and by its occurrence it can decompensate some subclinical diseases such as liver diseases. Emergency excision in healthy tissue may be the only life-saving maneuver. Mortality is estimated at 15-20%. **Objective:** The aim of this report is to present a clinical case of a patient with NSTI complicated by systemic disease. **Material and methods:** A 53 years old man, non-smoker, non-alcoholic, with unknown pathological history came to emergency room for a 48-hour rapid evolution of an older left plantar foot ulcer. The patient was afebrile (36.0), tachycardic, with a poor general condition. The local examination revealed a plantar ulceration with seropurulent secretion, a dark vesicular lesion located near the ulceration on the plantar vault, slight erythema and subcutaneous crepitations. The biological tests showed an important inflammatory syndrome, thrombocytopenia, anemia, metabolic ketoacidosis, dyselectrolytemia and renal insufficiency. Foot radiography found emphysema in the anterior soft tissues of the foot and ankle and diffuse demineralization of the metatarsal bones. Foot amputation (Lisfranc) and soft tissue debridement of the anterior face of the ankle were performed in emergency and antibiotherapy-Penicilline was initiated. **Results:** The evolution was unfavorable after 24 hours, extension of the NSTI and crepitation to the lower third of the calf and the aggravation of systemic disease. The amputation of the thigh was therefore performed and the antibiotherapy according to the antibiogram (Group F  $\beta$  hemolytic Streptococcus and Klebsiella pneumoniae sensitive to Penicillin). Subsequent local evolution was immediately favorable, the inflammatory syndrome and renal function also improved. Instead, the hepatic function decompensated and additional investigations revealed HBV cirrhosis. **Conclusions:** Soft tissue infections are characterized by rapidly progressive infection that causes tissue necrosis with associated sepsis and multisystem organ failure. Despite advances in antibiotic, surgical management and supportive care, morbidity and mortality remain substantial.

**Keywords:** NSTI, foot amputation, systemic disease, inflammatory syndrome

## MULTIPLE PRIMARY MALIGNANT NEOPLASM: CASE REPORT AND CORRELATION WITH ETIOLOGICAL FACTORS

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**Background:** Multiple primary malignant neoplasm (MPMN) means two or more different malignancies, generated in the same patient. Metachronic MPMN are detected 6 months after the diagnosis of the first primary tumor as opposed to synchronous, detected simultaneously or up to 6 months after the diagnosis of the first tumor. **Objective:**



This case report aims to make a correlation between metachronic MPMN, environmental and therapeutic factors in a patient with 3 tumors, each with its own pathological features, in different parts or organs that are not continuous with each other. **Material and methods:** We present a case of a 61 years old man with no oncological family history of cancer, with occupational exposure to metals, dust and fibers who was firstly diagnosed with lung carcinoma in October 2010 treated with left lower lobectomy followed by 6 cycles of chemotherapy, with no evidence of disease progression. Two years later he was diagnosed with sigmoid colic carcinoma treated by left hemicolectomy with subsequent chemotherapy. In 2015, the biopsy of a ulcerovegetant mass in the lateral third of the right thigh revealed nodular malignant melanoma, that was treated by wide excision with negative resection margins. **Results:** Each of the three tumors are detected after approximately 2 years and were successfully treated with no signs of recurrence. **Conclusions:** The cause of MPMN is not yet elucidated, but may be related to the following four main factors: immune status, environmental factors and lifestyle, including long-term exposure to industrial pollution, genetic factors and therapeutic factors, including carcinogenic radiotherapy and chemotherapy.

**Keywords:** Metachronic MPMN, carcinogenic chemotherapy, environmental factors

## EXTREME VON RECKLINGHAUSEN`S DISEASE CASE: MYTH OR REALITY?

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**Background:** Neurofibromatosis type I or Von Recklinghausen`s Disease is an autosomal dominant disorder of the nerves affecting about 1 in 3,000 people. The expressivity of the disease is extremely variable. It results in café-au-late spots, axillary freckling, macules and multiple neurofibromas throughout the nervous system that can turn malignant. The diagnosis is mostly clinical and no cure was found. **Objective:** We present a case of a 55-years-old man with Recklinghausen Disease having multiple and different sizes soft tissue cutaneous nodules on the body including head and neck (neurofibromas), Lisch nodules, freckles and café-au-lait spots. He came at Craiova Emergency County Hospital complaining of pain and functional impotence in the right knee joint area started one month before, along with a significant growth of a tumor mass. After examination, the patient was admitted by the Plastic and Reconstructive Surgical Department. **Material and methods:** The objective clinical examination revealed 2 massive (15 cm and 7 cm), nonadherent, elastic, painful at mobilization tumors (anterior and medial to posterior) restricting the flexion and extension in the right knee joint area. Imaging explorations shown a round shaped mass with clear margins and no involvement in the structure of the joint. As there is no treatment for this disease, we performed a palliative excision of both masses with direct (skin to skin) closure. **Results:** After 2-3 weeks, the patient will be able to regain full mobility in the right knee. Both excised pieces were sent for histopathological examination. **Conclusions:** Overgrowing of a tumor mass in Von Recklinghausen Disease is a common complication. Surgical excision is the most effective treatment by reducing the secondary complications and improving the quality of everyday life. Patients with this conditions should be checked regularly in order to overcome the development of the tumors that can leave permanent damages such as blindness due to an optic nerve glioma.

**Keywords:** Von Recklinghausen`s Disease, palliative surgery, neurofibromas

## THYROID CANCER-SURGICAL TREATMENT AND INCIDENCE IN THE SURGERY CLINIC NO.1 TARGU MURES

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**Background:** Even though it represents just 1% of all the malignant tumours, thyroid cancer is thought to be the number one when it comes to endocrine neoplasia. There are 2 surgeries which can be done when it comes to thyroid nodules : subtotal thyroidectomy, when it's removed almost the entire thyroid, keeping just a small part to ensure its function and to preserve the parathyroid gland and the recurrent nerve, and total thyroidectomy, when all the thyroid gland is removed. **Objective:** The purpose of this study was to track the incidence of thyroid cancer over 14 years, to examine the histopathological types, the surgical treatment which has been used and, also, the

age and gender distribution. **Material and methods:** The study consisted of a number of 394 patients with thyroid cancer treated between 01.01.2004 □ 31.12.2018 in Surgical Clinic no.1, Tg. Mures. We also included the ones whose malignant character of the lesions was confirmed after the histopathological exam. **Results:** Between 2004-2018 there were performed 394 interventions and 89 complementation thyroidectomies. The most affected age category was 51-60 and the average age was 50. The predominance of women is observed both in the groups where the complementation thyroidectomy wasn't necessary and where it was. The average time spent in the hospital was 5 days and the totalization's result was an increase of hospitalization duration by 4 days. **Conclusions:** Total thyroidectomy continues to be the most used method by surgeons, while the complementation thyroidectomy still has a high incidence because of the difference between the biopsy and the histopathological exam, resulting in more costs for the hospital and in a longer period of time spent by the patients. This study confirms the fact that the incidence of thyroid cancer is higher in younger patients, especially because of the modern diagnostic methods.

**Keywords:** thyroid cancer, thyroidectomy, incidence

## ASSOCIATION BETWEEN RISK FACTORS AND THE COMPLICATIONS WHICH OCCUR AFTER COLORECTAL SURGERY PERFORMED IN SURGERY CLINIC NO.1 TARGU MURES

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**Background:** Colorectal cancer (CRC) is a neoplasia, with a high mortality and morbidity rate. Each year close to 945,000 people develop CRC and 492,000 result in death, according to the WHO; furthermore, 1 out of 10 neoplastic deaths are due to CRC while 1 out of 8 cancers are CRCs. **Objective:** The aim of this study was to analyze and to identify a way to reduce the CRC's postoperative complications following emergency surgeries compared to elective surgery, based on the general characteristics of the patients. **Material and methods:** The study consisted of a number of 180 patients treated in the Surgical Clinic no. 1, Târgu-Mureş, between January 2017 - December 2018. We performed a retrospective descriptive study in which we included 180 patients, then we conducted a case control study in which we made a comparison between the postoperative complications in the emergency surgery versus those with elective intervention in patients with CRC. The following data was reported for each patient: sex, age, nutrition status, comorbidities, type of the surgery, immediate complications, late complications, duration of the surgery, duration of hospitalization, death rate and day of the surgery. **Results:** 68% of the patients with CRC were males. Patients aged between 60 and 75 were most commonly affected by CRC. Regarding the comorbidities, 60% of these patients had a marked weight loss, 40% had hypertension, diabetes and ischemic cardiopathy. 35% of the surgeries were emergency interventions and 65% were elective interventions. **Conclusions:** Emergency surgeries performed on patients with CRC can lead to a higher risk of mortality and morbidity. The survival rate varies from one person to another, depending on different factors such as the comorbidities of the patient as well as the time of the diagnosis and the quality of the treatment.

**Keywords:** postoperative complications, Colorectal, cancer

## MENISCAL INJURIES: THE CORRELATION BETWEEN MRI AND ARTHROSCOPY

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**Background:** Trauma is the main cause for knee joint injuries, most frequently are involved the internal and external meniscus, as well as the anterior cruciate ligament. MRI is a non-invasive method with a specificity and sensitivity up to 98% in investigating meniscal injuries. Cases were reported with a false and misleading result on MRI, this is one of the reasons why many orthopedic surgeons consider exploratory arthroscopy as a useful tool in the diagnosis of meniscal lesions. **Objective:** This study has the scope to reveal the correspondence between MRI and arthroscopy in meniscal lesions. **Material and methods:** We conducted a retrospective observational study that involved a number of 60 patients who suffered meniscal lesions during 1.01.2017 □ 1.01.2018, and received surgical treatment at clinic of Orthopedics and Traumatology 2 from Târgu-Mureş. **Results:** 44 individuals presented internal meniscus lesions, which revealed both on arthroscopy and MRI in proportion of 93% (41

patients). 28 individuals suffered injuries of external meniscus, highlighted on the two techniques in proportion of 57% (16 patients). 43 individuals had anterior cruciate ligament damage, damage is observable both on MRI and arthroscopy in proportion of 79% (34 patients). **Conclusions:** Arthroscopy and MRI were compared by using the Kappa coefficient method. A high agreement between the two techniques it was shown by the value of the coefficient.

**Keywords:** Arthroscopy, MRI, Trauma, Meniscal injuries

## SUTURELESS PERCEVAL AORTIC VALVE REPLACEMENT - CASE REPORT.

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**Background:** Despite the appearance of transcatheter aortic valve implantation (TAVI), classic surgical aortic valve replacement (C-AVR) is still considered the gold-standard treatment of aortic stenosis (AS), at least in low and intermediate risk patients. Recently, The sutureless aortic valve replacement (S-AVR) technique has been introduced, which allows implanting a stented valve without needing sutures. **Objective:** Efficacy of a new, innovative surgical technique in treating severe AS, one of the first cases in IuBCvT Târgu Mureș. **Material and methods:** A 68-year-old female patient was admitted with progressive exertional dyspnea and fatigue. Echocardiography revealed severe AS with a maximum and mean pressure gradient of 120/67 mmHg, significant valvular calcification and hypertrophied left ventricle with an ejection fraction of 50%. Carotid Doppler ultrasonography and coronary angiography revealed no significant lesions. Contrast CT Scan revealed AS with an aortic annulus of 2,31 cm. **Results:** The patient underwent S-AVR with a Perceval size L aortic bioprosthesis. During cardiopulmonary bypass (CPB), the native calcified valve was excised and three temporary guiding sutures were placed in the annulus and passed through the eyelets of the valve. Deployment and ballooning of the valve were then performed, and the temporary sutures were removed. Total CPB time was 68 minutes and cross-clamp time was 51 minutes. Postoperative echocardiography revealed a maximum and mean trans-prosthetic pressure gradient of 39/20 mmHg, no paravalvular leak (PVL) or trans-prosthetic regurgitation. **Conclusions:** Despite its recent introduction, current studies suggest S-AVR as a promising alternative to C-AVR. The major advantage over C-AVR is reduced CPB and cross-clamp duration, which are major determinants in surgical outcome. Furthermore, the advantage over TAVI is direct visualization of the valve, as well as the possibility of calcified valve excision and therefore a lower incidence of PVL. Further studies are needed, but S-AVR could become a new gold-standard in treating AS, especially in high risk patients.

**Keywords:** Sutureless aortic valve replacement, Perceval, Gold-standard

## LEG WOUND DEHISCENCE MANAGEMENT AFTER CORONARY ARTERY BYPASS GRAFTING - CASE REPORT.

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**Background:** Coronary artery bypass grafting (CABG) is the most common procedure in adult cardiovascular surgery. Great saphenous vein is the most used conduit for coronary revascularization. Leg-wound complications are an underestimated cause of morbidity in CABG patients, causing prolonged hospitalization, antibiotics administration or secondary surgical treatments. Risk factors include female sex, peripheral vascular disease (PVD), diabetes mellitus, smoking, obesity and dyslipidemia. Leg-wound complications vary from mild erythema or secretion to wound dehiscence, infection and skin necrosis. **Objective:** Underlining the importance of interdisciplinary management in a leg-wound dehiscence (LWD) with unfavorable evolution. **Material and methods:** A 73-year-old female patient, diagnosed with coronary artery disease, underwent CABG by harvesting the great saphenous vein. Two weeks later, the leg wound started presenting progressive localized necrosis. No purulent secretion was observed and bacteriology culture was negative. Daily dressings and local therapy with an antifungal, antiseptic and re-epithelizing cream were inefficient. Doppler ultrasound revealed hypoperfusion of the lower extremities. **Results:** Intravenous Pentoxifyllin was administered. Wound debridement followed by

application of a negative pressure wound therapy (Vivano device) were performed. One week later, the patient underwent secondary suture of the thigh and a 0,6 mm autologous split-thickness skin graft was stapled on the calf. The evolution was favorable and the patient was discharged after ten weeks of hospitalization, with oral Pentoxifyllin therapy. One month follow-up showed a viable skin graft and healing wound. **Conclusions:** LWD is an overlooked complication of CABG which can delay recovery and increase morbidity of the patient. Rigorous skin preparation, proper surgical technique and identifying modifiable risk factors can prevent LWD. Skin graft thickness is decisive for the graft viability. Hypovascularization can occur in case of excessive thickness, especially in PVD patients, whereas a too thin graft might get resorbed due to the inflammatory process. Early recognition, prompt intervention and interdisciplinary management are crucial for a favorable outcome.

**Keywords:** Leg wound dehiscence, CABG, Skin graft

## UNCINATE PROCESS CARCINOMA ENDS WITH ATYPICAL PANCREAS RESECTION

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**Background:** Pancreatic cancer is the fifth cause of death among oncological diseases. In the malignant tumor of the pancreas, when it can be resected, the most common operation is duodenopancreatectomy. Due to the shared blood supply of organs in the proximal gastrointestinal system, surgical removal of the head of the pancreas also necessitates the removal of the duodenum, proximal jejunum, gallbladder, and also, sometimes part of the stomach. **Objective:** A 70-year-old man arrives in the emergency department with epigastric pain, vomiting and lack of appetite. Exploratory imaging and the symptoms lead to a pancreas tumor. The surgical intervention is recommended, which also has an exploratory purpose, since the preoperative investigations could not definitely establish the diagnosis. **Material and methods:** Intraoperative we observed localized carcinoma at the level of the uncinata process invading the duodenum D III and D IV and the first part of the jejunum. The intervention is limited to the resection of the pancreatic uncinata process (one centimeter away from the macroscopic limits of the tumor, with an extemporaneous negative HP examination at the resection edges), duodenectomy (the upper resection line under Ampulla's Vater) and resection of the proximal jejunum, restoration of digestive transit -through duodenal-jejunal TL anastomosis. **Results:** The histopathological result shows invasive ductal adenocarcinoma in the muscular tunic associated with chronic pancreatitis. The patient shows a good postoperative state, leaving the hospital after 10 days. **Conclusions:** We believe that the atypical pancreas resection, used as a compromise solution to a patient with a so advanced tumor, locally expanded, was a good choice, with gastro-jejunal anastomosis as an alternative.

**Keywords:** pancreatic carcinoma, uncinata process, duodenectomy

## COMPLICATIONS OF MECHANICAL ANASTOMOSIS IN OCCLUSIVE COLO-RECTAL TUMORS

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**Background:** The widespread use of mechanical anastomosis devices in digestive surgery doesn't guarantee a non-complication evolution of a patient. Regardless their properties as reducing surgery time and septic periods these techniques cannot ensure unforeseen complications as fistula, stenosis, wound infection or death. **Objective:** The type and incidence of complications after mechanical anastomoses in digestive surgery were analyzed, as well as the development of some risk factors for their occurrence. **Material and methods:** A retrospective study was performed during a 5 year period (2013-2017), with 191 patients admitted in the Surgery Clinic 1 of SCJU Mures, on which were performed mechanical anastomosis. It was analyzed by associated diseases- comorbidities, diagnoses, types of surgical procedures, complications and mortality rate. **Results:** In the study group of the 191 patients with neoplasias at the large bowel, 16,28% had complications of which 4,44% anastomosis fistulas, 7,88% wound infections, 2,45% stenoses, 1,48% death. Among the analyzed risk factors we could establish a statistically significance with wound infections. **Conclusions:** The use of mechanical anastomosis devices in digestive surgical pathology reduces the time of the surgery but especially the hospitalisation period, alleviate complications and could

be used in classical and minimally invasive surgery of the digestive tract, in emergency and chronic disease.

**Keywords:** Mechanical anastomoses, fistula, wound infection, stenosis

## MISMATCH: REDO PSEUDOTRUNCUS ARTERIOSUS PROCEDURE

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**Background:** Pseudotruncus arteriosus represents the fourth type of truncus arteriosus (Collett and Edwards) with an incidence of 1.2 % out of all congenital heart diseases. **Objective:** Appropriate preoperative diagnosis and postoperative management lead to a favorable evolution regarding the patient's life quality. **Material and methods:** We present a case of a 7 year old girl who underwent surgery at the age of 6 days in order to correct the abnormal origin of the right pulmonary artery emerging from the ascending aorta. The surgery consisted of closing the aortic emergence of the right pulmonary artery and using a 6 mm Gore-Tex conduct to connect it with the pulmonary trunk in order to create a normal pulmonary circulation. Ulterior echocardiographic follow-ups reveal a progressively restricted blood flow through the conduct, diagnosis confirmed by angio CT and cardiac MRI. **Results:** The procedure was performed at 33°C in cardiopulmonary bypass on a beating heart, replacing the insufficient conduct with a 16 mm one. **Conclusions:** Periodic evaluations represent the key element in choosing the optimal time for surgical treatment.

**Keywords:** restrictive, Gore-Tex, pulmonary branch

## REVISION OPERATIONS FOR FAILED LAPAROSCOPIC GASTRIC PPLICATION IN PATIENTS WITH MORBID OBESITY

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**Background:** Laparoscopic gastric plication(LGCP) along with mini gastric bypass are new bariatric procedures. The golden standard for bariatric surgery remain the sleeve gastrectomy(SG) and gastric bypass. LGCP is widely used in developing countries due to its lower cost and good results. **Objective:** The aim of the study was to assess the possibility of revisional surgery after failed laparoscopic gastric plication. **Material and methods:** We performed in our department 120 LGCP for morbid obesity. Excess weight loss (%EWL) was 55% at 6 month after surgery and 65% at one year. In 12 cases revision surgery was needed for different complications and in 22 cases for inadequate weight loss or weight regain after 18 month follow up. In 8 cases we performed sleeve gastrectomy (in 3 cases after taking down the plication) and in 14 cases we performed a re-plication in one row. **Results:** We performed in our department 120 LGCP for morbid obesity. Excess weight loss (%EWL) was 55% at 6 month after surgery and 65% at one year. In 12 cases revision surgery was needed for different complications and in 22 cases for inadequate weight loss or weight regain after 18 month follow up. In 8 cases we performed sleeve gastrectomy (in 3 cases after taking down the plication) and in 14 cases we performed a re-plication in one row. **Conclusions:** Revision surgery after LGCP is possible. A new plication or SG was the option in our series with good results. Further studies are needed to evaluate the use of LGCP in the armamentarium of bariatric surgery.

**Keywords:** laparoscopic, gastric plication, revisional surgery

## DOUBLE GLENN PROCEDURE FOR UNIVENTRICULAR HEART

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**Background:** The Glenn procedure is one of the important steps in what palliative management of the univentricular heart means. It is accomplished by an anastomoses between the superior vena cava and the pulmonary artery. **Objective:** The correlation between the anatomical and physiological parameters of the

pulmonary circulation , adapted to the individual needs, for optimal development for the univentricular condition. **Material and methods:** We expose the case of a 7 years old child, diagnosed with pulmonary valve atresia, ductus arteriosus dependent pulmonary circulation, left superior vena cava, atrium unicum, malposition of the great vessels, situation which requires univentricular configuration. **Results:** The procedure is being realised in extracorporeal circulation, on beating heart; The right superior vena cava is approached and anastomosed end to side with right pulmonary artery and the initial ligature of the Azygos vein. The persistence of left superior vena cava impose to choose the Glenn anastomosis in the left pulmonary territory. **Conclusions:** The steps of the palliative surgery require a perfect timeing, being determined in the perspective of an optim clinico-biological condition.

**Keywords:** Glenn, univentricular, palliative

## STILL A HOPE: LVAD -BRIDGE TO TRANSPLANT

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**Background:** Mechanical circulatory support is an increasingly used element in treating end-stage dilated cardiomyopathy, nowadays. **Objective:** Assist circulatory device is important in medico-surgical therapy of irreducible dilated cardiomyopathy. **Material and methods:** We present the case of a 17 year old boy, diagnosed with end-stage dilated biventricular cardiomyopathy with low cardiac output state and arrhythmia, reason why the team at Great Ormond Street Hospital decides to place an LVAD through left thoracotomy and peripheral bypass via right neck. **Results:** A few days after the surgery, the patient develops thrombosis of the LVAD , requiring replacement of the device that needed peripheral ECMO backup : the procedure faces hemorrhagic complications followed by multiple chest re-explorations for bleeding. Secondary to surgical treatment were infectious complications with multiresistent bacteria(Klebsiella, Enterococcus) and emboligen neurological problems. Ulterior the patient is developing pancreatitis and renal dysfunction, treated with success. At the moment, after a right cardiac catheterization, for evidence of pulmonary vascular resistance and pressure, the patient is included on the cardiac transplant waiting list. **Conclusions:** In the fight against irreducible cardiac failure,the involvement and collaboration of physicians from many medical fields is imperative.

**Keywords:** LVAD, cardiomyopathy, infection, catheterization

## ROTATIONPLASTY : USING THE ANKLE TO REPLACE THE KNEE JOINT

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<sup>2</sup>\_

**Background:** Rotationplasty is a procedure that involves surgical biological reconstruction of the leg. Most commonly it is used in skeletally immature patients, but exceptionally it has been done after trauma in adult patients. The procedure was first introduced in 1930 by Borggreve in a patient with femoral deficiency in the setting of tuberculosis. **Objective:** The objective of this procedure is to restore mobility in patients with congenital defect or tumor of the leg. **Material and methods:** The surgery begins with circumferential incisions in the skin of the distal thigh and proximal calf. Then, osteotomies are performed at the level of the knee joint. The distal part of the femur and the proximal part of the tibia are removed, together with the patella. The sciatic nerve is dissected and preserved, along the entire length of the resection. The distal limb is rotated 180° and fixed to the residual proximal limb, allowing the "reverse" ankle joint to function as a knee joint. A femorotibial osteosynthesis is needed and it is performed before vascular reconstruction. It is achieved with intramedullary nails or fixation plates. Vascular reconstruction is performed under the microscope. The order of arterial and venous anastomosis is determined according to intraoperative setting of vessels. Successful rotationplasty requires a foot with fully functional ankle, range of motion, and adequate plantar flexion strength. **Results:** Compared with amputation, rotationplasty provides better clinical results, preserving the ankle as a new knee, with flexion and extension capabilities and foot sensitivity. **Conclusions:** Rotationplasty is a surgery that involves social, psychological and functional factors. All of those should work together for the best result, especially because most of these surgeries are performed on children. If all the conditions meet, this procedure is one of the best choices to treat a congenital defect or a leg

sarcoma for the growing child.

**Keywords:** rotationplasty, reconstruction, osteotomies, amputation

## OSTEO-ODONTO KERATOPROSTHESIS: A TOOTH FOR AN EYE

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**Background:** One of the major causes of blindness is corneal disease, being surpassed only by cataract. Although it was described over 50 years ago, the osteo-odonto-keratoprosthesis(OOKP) surgery remains the treatment of choice for those who cannot sustain penetrating keratoplasty. **Objective:** The objective of this procedure is to treat blindness when the ocular surface is severely compromised, OOKP representing the only viable option to restore sight in patients who suffer from severe Stevens-Johnson syndrome, trachoma, or chemical injury. **Material and methods:** OOKP surgery is a technique that can be used only for severe dry eye patients who have bilateral corneal blindness. The procedure is carried out in two stages. In the first stage, a buccal mucous membrane and a monoradicular tooth are harvested. The buccal mucosa will be placed over the eye, after the ocular surface is removed. The graft will regain vascularization until stage 2 of the surgery. The tooth and surrounding alveolar bone will serve as support for the optical cylinder. The keratoprosthesis consists of one half of the canine root with bone carrying the optical cylinder. The implant(lamina) is then inserted into a submuscular pouch of the lower eye lid, waiting for it to attain fibrovascular coating. In the 2nd stage, the lamina is removed, the mucosa is reflected from the eye, the central cornea, lens, iris, and anterior vitreous are removed. Then the lamina is implanted into the eye through the corneal orifice. **Results:** Although OOKP surgery is a difficult and resource consuming procedure, the rewards are very satisfying. The patient may regain a quality of life that makes the follow-up and unavoidable complications worthwhile. **Conclusions:** The creativity to using a tooth as an eye implant should inspire all medical personnel to provide the best care for their patients.OOKP surgery involves not only ophthalmologists, but also dentists and radiologists, requiring multidisciplinary approach.

**Keywords:** Osteo-odonto-keratoprosthesis, ophthalmology, corneal disease

## APPENDICITIS VS OVARIAN TORSION VS OVARIAN TUMOUR IN A 6 YEARS OLD GIRL

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**Background:** Ovarian tumour is rare in children, 60-80% being Germ cell tumour. Teratoma a common type of GCT, bilateral in 10% case is usually found in the gonads, Sacrococcygeal, many other locations eg chest, brain etc. Abnormal differentiation of pluripotent cell produces germ layers forming teratom of various types and sizes, hence containing hair, skin tissues, teeth etc. occurring mostly in reproductive aged females, leading to loss of their fertility. Surgical resection is choice treatment. **Objective:** To study: presentation, diagnostics, intra-operative findings, post-operative management and result. **Material and methods:** History: A 6 years female patient obese (63kg) presented with 12 hours of abdominal pain unresponsive to algocamine, vomiting, fever (38oC), loss of appetite. Examination: Distended abdomen due to adipose, soft, painful on palpating right iliac fossa and right flank, intestinal transit absent, without sign of peritoneal irritation.Lab: (WBC 11, 47, Neutrophilia 83.7), Toracolumbar radiography (normal). Suspecting appendicitis she was sent to Gynecologist: ultasound (cystic formation on right ovary 5.5x4.5x3.2cm,free fluid in pelvis, dilated appendix ). **Results:** During exploratory laparoscopy: torsion of the right ovary, teratoma and congestive appendicitis was revealed; performed ovariectomy, appendicectomy, left ovary biopsy, histo-pathology examination and cytology. Patient was in ICU for 3 days, administered antibiotic, anti-inflammatory, anti-emetic, antalgic and hydroelectrolytic solution, bandages changed daily. Discharged On the 7th day after stitches removal with good evolution.Histopathology : Mature cystic teratoma of right ovary, benign.Containing hair and bone tissues. Tumour markers AFP-0.8ng/ml, CA125- 25U/ml, HCG **Conclusions:** Teratomas causes ovarian torsion which appears like appendicitis; present in our case. It masks other diseases since localization is possible in many places, hence extensive attentive examination is needed to differentiate and correctly diagnosis patients; especially those overweight. Prognosis is very favourable with timely intervention and follow-up, though if possible, save fertility using ovary sparing techniques.

**Keywords:** Benign Teratoma, Right ovary torsion, Congestive appendicitis, Obesity



# POSTER - NON - SURGICAL

## THE VARIATION OF CARBOXYHEMOGLOBIN LEVELS IN EARLY MONITORING OF SEPSIS IN CRITICAL PATIENTS

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**Background:** Sepsis is a life-threatening clinical condition, characterized by a dysregulated inflammatory host response to infection with unpredictable evolution and a high mortality rate. The modulation of the immune response and the dynamic of inflammatory biomarkers are an ongoing research topic, early diagnosis and prompt therapeutic intervention being an essential part of it. **Objective:** The purpose of this study is determining the role of carboxyhemoglobin levels in early stages of sepsis in order to improve our ability to monitor critical patients. **Material and methods:** This project is a prospective observational analytical study conducted in the Intensive Care Unit of SCJU Tg. Mures between January and September 2018. It includes a number of 52 adult patients diagnosed with sepsis, that had their seric levels of carboxyhemoglobin (COHb), C-reactive protein (CRP), procalcitonin (PCT) and lactate determined, and the APACHE II Score calculated in days 1, 3 and 5 of admission. **Results:** The median values of carboxyhemoglobin determined in those 3 days of admission were  $1.86 \pm 0.88$ ,  $1.83 \pm 0.80$  and  $1.76 \pm 0.82$ . The same decreasing trend was observed also for the values of CRP  $171.50 \pm 103.21$  mg/dl,  $157.66 \pm 113.58$  mg/dl and  $143.57 \pm 99.65$  mg/dl. In day 1 there was a significant statistical correlation between the values of PCT and CRP ( $r=0.483$ ) and between the values of seric lactate and COHb ( $r=0.316$ ). In day 5 the values of CRP had significant statistical correlations with those of seric lactate ( $r=0.392$ ) and COHb ( $r=0.402$ ). **Conclusions:** The value of carboxyhemoglobin levels in critical patients is correlated with the value of seric lactate and PCT and can be used for monitoring the evolution of critical patients. There is an opportunity to investigate carboxyhemoglobin as a possible biomarker for sepsis.

**Keywords:** Carboxyhemoglobin, Sepsis, Biomarker

## PREVALENCE OF BINARY-TOXIN GENES (CDTA AND CDTB) AMONG CLINICAL STRAINS OF CLOSTRIDIUM DIFFICILE

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**Background:** Clostridium difficile (CD) is a frequent cause of nosocomial infections and has become a major public health concern for developed nations, but also for our country. The virulence factors consists of toxin A (CdtA) and toxin B (CdtB), which both produce extensive colonic inflammation along with epithelial tissue damage, leading to diarrhoea (>3 unformed stools in less than 24h). **Objective:** The aim of this research was to investigate the prevalence of Clostridium difficile's pathogenic genes from hospitalized patients with diarrhoea as the main symptom. **Material and methods:** This retrospective study was conducted between 1st January 2017 to 31st December 2018 regarding patients admitted to the Targu Mures County Clinic Hospital. Fecal samples were taken from 539 symptomatic patients and were tested for glutamate dehydrogenase (GDH), as well as for toxin A and toxin B by commercial CERTEST BIOTEC kits. **Results:** Results showed a prevalence of 23.11% (49/212) for toxigenic Clostridium difficile infection (CDI) in 2017. In 2018, despite the fact that the number of stool samples suspected of CDI increased, the prevalence was lower, around 18.65% (61/327). The strains of CdtA and CdtB genes revealed the toxin profiles of CdtA+ and CdtB-, CdtA+ and CdtB+ accounting for 8.16% (4/49), 91.8% (45/49) in 2017, respectively 11.4% (7/61), 88.52% (54/61) in 2018. The average age was 63 years old (ranged from 26 to 90). It had also revealed that the incidence of Clostridium difficile infection is slightly higher in females (63%) rather than in males (37%). **Conclusions:** This study can be a support for the hypothesis that sustains the role of toxigenic strains in CDI, for these genes of virulence can develop gastrointestinal symptoms in patients with diarrhea. Further studies are required to confirm this hypothesis.

**Keywords:** Clostridium difficile, Glutamate dehydrogenase, Toxin A, Toxin B

## PROTEOMIC ANALYSIS OF BETATROPHIN AND ITS VARIANTS AND THEIR ROLE IN INSULIN RESISTANCE AND LIPID METABOLISM

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**Background:** Diabetes is a global health problem that is caused by impaired insulin production from pancreatic  $\beta$ -cells. Betatrophin has been recently shown to induce beta-cell proliferation and to regulate triglyceride and fatty acid metabolism. Betatrophin was increased in T2D, and a sequence variant in its gene R59W was associated with higher FBG level. **Objective:** Our objective is to identify proteins that are regulating the function of Betatrophin in vitro, and to identify new target proteins that might be involved in its function in lipid regulation. **Material and methods:** Our study design and materials were focused on cloning the Betatrophin into Green Florescent Protein and FLAG-TAG, a technique in which the protein-tag can be added to another protein using recombinant DNA technology, allowing us later to study more variants of proteins in living cells. We have also achieved to perform transfection with Plasmids into 3T3-L1 and HepG2 cells, a process by which we were able to introduce naked (purified) nucleic acids by non-viral methods into eukaryotic cells that are needed for studies. Proteomics and Massspectrometry helped us to identify the differentially expressed genes resulted from overexpression of Betatrophin. Massspectrometry is a technique that produces charged particles (ions) from the chemical substances, later using electric and magnetic fields to measure the mass ("weight") of the charged particles which served us for Betatrophin analytical and comparative studies. **Results:** Our data shows that FBG level was increased in subjects with the hetrozygote form of R59W. Betatrophin and its variant were cloned and flag-tagged. Their expression was tested using FLAG-antibody. Overexpression of Betatrophin in HepG2 cells resulted in changes in a number of proteins expression. **Conclusions:** Betatrophin is a protein known to function in lipid metabolism. Our data sheds more light in its role in regulating cholesterol synthesis through its regulation of Sec24C and Sec24D family members.

**Keywords:** Diabetes, Cholesterol synthesis, Lipid metabolism, Betatrophin

## CHARACTERISTICS OF INTIMA MEDIA THICKNESS OF COMMON CAROTID ARTERIES IN PATIENTS WITH HYPERTENSION

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**Background:** Introduction: Calcium paradox is defined as the increase calcium ion influx into smooth muscle cells of vascular wall causing their overloading and raising vascular resistance and arterial pressure which causes essential arterial hypertension (AH) development. Long acting Calcium channel blockers (CCB's) uniformly decrease blood pressure by reducing total peripheral vascular resistance (heart rate and stroke volume practically do not change) are widely used. **Objective:** Aim: To study effect of anti-hypertensive therapy on the process of remodeling of left ventricle and common carotid artery (CCA) in patients with AH II stage in Ukraine. **Material and methods:** Methods : We studied 48 patients at Zaporizhzhya Regional Clinic, Zaporizhia; 26 men and 22 women (average age of  $58.43 \pm 3.86$  years) with history AH stage II for  $7.63 \pm 2.3$  years.. After 7day medication-free period, patients prescribed CCB's with daily dose of 10 mg once. CCA were studied by duplex scanning EnVisor (Philips, USA). device and Echocardiography performed using ultrasound scanners Diasonic (Switzerland). Results were processed in "STATISTIKA 6"; Smirnov test and Wilcoxin T-test were used to describe data. **Results:** Results: After 6 months, diameter of CCA reduced  $6.18 \pm 0.92$  to  $5.96 \pm 0.82$  mm ( $p > 0.05$ ) Intima media thickness decreased from  $1.21 \pm 0.18$  to  $1.15 \pm 0$  , 28 mm ( $p > 0.01$ ), respectively. At same time, average velocity of blood flow, increased from  $23.6 \pm 2.8$  to  $26.8 \pm 3.2$ cm/sp $>0.01$ ) Pulsatility Index raised from  $1.21 \pm 0.34$  to  $2.04 \pm 3.4$  units (  $p > 0.01$ ), volume of blood flow velocity from  $386.4 \pm 14.8$  ml / min to  $458.6 \pm 56.4$  ml / min ( $p > 0.05$ ). **Conclusions:** Conclusions: The treatment effectively reduced systolic and diastolic pressure during day and, thereby contributed in normalization of daily arterial blood pressure in patients with initial disturbances and don't affect normal circadian rhythm.

**Keywords:** Hypertension HT, Calcium channel blocker CCB, Common carotid artery CCA

## CERVICAL CANCER SCREENING AMONG WOMEN IN MIERCUREA-CIUC AREA

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**Background:** Cervical cancer is one of the most concerning worldwide public health problem. Unfortunately, Romania occupies first place in mortality and morbidity from Europe, with 3,308 new cervical cancer cases per year according to HPV Center. **Objective:** The purpose of this study is to identify and classify the major risk factors which are involved in pre-invasive lesions and cervical cancer development. **Material and methods:** This is a retrospective study performed during nine months (January-September 2017) including 206 patients, between 26 and 65 years old. Data were collected from FS1 screening forms belonging to the Centre Region Management Technical Assistance Unit of the active screening program for early cervical cancer, for Miercurea Ciuc area. We analysed the cases based on the environment of origin, hormonal status, associated infections, non-neoplastic cervical lesions and squamous epithelial cells abnormalities. **Results:** Regarding the provenience of the tested women, 56,31% were from an urban area and 43,69% from a rural area. 63,10% of them had regular menstruation, 34,46% were at menopause, 1,45% were pregnant and 0,97% of them were at breastfeeding period. A percentage of 14,07% from the total number of participating women were positive for squamous epithelial cells abnormalities and glandular epithelial cells abnormalities. Regarding the criteria we pursued, the positive cases shown 75,86% women with periodic cycle, 62,06% were from an urban area, 6,89% had associated infections and 75,86% had non-neoplastic cervical lesions (especially inflammatory or reactive changes). The most important outcome of this study was the identification of 5,33% of women with high-grade dysplasia without any symptom in genital area. **Conclusions:** The study concludes that the hormonal status, the non-neoplastic cervical lesions and the infections are the most concerning risk factors in the development of the dysplasia. Also, the highest incidence of positive cases comprised the women between 46 and 55 years old.

**Keywords:** screening, cervix, cancer, preinvasive lesions

## THE IMPORTANCE OF ELECTROCARDIOGRAM IN ACCURATE DIAGNOSIS OF INAUGURAL SEIZURES

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**Background:** Seizures are estimated at 1-2% of all emergency department (ED) presentations. A standard 12-lead electrocardiography (ECG) in patients with inaugural seizures can highlight etiologies other than neurological. The incidence of abnormal ECGs accounts for 10% of the first seizure episode and failure to promptly recognise them may have fatal consequences. **Objective:** This case emphasizes the still insufficient awareness of medical practitioners on the essential role of the ECG in the pre-hospital settings regarding inaugural seizure management of toxic etiology. **Material and methods:** We present a forty-eight-years-old female patient found at home unconscious, hypotensive (50/30 mmHg), bradycardic and with oxygen saturation of 60%, having suffered two convulsive episodes. Her past medical history includes severe depressive syndrome with anxiety exacerbations and migrainous syndrome. The initial ECG presented with junctional rhythm and pseudo-Brugada pattern orienting toward a non-neurological etiology. Even so, decision to refer the patient toward the Neurology territorial hospital was made. **Results:** The ECG presented with junctional rhythm and pseudo-Brugada pattern. The CT scan was normal and thus excluded a neurological etiology and trauma, leading the staff towards the suspicion of either a beta-blocker and/or a tricyclic antidepressants intoxication. The preliminary standard toxicology screen was negative. Due to inter-hospital transfers, gastric decontamination procedures were delayed for several hours. Later, a specific toxicology screen for metoprolol proved positive, therefore confirming the diagnosis. **Conclusions:** Bradycardia and hypotension with seizure episodes and conduction disturbances on ECG are highly suggestive of lipophilic beta-blockers intoxication, especially in young patients with psychiatric antecedents. The prognosis of this intoxication depends on early recognition and rapid initiation of therapy, as peak drug efficiency is between six to eight hours after intake. It is our belief that if a more attentive assessment of the patient's ECG had been done, diagnosis and treatment would have been initiated earlier, improving the outcome.

**Keywords:** Beta blocker, Intoxication, Convulsions, Pseudo Brugada

## BIRT-HOGG-DUBÉ SYNDROME: CASE REPORT

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**Background:** Birt-Hogg-Dubé syndrome (BHDS) is a rare genetic condition inherited in an autosomal dominant fashion. The susceptibility gene is the folliculin gene (FLCN) on chromosome 17p11.2. The typical clinical triad includes bilateral lung cysts, facial skin lesions and an increased risk of developing renal tumors. We describe a new case of BHDS with a history of asymptomatic firm papules and spontaneous pneumothorax. **Objective:** Our aim is to highlight the clinical-pathological features of this syndrome. **Material and methods:** A 69-year-old female patient attended our outpatient clinic of Akdeniz University Hospital with a history of acrochordon around neck and axillae and spontaneous pneumothorax caused by cysts in the lungs. She had asymptomatic facial papules starting 20 years ago which gradually increased in number and extended to axillae, neck and trunk. Her family history includes skin, renal and pulmonary diseases. Similar cutaneous lesions were defined on her daughter and sister's face and trunk. Spontaneous pneumothorax were seen in her sister's medical history. **Results:** The dermatologic examination revealed small, whitish and firm papular lesions on the face, chest, and back. There were numerous small, soft, pedunculated papules around the neck and axillae. The histopathologic examination of a typical papule from the trunk revealed branching epithelial cords radiating from a hair follicle confirming the diagnosis of fibrofolliculoma. **Conclusions:** The signs and symptoms of this condition can significantly vary among the members of one family who inherit the same FLCN mutation. Although it is suggested that FLCN gene is known to express as a tumor suppressor which inhibits renal carcinogenesis, the exact mechanisms of forming the pulmonary cysts and facial lesions associated with various mutations of this gene are poorly understood. We report this case because of its rarity in dermatological literature and its severity which caused disability in routine daily life. Dermatological symptoms are important in the recognition of systemic diseases and genetic syndromes.

**Keywords:** facial lesion;, folliculine gene;, lung cysts;, renal tumor

## ULTRASOUND EXAMINATION OF THE KIDNEY STONES BASED ON A PHANTOM STUDY

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**Background:** Kidney stones are a frequent pathology that can cause severe lumbar pain, urinary tract infections, hematuria, dysuria, and loss of kidney function. Twinkling artifact is an ultrasound sign proved to be helpful in detecting small stones. **Objective:** Our objectives were to perform an in vitro analysis of the kidney stones by using ultrasound (US), to determine the appearance of the twinkling (Tw) artifact in color Doppler US and to describe its technical parameters. **Material and methods:** We examined three small calcium oxalate kidney stones of less than 5 mm in diameter, from the biochemistry laboratory. They were placed in separate jars and were filled with photographic gelatin to create phantoms. Examination was performed with an Esaote Mylab 50 device, with a 2-5 MHz abdominal transducer, in grey-scale and Doppler ultrasound. Examination in color Doppler was made with different pulse repetition frequencies (PRF) of 1.4 kHz, 3.8 kHz and higher than 8 kHz. Pulsed-wave US (PW) in the color signal was performed and the Tw artifact was analyzed. **Results:** In gray-scale US all three stones were visible in the lower part of the phantom and their aspect was hyperechoic without posterior shadow. Reverberation artifacts were observed at the bottom of the jar. In color Doppler, at a high PRF, the examination was not possible as the entire color-window was artifacted, but by reducing the PRF between 1.4-3.7 kHz we were able to see the Tw only in the stones. In PW the appearance is as linear parallel lines with a disturbing audio signal. **Conclusions:** A gelatin-phantom can be used for in vitro training in order to improve the US visualization of urinary stones. US Tw artifact is a reliable tool for the visualization of small stones, taking into consideration the technical settings of the US device.

**Keywords:** ultrasound, lithiasis, twinkling artifact

## UNEXPECTED MASSIVE RISE OF HEPATIC ENZYMES IN A CASE OF HEART FAILURE

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**Background:** Congestive heart failure (CHF) is a chronic progressive condition that affects the pumping power of the heart muscles. While heart-related diseases can lead to CHF, there are other seemingly unrelated conditions that may increase the risk as well. These includes diabetes, thyroid disease, severe infections and allergic reactions. **Objective:** Our objective is to perform a differential diagnosis between a cardiac and a hepatic cause considering enzymes' rise, in a patient with heart failure with no previous hepatic illness. **Material and methods:** This case report presents a 77-year old woman known with: third degree atrioventricular block, cardiac insufficiency NYHA IV, diabetes and transfemoral amputation, who presented a cardiac allure of 20 when admitted to UPU, SCJU Targu Mures. In order to identify the current condition of the patient, some biochemical tests were also performed: hepatic enzymes (AST, ALT), cardiac-muscle enzymes (CK, CK-MB), BUN levels, potassium and bilirubin. **Results:** The results showed AST and ALT levels exceeding nearly 150 times the normal in the first 6 hours from admission and reaching almost 300 times the normal in the next 5 hours. Also CK and CK-MB followed the same evolution, suggesting the presence of an acute cardiac event. Furthermore, the levels of potassium and BUN were raised, showing a compromised kidney function, while bilirubin values remained in the normal range. **Conclusions:** Biochemical tests were essential to confirm the diagnosis: heart failure with hepatic and renal failure, suggested by the substantial growth of cardiac and hepatic enzymes, high levels of BUN and potassium and normal levels of bilirubin with no jaundice.

**Keywords:** enzymes' rise, hepatic failure, total CK increase

## INFLUENCE OF SYSTEMIC INFLAMMATION ON INFARCT SIZE ASSESSED BY CARDIAC MAGNETIC RESONANCE IMAGING IN ACUTE MYOCARDIAL INFARCTION PATIENTS

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**Background:** It is well-known that vulnerable plaques are associated with an enhanced inflammatory response, causing overexpression of the vulnerability features, with consequent rupture and thrombosis, leading to acute myocardial events. **Objective:** We aim to assess the correlations between the extension of infarcted area, evaluated via cardiac magnetic resonance (CMR) and inflammatory status at 1 day after acute myocardial infarction (AMI). **Material and methods:** We studied 70 patients admitted with AMI, divided in 3 group based on infarct size (IS) at 1-month after AMI, as follows: group 1 with IS <10% (n=12), group 2 with IS between 10-20% (n=35), group 3 with IS>30% (n=23). Day 1 hs-CRP was performed in order to establish the inflammatory status. Peak hs-CRP was determined for each patient. **Results:** Peak hs-CRP value of 6.46 mg/dl was obtained in small infarct size group, 19.04 mg/dl in intermediate infarct size group and 54.76 mg/dl in large infarct size group, p=0.0019. Positive significant correlation was obtained between day 1 hs-CRP and infarct size (p=0.009, r=0.089). Peak hs-CRP values presented positive significant correlation with infarct size (p=0.019, r=0.223). **Conclusions:** Inflammatory status present positive correlation with 1-month infarct size. Higher peak hs-CRP level during AMI is associated with greater infarct size at 1-month follow-up CMR assessment.

**Keywords:** infarct size, hs-CRP, acute myocardial infarction

## PATENT FORAMEN OVALE WITH PARADOXICAL EMBOLISM - CASE REPORT

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**Background:** When foramen ovale persists and the right heart is crossed by emboli they can pass into the left atrium through foramen ovale and can reach the level of the cerebral vessels, causing a stroke or, more rarely, in

the coronary arteries, causing a myocardial infarction. **Objective:** Our objective is to expose the risks of this congenital heart defect and the importance of its discovery, in order to prevent embolic ischemic events. **Material and methods:** We present the case of a 53-year-old patient admitted to the Cardiology-Adult Clinic from Targu-Mures. The patient, known for chronic hydrocephalus and hypertension is hospitalized for dyspnoea with a sudden onset, associating a precordial pain with constriction character and medium intensity, with duration of about 10 minutes. Cranial CT examination reveals ischemic stroke in evolution in the right median cerebral artery. Doppler exam for inferior limb veins had led to the discovery of deep venous thrombosis of the left lower limb and postrombotic syndrome of the right lower limb, which explains moderate pulmonary hypertension (PAP 35-40 mmHg), probably by repeated pulmonary microembolism. Angiographic examination does not detect significant atherosclerotic lesions in the epicardial coronaries. Echocardiography highlights the patent foramen ovale, which explains the double cerebral and pulmonary ischemic stroke. **Results:** The patient's evolution on the anti-coagulant and anti-aggregate treatment was favorable. The patient was discharged and scheduled for a new consultation because his pathology requires interventional treatment and he will be subjected to a foramen closing operation. **Conclusions:** Considering the information presented above, we have shown the risks associated with this cardiac congenital malformation and why it is important to be diagnosed on time.

**Keywords:** ischemic stroke, deep venous thrombosis, pulmonary hypertension, patent foramen ovale

## A CHALLENGING CASE OF SECONDARY PULMONARY HYPERTENSION COMPLICATED WITH CORONARY VASCULAR DISEASE - CASE REPORT

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**Background:** Chronic thromboembolic pulmonary disease, a major cause of severe pulmonary hypertension is the end result of persistent obstruction of the pulmonary arteries by acute or recurrent pulmonary emboli. Coronary artery disease (CAD) has become the world-wide leading cause of death at increasingly younger ages, emphasizing the need for improved preventive and therapeutic strategies. **Objective:** We present the case of a 70 y.o patient known with chronic thromboembolic pulmonary hypertension (CTEPH), atrial fibrillation, ischemic cardiopathy, chronic kidney disease (CKD), admitted in Medical II Clinic of Tîrgu-Mures Emergency County Hospital, complaining of fatigability, sweating and chest pain. It was performed an echocardiography which showed good left ventricular ejection fraction, severe tricuspid and pulmonary regurgitation, severe pulmonary hypertension (63 mmHg) and a coronary angiography that revealed significant stenosis of the left anterior descending coronary artery (LAD) which forced the emergency transfer of the patient at IUBCVT where was done a PCI procedure with 3 stents implantation. **Material and methods:** The patient returned at Medical II Clinic for further monitoring. The clinical examination revealed ecchymosis at abdominal level, haematoma at the level of inguinal region. Laboratory results and abdominal ultrasound showed worsening of the CKD. The medication during hospitalization was: low molecular weight heparin, acetilsalicylic acid, clopidogrel, sildenafil, furosemide, spironolactone, allopurinol, levothyroxine, bisoprolol. **Results:** The particularity of the case was the CTEPH complicated with severe CAD. The evolution of patient was favorable thanks to the heart team (H.T.) approach : interventional cardiologist and cardiovascular surgeon which allowed a prompt life saving decision through PCI procedure. **Conclusions:** As a result of the major advances in the field of pulmonary hypertension in the last decade, with an appropriate diagnosis and assessment of CTEPH, this condition can be efficiently ameliorated. In the context of the complication with CAD the cornerstone of therapeutic management is the excellent collaboration of a H.T.

**Keywords:** Secondary pulmonary hypertension, Chronic thromboembolic pulmonary disease, Coronary artery disease

## INACCURATE AND POTENTIALLY HARMFUL INFORMATION ABOUT ERECTILE DYSFUNCTION – A QUALITATIVE STUDY OF WEB CONTENT IN MULTIPLE LANGUAGES

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**Background:** Although erectile dysfunction is one of the most frequently searched for information by men, there are no data about the extent and types of misinformation regarding erectile dysfunction. **Objective:** To explore the

extent and characteristics of inaccurate and potentially harmful information about erectile dysfunction on the websites intended for lay people. **Material and methods:** Web searches using appropriate query terms were performed on Google in nine languages (Romanian, Hungarian, English, Spanish, Russian, French, German, Italian, and Portuguese). The first 25 relevant websites in each language were included based on preestablished inclusion and exclusion criteria. The websites content was extracted and screened for misinformation by researchers competent in the respective languages. Evidence based literature was used to assess the accuracy of information. Items were classified by categories using several criteria: theoretical accuracy, efficiency and safety of treatments, attitude towards medical professionals, financial implications. **Results:** Most of the inaccurate information fall into the following categories: unfounded efficiency claims regarding various treatments (bee pollen, royal jelly, honey, garlic extract, nettle extract, ginger, ginseng, cinnamon, low intensity acoustic waves, acupuncture, moxibustion); recommending potentially harmful treatments (extract of *Heracleum sphondylium* □ contains furanocoumarins, reportedly triggered phototoxic reactions in several cases; yohimbine preparations □ overdoses have been documented to cause severe acute neurotoxic effects); failing to warn users about the side effects or complications (Zhendao therapy □ claimed to have no complications or side effects); suggesting or urging self-treatment and avoidance of medical professionals or pharmaceutical products; advertising and/or selling possibly counterfeited products; resorting to various unfair commercial practices; offering scientifically inaccurate explanations about erectile dysfunction. **Conclusions:** Inaccurate and misleading information about erectile dysfunction was found on the internet regardless of the website's language and characteristics. Erroneous information was disseminated in a number of different ways and may place the unaware users at physical or financial risk.

**Keywords:** misinformation, erectile dysfunction, languages, internet

## PREVALENCE AND ANTIMICROBIAL SUSCEPTIBILITY PATTERN OF PSEUDOMONAS AERUGINOSA MULTIDRUG-RESISTANT

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**Background:** *Pseudomonas aeruginosa* (PA) is a nosocomial pathogen associated with considerable patient morbidity and mortality because antibiotic resistance rates of PA are increasing worldwide. Multidrug-resistant *Pseudomonas aeruginosa* (MDRPA) is known as a serious threat to human health, because has negative impacts on patient outcomes: higher mortality especially in immunocompromised patients. **Objective:** The aim of this study was to assess the prevalence and antimicrobial susceptibility pattern of *Pseudomonas aeruginosa* MDR strains from hospitalized patients. **Material and methods:** This retrospective observational study was conducted between 1st January 2018 to 31st December 2018 in Clinical County Hospital Tîrgu Mureş. The data was collected from the laboratory database of Infectious Diseases Clinic II. 123MDRPA strains were identified from a total of 957 isolated of PA, the data were processed in the laboratory and classified according to the biologically processed product, the department origin, diagnosis and especially antimicrobial susceptibility which was performed according to the Clinical Laboratory Standards Institute (CLSI) guidelines. **Results:** The results showed that the purulent secretion from infected leg ulcer was the main source of MDRPA (90.24%-111/123) followed by sputum from acute lower respiratory infections (ALRI) (9.75%-12/123). The most MDRPA strains were found in Dermatology 106/123 (86,18%), Pneumology Department 9/123 (7,32%) and Infectious Clinic 8/123 (6,5%). Multidrug resistance was defined as resistance to three or more of antimicrobial agents. Our results showed that 89.43% (110/123) of samples were resistant to more than three antibiotics (imipenem, meropenem, ciprofloxacin) and 13% of samples were resistant to all antibiotics tests, this are provided from immunocompromised patient (HIV infection). The highest susceptibility of *P. aeruginosa* was against the  $\beta$ -lactams+inhibitor-piperacillin/tazobactam (52.84-65/123). **Conclusions:** Prevalence of multidrug resistance continues to rise and spread also in department like dermatology and pneumology, a greater resistance is observed to patients with immunocompromised system, therefore, surveillance programs of microbial pathogens and their resistance profiles are needed.

**Keywords:** *Pseudomonas aeruginosa*, antimicrobial susceptibility, multidrug-resistant, prevalence



## TWO ATYPICAL CASES OF ACUTE MYELOID AND ACUTE LYMPHOID LEUKAEMIA

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**Background:** Acute leukaemia in adults is a rare disease and can have interesting features. **Objective:** The aim of this work is to present two cases of acute myeloid leukaemia and acute lymphoid leukaemia that are uncommon in adults and highlighting the importance of immunophenotyping in diagnostic assessment. **Material and methods:** First case describes a 40 year old female patient with myelodysplastic syndrome previously diagnosed as myelomonocytic chronic leukaemia. The patient presented to SMURD with nausea, vomiting, epistaxis, metrorrhagia and headache. Her blood smear shows left deviation: 35% blasts, 14% myelocytes, 3% metamyelocytes, 14% neutrophils. Her immunophenotyping performed from peripheral blood shows blastic population. Important makers are: CD34 pos, HLA-DR pos, CD15 pos, CD33 neg, CD117 neg, CD11 neg, CD14 neg, CD64 neg, myeloperoxidase pos. The second case describes a 48 year old patient admitted to the hospital with severe pancytopenia. On clinical examination she shows multiple ecchymosis at the lower limb abdomen, oropharyngeal purpura and splenomegaly. Hemoculture shows that *Staphylococcus Aureus* is the cause for septicaemia. The immunophenotyping reveals a population of blasts and the markers are: CD34=75%, CD19=95%, CD10=91%, CD22=91%, HLA-DR=99%, CD2=24%, CD3 neg, CD5 neg, CD7 neg, CD15 neg, CD33 neg, CD117 neg, CD36 neg, CD13, CD14 neg, CD64 neg, CD11b neg. **Results:** According to the clinical and paraclinical examinations the final established diagnosis is acute myeloid leukaemia in the first case and acute lymphoid leukaemia in the second case. **Conclusions:** Taking all this into consideration we can say that immunophenotyping is essential for establishment of the final diagnosis of leukaemia.

**Keywords:** AML, ALL, Immunophenotyping

## DIFFERENTIAL DIAGNOSIS OF OSTEOARTICULAR TUBERCULOSIS IN AN ELDERLY PATIENT: A CASE REPORT

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**Background:** Tuberculosis is still considered a major public health problem, increasing throughout the world due to multiple factors: immunocompromised patients, multiple drug resistant strains of the bacillus, aging population. Osteoarticular tuberculosis, caused by the hematogenous dissemination of *Mycobacterium tuberculosis*, comprises 1-4.4% of all tuberculosis cases and 10-15% of extrapulmonary tuberculosis cases. **Objective:** The purpose of our case presentation is to emphasize the difficulties encountered in diagnosing osteoarticular tuberculosis, given the fact that it is frequently masked by other pathologies, especially in elderly patients. **Material and methods:** We present the case of a 93 years old patient first admitted in 2017 at Constanța Emergency Hospital for acute myocardial ischemia, for which she received the following treatment: Metoprolol, Aspirin, Dabigatran. After 3 months, the patient complained of acute lumbar pain radiating in the coxofemoral joint. She presented at the hospital and following a pelvic X-ray, the patient was diagnosed with advanced coxarthrosis, treated with hyaluronic acid infiltrations. In spite of this therapy, the general condition worsened. In 2018, she was admitted again in the hospital due to a hemoglobin level of 6 g/dl and elevated inflammatory markers. In order to address the lumbar pain, a CT was performed, revealing L4-L5 discitis and left iliopsoas abscess. The patient received a broad-spectrum antibiotic and nonsteroidal anti-inflammatory drugs, however, with no response. Furthermore, an MRI was requested, which unveiled L5 hemangioma and gibbus deformity at L1. Following these findings, a Quantiferon-TB Gold test was performed. A bone biopsy could not be performed due to possible cardiovascular complications. **Results:** Correlating the MRI results with the positive Quantiferon-TB Gold test and positive response after therapeutic probe with tuberculostatic medication, the final diagnosis of osteoarticular tuberculosis was confirmed. **Conclusions:** The particularity of this case consists in the silent development of osteoarticular tuberculosis, proving that a rare disease could be hidden behind common pathologies.

**Keywords:** bone, tuberculosis, gibbus, deformity

## EVALUATION OF TIME INTERVALS FOR THE PRIMARY MANAGEMENT OF ACUTE ISCHEMIC STROKE BASED ON THE LATEST AHA/ASA GUIDELINES

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**Background:** Strokes are considered one of the leading causes of morbidity and mortality worldwide, with an incidence of 15 million per year and 6.2 million deaths per year. Time is the most important factor for an appropriate and successful treatment. **Objective:** The study compares the time intervals, mentioned in the current guidelines in the United States, with data recently recorded in the Mures County Emergency Clinical Hospital. **Material and methods:** Data have been collected from patient files of the Mures County Emergency Clinical Hospital over a period of one year (2018). The following time intervals have been calculated: arrival in emergency department (ED) until first consult, arrival in ED until computed-tomography (CT) request, arrival until laboratory test results, arrival until neurology consult, arrival until CT scan performance, arrival until CT interpretation, door until admission to neurology department. The calculated mean time intervals were compared to the latest guidelines of the American Heart Association and American Stroke Association (AHA/ASA) of 2015. **Results:** After comparing the collected and calculated data to the predefined AHA/ASA guidelines a discrepancy has been observed. The time interval from the door until admission to the neurology department should not exceed three hours. The recorded data show a time of around four hours. The arrival until first consult interval, which should not be more than ten minutes, has been exceeded in more than half of the reviewed cases. **Conclusions:** Long time intervals may be preventable with the introduction of a specialized stroke team. An elaborated stroke protocol would be a suggestion for improving the time, clarity and structure during the primary management of acute ischemic strokes. A faster transfer to the neurology department to achieve an earlier and more adequate treatment could also be a suggestion for an efficient and successful time management.

**Keywords:** Acute Ischemic Stroke, Guidelines, Management

## NEW PHARMACOLOGICAL METHODS IN MIGRAINE THERAPY

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**Background:** Migraine is a neurovascular disorder that probably results from primary dysfunction in the brainstem centers that regulate vascular tone and pain sensation **Objective:** The aim of our paper is to describe the new potential benefits of CGRP- Targeted Monoclonal Antibodies **Material and methods:** EVOLVE-1, EVOLVE-2 and REGAIN are phase 3, randomized, double blind, placebo-controlled studies that evaluated the efficacy of Galcanezumab over a period of 6 and 3 months **Results:** In the new class of migraine therapeutics, the primary mechanism of action is blocking the effects of CGRP. Mechanism of action of CGRP: is a naturally occurring substance that circulates near the trigeminal nerve cells in the brain. CGRP increases in blood serum during migraine attacks. With this new class of drugs the blocking of CGRP occurs in 2 ways. CGRP's antagonists target and bind to the CGRP molecule inhibiting the molecule from binding to an available CGRP receptor. In contrast, the CGRP receptor antagonist target the CGRP receptor blocking the access to the CGRP molecule. differences between the two originals. The post-hoc analysis evaluated patients treated in the EVOLVE-1 and EVOLVE-2 for 6 months and REGAIN for 3 months and reviewed the mean change from baseline in the number of monthly migraine headaches days and the proportion of patients with at least 50% reduction in number of monthly migraine headache days. The most commonly-reported adverse events were injection sites reactions. **Conclusions:** In this subgroups analysis, patients treated with Galcanezumab experienced a statistically significant greater reduction in the average number of monthly migraine days and significant greater reduction of migraine headache days compared to patients treated with placebo.

**Keywords:** Migrain, CGRP, Frenezumab, Galcanezumab

## CAN THE ANXIETY INCREASE A FALSE HYPERTENSION?

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**Background:** What is white coat hypertension? Also known as white coat syndrome, it is a medical condition encountered by patients who present themselves in a medical environment, a state during which their blood pressure levels increase but when returning to their common setting, the blood pressure levels return to normal. **Objective:** The aim of this study was to highlight the difference between blood pressure values measured at the home of the hypertensive military personnel and the blood pressure values measured in a military medical environment. **Material and methods:** The following investigation methods were used for this study: I. ECG (electrocardiogram) II. Ambulatory Blood Pressure Monitoring (ABPM) -HOLTER III. Avoiding emotions before the medical control. **Results:** I. ECG :There is no change in the cardiac rate of the military subject under study, he has a sinus rhythm, a normal pulse of 80 beats / minute, he has no rhythm, conduction and coronary circulation disorders or a hypertrophic one; II. ABPM - HOLTER : It is noted that the first value of the blood pressure measured during the Holter assembling was 159/113, this result being included in the category of a third degree HBP according to the European Society of Cardiology. According to the "Ambulatory blood pressure" report the average of BP is : -127/82 after 24 hours; -130/85 per day; -120/70 during the night;These results being within the standard of a normal BP. **Conclusions:** Military patients with white coat hypertension should not be intimidated.Each of us have a unique, highly subjective emotional nature that makes us react differently. People with this diagnosis have an increased probability of developing high blood pressure. Bearing this in mind, having your blood pressure checked regularly should become a habit in order to prevent any further complications. eople with this diagnosis can go on to develop high blood pressure.

**Keywords:** WHITE COAT HYPERTENSION, ANXIETY, AMBULATORY BLOOD PRESSURE MONITORING (ABPM) -HOLTE, BLOOD PRESSURE

## PASIREOTIDE LAR AS NOVEL THERAPY IN ACROMEGALY

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**Background:** Acromegaly is a rare disease caused in 95% of cases by a pituitary GH (Growth Hormone) adenoma, with an incidence of 3-4 cases per million population per year. **Objective:** We aim to introduce a young patient diagnosed with acromegaly and the challenging management of his severe evolution. **Material and methods:** This is a case report. Pituitary hormonal and imagery assays are introduced. The patient's consent was obtained. **Results:** A 31-year male patient presented 5 years ago persistent headache. Investigations confirmed a pituitary macroadenoma (18/14/15mm) invading the right cavernous sinus, close to the optical nerve. Selective hypophysectomy was performed. Postoperative GH confirmed acromegaly (24-hour GH>2.5 ng/mL) and Magnetic Resonance Imaging showed large remnants (14/18/9mm) around the right cavernous sinus. He was referred to external radiation - Gamma Knife radiosurgery. High IGF1 (Insulin-like Growth Factor)-1248ng/mL (Normal:90-262ng/mL) and GH indicated active disease. Therefore, he received somatostatin analogue, Octreotide LAR 20mg/month, to no effect after 6 months, thus the dose was increased to 30 mg/month. Dopamine agonist, Cabergoline (up to 3 mg/week) was progressively added, as well as GH receptor antagonist, Pegvisomant (daily subcutaneous injections, of 80 mg/week). A partial control was obtained, so the patient continued Cabergoline doses, but was switched to Pasireotide LAR 40 mg/month, a second-line somatostatin analogue. He developed transitory hepatocytolysis. IGF1 decreased to 553ng/ml. Now, the patient is being proactively monitored, including periodical GH/IGF1 assays, according to the national protocol for Pasireotide. **Conclusions:** The particularities of this case are related to the multiple levels of therapy which failed to control the disease and the recent introduction of a novel treatment for acromegaly □□□□ second generation of somatostatin. Also, worth mentioning is that no specific acromegaly phenotype was identified, nor was relevant family medical history revealed, considering the young age at diagnosis.

**Keywords:** acromegaly, pituitary macroadenoma, pasireotide LAR

## SEVERE DEHYDRATION SYNDROME IN INFANTS DUE TO ACUTE ENTEROCOLITIS

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**Background:** Dehydration has serious implications and its severity is attaining maximum levels in infants. They are more at risk of developing an acute dehydration syndrome within an enterocolitis because the intestinal mucosa is permeable to water and the turnover of water entering and leaving the digestive tract is two times higher than the extracellular water compared to the adult. The severity of these losses, ranging from a few hours to 1-2 days, leads to the occurrence of an acute dehydration syndrome over 10% , with high risk of death. The usual manifestations of enterocolitis are the emission of numerous soft stools, abdominal pain, general health alteration. General manifestations are due either to the release of the infectious agent or its toxins throughout the body, or, most frequently, to significant losses of water and minerals due to diarrhea and vomiting. **Objective:** We evaluated and researched the diarrheal disease etiology with dehydration over 10%, clinical symptoms, hydroelectrolytic and acidobase disturbances, risk factors, duration of hospitalization, treatment and case evolution. **Material and methods:** We conducted a study on a group of 45 infants hospitalized in the department of pediatrics at County Clinical Emergency Hospital of Constanta, with acute enterocolitis and dehydration syndrome between October and December 2018. **Results:** In 30 cases (74%) suffered severe enterocolitis with dehydration syndrome more than 10% the children had degrees II and III of proteic caloric malnutrition, this being a risk factor for severe dehydration. More than half of the cases had viral etiology: Rotavirus or Adenovirus. The bacterial etiology was represented by Klebsiella in 8 cases, E. coli in 5 cases and Staphylococcus in 3 cases. **Conclusions:** Most patients experienced hyponatremia, metabolic acidosis, hypokalemia and azotemia. Acute enterocolitis complicated by dehydration syndrome over 10% have prevailed digestive signs associated with neurological signs and hypovolemic collapse.

**Keywords:** Dehydration syndrome, Rotavirus, Diarrhea, Pediatric disease

## ADPKD WITH HEPATIC CYSTS COMPLICATIONS: A CASE REPORT

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**Background:** Autosomal dominant polycystic kidney disease (ADPKD) is the most common inherited kidney disease in humans. It is a multisystemic disorder characterized by progressive cystic dilatation of both kidneys, with variable extrarenal manifestations in the gastrointestinal tract (hepatic cysts), cardiovascular system, reproductive organs and brain. An important issue of patients with hepatorenal cystic disease is the fact that complications can arise due to the growing of the cysts: local kidney complications (intracystic infection, intracystic bleeding) and local liver complications (portal hypertension as a result of portal vein compression by cysts, bile duct compression, ruptures and bleedings of the cysts, obstruction of the liver veins). **Objective:** The main purpose of our case presentation is to emphasize the fact that ADPKD can be an aggressive disease with multiple complications, which requires an early diagnosis in order to properly avoid possible complications. **Material and methods:** We present a case of a 61 years old male, known with polycystic hepatorenal disease, chronic kidney disease (CKD), renal hypertension, hypertensive cardiomyopathy, renal anemia and stage 1 chronic lymphatic leukemia. The patient was diagnosed with hepatorenal cystic disease 20 years ago and 9 years ago he started undergoing renal replacement therapy by hemodialysis. Three months ago, the patient presented a suddenly installed ascitic syndrome for which an MRI was performed. This revealed multiple cysts, compression of the portal vein and a tumoral mass that may suggest an adenocarcinoma. **Results:** The investigations performed confirm the diagnosis of portal hypertension secondary to compression due to cystic formations. **Conclusions:** Hepatorenal polycystic disease has numerous clinical variations, so it needs to be followed in a multidisciplinary way with rapid therapeutic measures to prevent complications. Further investigations are needed when dealing with suspicious cystic formations with an uncertain substrate.

**Keywords:** ADPKD, hepatorenal disease, multisystemic disorder

## GALLBLADDER CANCERS (GBCS) – RARE ENTITIES

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**Background:** Gallbladder cancers are rare entities (0.7% of all tumors), mostly of epithelial origin, more common in women than men, due to the higher incidence of gallstones in women. Usually diagnosed incidentally in advanced stages, due to insidious onset of nonspecific symptoms, GBCs have a poor prognosis with a 5-year-survival rate of less than 5%. About 90% are adenocarcinomas, the papillary type having the best prognosis. **Objective:** The aim is to present cases of GBCs as rare and aggressive, invasive tumors, with a poor clinical outcome. The grading and the level of invasion was assessed based on the American Joint Committee on Cancer's staging system. **Material and methods:** We present five cases of GBCs, four moderately differentiated (G2) adenocarcinomas and one case of undifferentiated carcinoma, diagnosed in the Pathology Department of Tîrgu Mureş, by using hematoxylin-eosin, Periodic acid Schiff staining and immunohistochemistry (IHC). All of them presented invasion in the gallbladder wall and/or in the liver and peritoneum. **Results:** The mean age of the patients was 65.2 years. Three of them were women whereas two were men. One of the four adenocarcinomas presented a micropapillary component (of 10%). Four of the cases were in stage pT3, infiltrating the wall beyond the serosa, towards the liver, two of them presenting also distant metastasis M1. In all of the cases lymphatic and vascular invasion was present. In two cases IHC was performed, showing positivity for cytokeratin 7 (CTK7) and Ki67. **Conclusions:** More common in women than men, aged over 60 years, our GBC cases were diagnosed in advanced stages, thus having a poor prognosis. Most of our GBC cases were adenocarcinomas, with low grade G2 malignancy, lymphovascular invasion, two presenting distant metastases. The surgical treatment, as first choice treatment, remains a significant challenge as the gallbladder is situated close to several vital structures.

**Keywords:** gallbladder cancer, adenocarcinoma, moderately differentiated, poor prognosis

## GASTRIC CANCER AS A SECOND MALIGNANCY IN A YOUNG PATIENT – CASE REPORT

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**Background:** Hodgkin's lymphoma (HL) is a lymphoproliferative disease and represent one of the two common types of cancer of the lymphatic system. HL is rarely associated with gastric cancer and represent an important cause of mortality. **Objective:** The main purpose of our case was to highlight that, although Hodgkin's lymphoma is considered a curable cancer, the survivors may have late side effects after treatment and can develop secondary malignancies, such as gastric cancer. **Material and methods:** A 40-year-old man, diagnosed with Hodgkin's lymphoma (2010) who performed three chemotherapy sessions without radiotherapy. After therapy, HL was in complete remission until January 2017 when patient complained of heartburn, flatulence and loss of appetite, no history of weight loss. The symptoms were relieved after proton pump inhibitors treatment. In spite of therapy, in March 2017 the patient was admitted to the Department of Gastroenterology for upper gastrointestinal bleeding. **Results:** Laboratory examination showed severe anemia, hemoglobin: 5.5 g/dl. Upper gastrointestinal endoscopy showed huge ulcer in the gastric cardia. Gastric biopsy revealed gastric adenocarcinoma stage IV. Abdominal computerized tomography (CT) showed hepatic metastases and lymph node metastases. The advanced stage of gastric adenocarcinoma stage IV cancer is outside the indication for curative resection. After 5 days, the patient develops multiple organ failure and dies. **Conclusions:** The particularity of this case is the rare association between Hodgkin's lymphoma and gastric cancer in a young patient, which can be a pure coincidence or may be due to the increased risk of developing a secondary malignancy. To improve survival and quality of life for HL patients, who are clearly increased risk of developing secondary malignancies proper follow-up and screening programs are necessary.

**Keywords:** Hodgkin's lymphoma, gastric cancer, malignancy.

## DISCORDANCE BETWEEN IGF-1 AND GH IN YOUNG PATIENTS SUSPECTED OF ACROMEGALY -CASE PRESENTATION

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**Background:** Insulin-like Growth Factor 1 (IGF-1) and Growth Hormone (GH) levels are used to diagnose acromegaly patients. Discordance between these biomarkers may lead to inconclusive results. **Objective:** We present two cases, a female patient age 24 and a male patient age 22 with increased IGF-1 levels but adequate GH suppression during an oral glucose tolerance test. **Material and methods:** Both patients presented to the endocrinology department following headaches and visual disturbances. Prior to reaching a diagnosis factors such as obesity, pregnancy, testosterone, and DHEA need to be considered as potential causes for an increased IGF-1. Age, gender, and medications also influence the IGF-1 and GH relationship. **Results:** The female patient had IGF-1 values ranging from 339.80ng/ml to 457.70ng/ml over the course of one year. She presented with persistent occipital headache associated with visual disturbances and vertigo. A physical examination revealed varicose veins at the lower limbs, increased abdominal pilosity, and arthralgia. Additional labs revealed a testosterone levels of 67.33ng/dl indicating hyperandrogenism. Estrogen- progesterone and dopamine agonist treatment were initiated. Imagistic investigations were recommended due to the suspicion of a pituitary adenoma. The male patient presented with an IGF-1 value of 437.20ng/ml and GH levels below 1ng/ml. He complained of persistent temporal headaches. An MRI showed a cystic intrasellar mass with dimensions of 10/8/7mm and displacement of the hypophysis exteriorly. A cardiologic consult was indicated due to an acute onset of hypertension. Additional tests revealed central hypothyroidism, for which Euthyrox treatment was initiated. The patient began treatment for acromegaly with 0.5mg Cabergoline. **Conclusions:** Discordance between IGF-1 and GH can be seen in patients with active acromegaly. However, careful interpretation of this discrepancy is necessary considering age, gender, BMI, and hormonal levels before establishing a clear diagnosis.

**Keywords:** IGF-1, GH, Discordance, Acromegaly

## AN ASSESSMENT OF PNEUMONIA IN A CHILD – CASE PRESENTATION

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**Background:** Pneumonia is the acute inflammation of the lung parenchyma. This disease is the leading cause of death among children under the age of 5, reporting annually 1.2 million deaths globally. In practice, it is very difficult to identify the pathogens accurately, so in establishing the diagnosis it is very useful to classify the etiologic agents grouped by age of the patient. **Objective:** Our aim was to describe the case of a 3-year-old female patient who was diagnosed with pneumonia. **Material and methods:** A week ago, before being admitted, the child without any medical history, was presenting fever, productive cough and rhinorrhea, which is why she started receiving symptomatic treatment. Since fever persisted, oral antibiotic treatment was instituted, but no improvement was shown. Thus she was admitted to the pediatric department. The clinical exam revealed influenced general status, pale complexion, poor skin turgor, hyperemia of the tonsils and pharyngeal walls, dry mucous membranes, productive cough and dyspnea. **Results:** Paraclinical test results showed leukocytosis, neutrophilia, anaemia; CRP= 182 mg/L; pulmonary radiography revealed consolidation and pleural effusion in the right lobe; blood culture is negative. The urinalysis revealed high ketone levels. The treatment consisted of: ceftriaxone, amikacin, oxacillin, bronchodilators, oral rehydration solutions. **Conclusions:** Based on the clinical examination, paraclinical results and chest X-ray we established the diagnosis of bacterial pneumonia associated with pleural effusion, dehydration and anaemia. Evolution is favorable under treatment for possible gram-negative germs and staphylococcus, which are very common at this age.

**Keywords:** pneumonia, pleural effusion, child

## ACHONDROPLASIA - THE MOST COMMON CAUSE OF SHORT STATURE. CASE REPORTS

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**Background:** Achondroplasia is a generalized skeletal dysplasia, characterized by rhizomelic dwarfism, disproportionately neonatal large skull, facial dysmorphism and radiological characteristic aspects. This disease is the most common cause of short stature, it is encountered at approximately 1 of 10,000 newborns and, most often, it is diagnosed right at birth, based on clinical signs and radiological examination. Achondroplasia is caused by a mutation in the gene FGFR3, characterized by stopping the growth of the long bones of fetal period. Intelligence and life span in this disease are usually near normal, compared with other types of dwarfism. **Objective:** The main purpose of our presentation is to establish a diagnostic algorithm for children with disharmonic dwarfism, based on characteristic clinical and radiographic findings in most affected children or, concerning the individuals in whom there is diagnostic uncertainty or atypical findings, identification of a mutation in the gene FGFR3 can establish the diagnosis. **Material and methods:** We are going to present the clinical cases of three children, aged 6, 9 and 10 years, with poor postnatal growth, who are hospitalized in the department of pediatrics, at County Clinical Emergency Hospital of Constanta, for the evaluation of the stature's and weight's hypotrophy. **Results:** In these three case reports, molecular genetic testing was unnecessary, because the children have typical findings. Thus, the diagnosis was confirmed by clinical examination that reveals proximal shortening of the arms, macrocephaly with frontal bossing, short fingers, in trident, exaggerated lumbar lordosis. Radiological investigations have been performed just for one of these three children, the results showing robust tubular bones, square ilia, horizontal acetabula, proximal femoral radiolucency. **Conclusions:** Short stature is often associated with stigma or anomalies that make it possible to fit into a genetic disease or syndrome, confirmed by genetic testing, a suitable therapeutic approach and a competent genetic counseling.

**Keywords:** achondroplasia, child, dwarfism, dysmorphism

## CHALLENGE DIAGNOSIS: OSTEODISCITIS OR POTT'S DISEASE – CASE REPORT

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**Background:** Pott's disease (PD) or spinal tuberculosis is a rare condition which accounts for less than 1% of total tuberculosis (TB) cases, usually affects the disks of the thoracic to lumbar spine and is mostly caused by extra-spinal infections. Pott's disease represents a challenging disease to diagnose. **Objective:** The main purpose of our case was to highlight the importance of diagnosing a rare disease on time, and also the difficulties in differential diagnosis and treatment. **Material and methods:** We present the case of a middle-aged patient, heavy smoker with back pain, night sweats, weight loss, and fatigue with multiple hospitalizations for osteodiscitis in the last 3 months. The patient received large spectrum antibiotics, antialgic and anti-inflammatory treatment, however, with no response. In spite of the therapy, the general condition worsened. The patient was admitted to the Pneumology department accusing cough and hyperpyrexia. **Results:** Clinical exams and the X-Ray showed signs of right pleurisy and a 12mm right lung nodule. CT was performed, revealing suspicions of TB osteo-discitis. For a more precise diagnosis, an MRI was requested. MRI confirmed Pott's disease with spondylodiscitis T6 - T7, paravertebral abscesses T4- T5, moderate medullar stenosis, and a pleural effusion. Orthopedic consult recommended a corset for at least 3 months and reevaluation. The diagnosis was made by the associated activity of pneumologists, orthopedists, radiologists and the general practitioner. The patient started antituberculous antibiotic regime with well response, thus also confirming the diagnosis and with good tolerance to the corset. **Conclusions:** This case of misdiagnosis was finally solved, after multiple hospitalizations. Early and definite diagnosis in Pott's disease is difficult, for that it's important that practitioners pay attention to details while doing a differential diagnosis, in order to avoid mistreating a patient. Diagnosis and treatment of Morb Pott require a multidisciplinary team.

**Keywords:** Pott's Disease, misdiagnosis, osteodiscitis, multidisciplinary team

## RECURRENT SEVERE ANEMIC SYNDROME IN A YOUNG PATIENT WITH ULCERATIVE COLITIS - CASE PRESENTATION

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**Background:** Ulcerative colitis in young patients represents nowadays a therapeutic challenge due to an increased rate of associated complications. **Objective:** Identifying the possible causes of a severe anemic syndrome in a young patient with pancolitis. **Material and methods:** We present the case of a 36 years old female patient, diagnosed with ulcerative colitis for 7 years, with multiple admissions to Mures County Clinical Hospital, in the Gastroenterology department for abdominal pain, asthenia, fatigability, 9-10 liquid bloody stools per day. The patient started treatment with 5-aminosalicylates in 2012. Due to recurrent flares of the disease, she received immunomodulators (Azathioprine) and biologic therapy with Infliximab in 2014 which was stopped in 2015 due to the patient's desire related to an improvement in her general well being. In the 2015-2018 period, the patient didn't follow her medical appointments. In July 2018, the patient presented with an acute severe flare of the disease. Colonoscopy was performed, and put the diagnosis of severe pancolitis, with a Mayo endoscopic score of 9/10. Her laboratory tests showed a severe anemic syndrome with low iron, total protein, albumin level and a marked inflammatory syndrome. Maximal treatment including biologic therapy with Adalimumab, Azathioprine and 5-aminosalicylates was initiated. **Results:** During induction therapy of Adalimumab (4 weeks) the clinical status of the patient improved. The maintenance phase was associated with a recurrent severe anemic syndrome (with an hemoglobin level of 5 g/dL), severe malabsorption, and an associated Clostridium Difficile infection. Total proctocolectomy was recommended as a curative treatment, but the patient refused the surgical intervention. **Conclusions:** The management of severe anemic syndrome in ulcerative colitis patients under maximal treatment is challenging, and in the case of non-responder patients, total proctocolectomy is the only curative treatment available.

**Keywords:** anemic syndrome, ulcerative colitis, total proctocolectomy

## MAINTENANCE TREATMENT WITH ORAL VINOURELBINE IN A PATIENT WITH STAGE III B LUNG ADENOCARCINOMA AFTER CONCURRENT CHEMORADIO THERAPY

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**Background:** Maintenance treatment (MT) following first-line chemotherapy with platinum based doublets, has been investigated and became an option for patients with stage IV non small cell lung cancer (NSCLC). **Objective:** To evaluate the benefit of oral vinorelbine (vrb) an antimitotic, antitubuline agent, as MT in a patient with stage IIIB lung adenocarcinoma after standard treatment with concurrent chemoradiotherapy (cChRT). **Material and methods:** We present the case of a 65 years old female, passive smoker, with adenocarcinoma of the lingular bronchus stage IIIB T4N2M0, Performance Status (PS)1. The multidisciplinary team decided cChRT, considering the good PS, normal respiratory functions and the lack of comorbidities. **Results:** The patient received 6 cycles of vrb-carboplatine protocol and three dimensional conformal radiotherapy (3DCRT). As a partial response (PR) was assessed on PET-CT, with reversible grade 2 esophagitis, the good PS, and the adherence to treatment, continuous MT has been decided on 10.05.2013 with oral vrb 60mg/sqm d1, 8, 15, at 28 days. Tolerability during MT was acceptable, with reversible grade 2 nausea and anemia and grade 1 neutropenia. A further complete response was sustained by PET-CT. The patient received 33 cycles of oral vrb until the 04.02.2016, when treatment was interrupted by a forearm fracture by slipping on ice. The PET-CT revealed pulmonary and liver metastases, but no bone metastases. Second line treatment with erlotinib was initiated but stopped in November because of grade 3 cutaneous adverse events and weight loss. The CT scan showed an increase in number of the pulmonary and liver metastases. The patient died on the 13.12.2016 through liver insufficiency. **Conclusions:** We presented the benefit of 36 months of progression free survival from the beginning of MT with oral vrb of 33 cycles, proving the efficiency of maintenance vrb in selective patients ( with good PS, with satisfying response to first line treatment and acceptable toxicities).



**Keywords:** lung adenocarcinoma, oral vinorelbine, maintenance treatment, progression free survival

## LIMITATIONS OF COAGULATION INSTRUMENTS AND ITS IMPACT ON MEDICAL DECISIONS

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**Background:** Hemophilia A is an X-linked, recessive disorder caused by deficiency of functional plasma clotting factor VIII (FVIII), which may be inherited or arise from spontaneous mutation. The development of inhibitory alloantibodies to FVIII can severely complicate the treatment of this disorders. **Objective:** The objective of this case was to find out the cause of aPTT(activated partial thromboplastin time) prolonged value and the "Early reaction error" of aPTT measurement instrument. **Material and methods:** Newborn, 3 days old is transferred from secondary care unit to ICU Neonatology Clinic on March 17, 2016 with suspicion of sepsis. At the time of admission, the newborn was stable. Clinical examination shows a hematoma after an intramuscular injection. At Reghin an aPTT was determined with a prolonged value. Due to the prolonged aPTT value reported another sample is taken that shows a shortened value, the instrument showing the message "Early reaction error". aPTT test is repeated and the optical analyzer shows the same message. The blood collection is correct, thru the heparin catheter washed with blood. March 22 - March 25:although correct blood collection protocol is followed, the instrument does not interpret the aPTT test. The sample is tested by a mechanical method and a normalization test is performed with normal control plasma diluted 1:1. **Results:** On mechanical method aPTT test had a prolonged value and after normalization the test had normal results. FVIII has an activity of <0.3% suggesting a severe form of hemophilia. **Conclusions:** In rare cases of optical methods errors it is recommended parallel testing of aPTT with mechanical methods in order to prevent misdiagnosing and mistreating the patients with no known history of hemophilia.

**Keywords:** Hemophilia A, aPTT test, Factor VIII deficiency

## DUODENAL WALL STASIS IN CONTEXT OF INFERIOR VENA CAVA AGENESIS ASSOCIATED WITH THROMBOPHILIA AND PULMONARY VALVE STENOSIS

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**Background:** Congenital absence of inferior vena cava due to agenesis is a rare disease (0.0005-1%) associated with congenital thrombophilia or other abnormalities: pulmonary artery stenosis, atrial septal defect or atrophic unilateral kidney. The diagnosis is often late and revealed by multiple episodes of deep vein thrombosis (DVT). **Objective:** The aim of our presentation is to underline the complexity of Inferior Vena Cava Agenesis (IVCA) manifestations, comorbidities and complications. **Material and methods:** We review a case of a 60 years old male patient referred for persistent epigastric pain. He had a history of pulmonary stenosis operated at the age of 16, atrial fibrillation, ischemic stroke and DVT of left extern iliac veins at the age of 28 and thrombophilia (protein S and C deficiency) for which he was under oral anticoagulants (antivitamins K). Abdominal ultrasound was performed to identify the cause of abdominal pain. The absence of inferior vena cava in the infrarenal portion and thickening of the duodenal wall (1.8 cm thick, 5 cm long) were identified. Both IVCA and duodenal wall thickening were confirmed by abdominal Angio-CT scan, intraabdominal vein thrombosis was excluded. Endoscopic exam with biopsy and ecoendoscopy were performed in order to assess the etiology of duodenal thickening. The investigations were negative for a neoplasia and positive for a duodenal wall stasis and inflammation. Treatment with antacids and betablocker was initiated, along with anticoagulation and compression stockings. **Results:** The abdominal pain was most probably due to intraabdominal venous stasis in the presence of IVCA. The patients with IVCA develop a collateral circulation that could be responsible of intestinal wall swallowing, bowel varices, with consecutive thrombosis and life threatening bleeding. **Conclusions:** IVCA is a rare syndrome with a polymorphic spectrum of manifestations. It is important to remember this diagnosis, administer life-long anticoagulation and search for possible complications.

**Keywords:** Abdominal pain, inferior vena cava agenesis, thrombophilia, cardiovascular disease

## ASSOCIATION BETWEEN CORONARY ARTERY CALCIUM SCORE AND PERIODONTAL DISEASE IN PATIENTS WITH UNSTABLE ANGINA

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**Background:** Although there are many common risk factors of atherosclerosis that influence directly the occurrence and severity of periodontal disease (PD), the link between these conditions has not been elucidated so far. **Objective:** The aim of this study is to identify the association between severity of coronary atherosclerosis expressed by coronary artery calcium score and periodontal disease in patients with unstable angina. **Material and methods:** 52 patients with unstable angina were enrolled in the study and underwent complex examination of periodontal status and determination of periodontal index (PI) and cardiac computed tomography angiography (CCTA) for calculation of coronary artery calcium score (CCS). **Results:** Total PI is strongly correlated with the total CCS ( $p=0.0008$ ,  $r=0.45$ ). High total PI group exhibited a significantly higher CCS (505.29 +/- 478.64) compared with the low PI group (93.32 +/- 233.05),  $p=0.0001$ , sustained also by the tertial and quartile analysis of the groups ( $p=0.0009$  and  $p = 0.004$ ). Furthermore, patients with high PI present at least an intermediate cardiac risk, based on CCS value ( $p < 0.0001$ ). **Conclusions:** Severe PD was associated with a higher CCS, therefore with a higher severity of the atherosclerotic process, in patients with unstable angina. This indicates that PD can favor progression of atherosclerosis via systemic, inflammatory mediated mechanisms.

**Keywords:** atherosclerosis, calcium score, periodontal disease

## EXTERNAL ACOUSTIC MEATUS METASTASES IN A CASE OF NON-SMALL CELL LUNG CANCER (NSCLC)

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**Background:** Almost 40% of all the newly diagnosed patients already have metastasis spread to other parts of the body. The most common sites of lung cancer metastasis are the bones, liver, nervous system, lymph nodes and adrenal glands. The external acoustic meatus is a very rare site for metastases, less than 20 cases being reported in the literature. **Objective:** Our aim is to emphasize the polymorphic nature of the metastatic process and the importance of a thorough medical examination. **Material and methods:** We report the case of a 68-year-old man who presented with a 2-month old bleeding mass in his right external acoustic meatus. The patient had a 50-pack-year history of tobacco use and long term exposure to exhaust emissions with no other medical history. Clinical examination showed ECOG performance status 0, the patient lacked dyspnea and the lung auscultation revealed no abnormal sounds. **Results:** The histopathological examination of the tissue revealed a large cell poorly differentiated carcinoma. An abdominal ultrasound examination was performed and it revealed multiple hepatic and adrenal masses along with a 60-mm mass in the middle part of the right hemithorax on a chest X-ray. The bronchoscopic examination showed a right vocal cord paralysis, hemorrhage in the anterior subsegmental part of the apical segmental bronchi of the right superior lobe. **Conclusions:** A mass in the external acoustic meatus can be an odd finding at a medical examination as it presents a diagnostic dilemma. Even though metastases with this localization are very rare, they should always be taken into consideration in a differential diagnosis. Establishing the diagnosis sooner rather than later can have major prognostic implications for the patient. **References** Chang KH, Song CE -*Solitary metastasis of bronchogenic adenocarcinoma to the internal auditory canal: a case report* Vasileiadis I, Kapetanakis S-*External auditory canal mass as the first manifestation of a bronchogenic carcinoma: report of a rare case*

**Keywords:** metastases, acoustic, NSCLC

## THE IMPORTANCE OF ENDOMYOCARDIAL BIOPSY IN THE DIAGNOSIS OF POST-TRANSPLANT ACUTE CELLULAR REJECTION, A CASE REPORT

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**Background:** Post transplant complications can occur in any moment of life to the subject that underwent a transplant procedure. One of the most frequent complication occurring early (1 day to 1 month) and during medium onset period (1 month to 1 year) is acute cellular rejection, which is associated with acute humoral rejection. The number of rejection episodes and their severity is strongly linked to the immunosuppressive treatment response and the degree of histocompatibility of the subject. The diagnosis of acute rejection is made by repeated endomyocardial biopsies. **Objective:** The importance of early diagnosis of complications post-transplant on endomyocardial biopsy **Material and methods:** The case represented is of a patient, age 14 years old, diagnosed with endomyocardial cardiomyopathy who underwent a cardiac transplant procedure at the end of 2016 followed by repeated endomyocardial biopsies **Results:** In the year 2018 by quantifying the myocardial lesion biopsies according to ISHLT we detected an acute cellular rejection grade 2B, mild vasculopathy and parietal endocarditis after a month, an episode of acute cellular rejection grade 2A associated with humoral mediated rejection with high amounts of intravascular leukocytes. The following up treatment is immunosuppressive and the next biopsy occurring in early 2019 confirms the diagnosis of humoral mediated acute cellular rejection in remission. The evolution of the patient in the present day is favorable, being responsive to the immunosuppressive treatment. **Conclusions:** A high risk of acute humoral reject is encountered in patients with hyper-reactive immune status. The diagnosis of acute humoral reject is determined based on the endomyocardial biopsy, outlining the presence of antibodies or the presence of endothelial and interstitial edema. The early detection of acute and/or humoral cellular rejection by endomyocardial biopsy allows the diagnosis of post-graft complications before significant and irreversible damage to the heart, significantly increasing the lifespan and the quality of life for the patient who had a transplant.

**Keywords:** rejection, transplant, endomyocardial biopsy

## THORACIC ENDOVASCULAR REPAIR PROCEDURE IN DESCENDING THORACIC AORTIC ANEURYSM - CASE REPORT

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**Background:** The presence of an aneurysm in the descending thoracic aorta increases the risk of thrombus formation with systemic embolisation, and in severe cases it can lead to the rupture of the affected aortic segment. **Objective:** Our goal is to present the applied procedures used for diagnosis and correction of descending thoracic aortic aneurysm. **Material and methods:** We present the case of a 46-year-old patient known with arterial hypertension, who developed a descending thoracic aortic aneurysm. Thorax-abdomen-pelvis CT examination reveals the descending aortic dilatation with an antero-posterior maximum axial diameter of 56 mm and decalibration overlying the origin of the renal arteries, left ventricle hypertrophy and slightly ectasia of the ascending aorta up to 42 mm. In addition to this, the presence of the aortic coarctation at the arch-descending aorta junction explains the arterial hypertension followed by the ventricle hypertrophy. The patient underwent an interventional therapy in the Institute of Cardiovascular Disease and Transplantation Tg. Mureș Cath Lab, that consisted of the thoracoabdominal TEVAR (Thoracic Endovascular Aortic Repair) technique with percutaneous insertion of a 4 Gore-TAG Grafts Stent into the celiac trunk, to exclude the aneurysm and assure the celiac trunk perfusion. **Results:** The post-interventional evolution of the patient was favorable, with no visible complications in AngioCT examination after one month and six months. **Conclusions:** This case presentation highlights the importance of thoracic aortic aneurysm early diagnosis and TEVAR as a safety therapeutic alternative to the open surgical treatment.

**Keywords:** descending thoracic aortic aneurysm, arterial hypertension, Thoracic Endovascular Aortic Repair, AngioCT

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## MEDULLARY THYROID CARCINOMA WITH NORMAL CALCITONIN SERUM LEVELS

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**Background:** Medullary thyroid carcinoma (MTC) represents an exceptional form of thyroid cancer originated from the neural crest derived parafollicular C-cells whose main secretory substance is represented by calcitonin, which is the principal biochemical marker in MTC. **Objective:** In rare cases pre-operative serum calcitonin can be negative, thus the aim is to raise awareness of this situations. **Material and methods:** A 45-year old woman was referred to an endocrinologist for the investigation of a breast nodule. A clinical diagnosis of goiter and micronodule (7\*9mm) in the left lobe was made. The thyrotropin stimulating hormone (TSH), thyroxine (FT4) and calcitonin (repeated) levels were within normal limits, and the ultrasound showed a hypoechoic nodule with an irregular outline, microcalcification and intense intra-nodular vascularity. As a result of the suspicious features, the fine needle aspiration biopsy (FNAB) was the next step. The FNAB indicated the presence of a suspicious follicular thyroid nodule with Hurtle cells (Bethesda IV, but could not exclude MTC). Because of these results, a hemithyroidectomy has been performed. The pathologic and immunohistochemical exam showed that the nodule was, in fact, a MTC, by using radioactive calcitonin antiserum against MTC cells. Although the calcitonin remained within normal parameters, a total thyroidectomy and neck dissection became necessary. It was also important to start the screening for the type 2 multiple endocrine neoplasia (MEN) and screen for RET proto-oncogene mutations. **Results:** Only the immunohistochemical exam with calcitonin antiserum showed the real diagnosis, FNAB being unfortunately not as sensitive in this case. **Conclusions:** This case illustrates the potential for misdiagnosis of a MTC or a MEN2 syndrome, with possibly lethal consequences for the patient. The primary treatment for MTC is extensive and meticulous surgical resection. Thus, a correct diagnosis spares the patient from multiple interventions and prevents complications. A normal level of calcitonin does not always exclude a MCT.

**Keywords:** Medullary thyroid carcinoma, calcitonin, calcitonin antiserum

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## GUTTATE PSORIASIS AND STREPTOCOCCAL INFECTION: A CASE REPORT AND A REVIEW OF THE LITERATURE

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**Background:** Psoriasis is a chronic, relapsing malady which includes various clinical features and triggers. This condition is marked by thick areas of inflamed, scaly skin which are caused by an abnormal, brisk and excessive proliferation of skin cells. The cause of the disease is still indefinite, but it is believed to be an autoimmune and inflammatory disease. From many forms of psoriasis clinical presentation, studies have shown that guttate psoriasis is more frequent in young people. **Objective:** This paper presents the case of a 21-year old female who came with a papulo-scuamos eruption triggered by a bacterial infection of the throat. **Material and methods:** Dermatological investigation laid out the presence of several small scattered papules and small plaques, called "drop-like" lesions, located on the inferior limbs, posterior thoracic wall, and anterior abdominal wall. Paraclinical investigations pointed out a positive ASLO result of 400 UI/ML, positive testing of Helicobacter Pylori antigen and a ESR of 20 mm/hour. **Results:** Streptococcus is notably suspected as a trigger factor in the case of the acute guttate psoriasis of the 21-year old female patient. In 2018 De Jesus-Gil study showed the reproduction of the molecular events which lead to the formation of psoriatic lesions from epidermal cells with CLA+ T cells from psoriasis patients activated by Streptococcus Pyogenes. Treatment endorses both the treatment of Streptococcus infection and Psoriasis. Classified as a safe, inexpensive and of strait spectrum, Penicillin remains the drug of choice for treating the Streptococci infection, with no direct or indirect evidence of loss of efficacy. Drug candidates in case of psoriasis treatment target the interleukin-23 and type-17 helper, offering high rates of clearance or near-clearance of psoriatic lesions. **Conclusions:** Our case confirms the strong correlation between guttate psoriasis and streptococcal infection. Further research on H. Pylori (also found in our patient), triggering psoriasis, has to be done.

**Keywords:** Gout, Psoriasis, Streptococci

## NON-INVASIVE DIAGNOSTIC APPROACH OF SINUS VENOSUS ATRIAL SEPTAL DEFECT AND PARTIAL ANOMALOUS PULMONARY VEINS CONNECTION: A CASE REPORT

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**Background:** Sinus venosus atrial septal defect (SV-ASD) and partial anomalous pulmonary vein connection (PAPVC) are rare congenital heart diseases that usually coexist. Only the surgical treatment prevents disease progression, however, high operative mortality rates have been reported. Therefore, an appropriate imaging modality is needed to optimize preoperative planning in order to decrease surgical risk. **Objective:** We aim to present the preoperative evaluation and the diagnostic approach of SV-ASD associated with PAPVC using three-dimensional transesophageal echocardiography (3D-TEE). **Material and methods:** A 41-year-old female with no history of cardiovascular diseases presented with symptoms of fatigue and dyspnea on minimal exertion. Examinations pointed out a systolic murmur and an incomplete right bundle branch block. Transthoracic echocardiography revealed right cardiac chambers enlargement with severe tricuspid regurgitation and high suspicion for ASD. Furthermore, TEE with real-time 3D acquisition was performed and the examination demonstrated the high position of ASD with the right pulmonary veins being connected to the superior vena cava. Right heart catheterization confirmed the diagnosis and revealed a pulmonary to systemic blood flow ratio (Qp/Qs) of 2.58:1 and normal mean pulmonary artery pressure. In addition, pulmonary vascular resistance (PVR) was calculated as 0.43 UWood with an elevated pulmonary cardiac output. **Results:** 3D-TEE in association with cardiac catheterization emphasized the diagnosis of SVASD and PAPVC with no hypertension and low PVR, suggesting a compensated physiological state. Thus, the patient was considered a good candidate for surgical treatment due to the normal PVR and significant left-to-right shunt. Importantly, in our case 3D-TEE provided optimal and accurate anatomical details of the congenital defects. **Conclusions:** Both SV-ASD and PAPVC are rare congenital heart defects with significant morbidity and mortality that are frequently undetected and difficult to diagnose. Although computed tomography angiography is the main diagnostic investigation in the preoperative assessment of SV-ASD, 3D-TEE is a promising non-invasive modality for a comprehensive preoperative imaging evaluation.

**Keywords:** Sinus venosus atrial septal defect, partial anomalous pulmonary veins connection, 3D transesophageal echocardiography, preoperative assessment

## TRANSCATHETER AORTIC VALVE IMPLANTATION (TAVI) IN A PATIENT WITH DYSFUNCTIONAL BIOPROSTHETIC AORTIC VALVE POST-INFECTIVE ENDOCARDITIS

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**Background:** Surgical aortic valve replacement (SAVR) is the current gold standard therapy for aortic stenosis. Bioprosthetic valve structural degeneration is a common complication due to the various aggressions, including infective endocarditis. Transcatheter aortic valve implantation (TAVI) is a new therapeutic approach indicated to patients with severe aortic stenosis and a high surgical risk, which recently tends to push this limits towards lower risk patients. **Objective:** We aim to present the therapeutic approach we have chosen in a 78 years old male patient, who underwent SAVR and developed both aortic valve stenosis and regurgitation secondary to infective endocarditis. **Material and methods:** A patient with a history of SAVR with a bioprosthetic valve, aortocoronary bypass of the right coronary artery, and infective endocarditis of the bioprosthetic aortic valve in 2015, was admitted to the Cardiovascular Emergency Institute 3 years later complaining of fatigue at low effort. Both transthoracic and transesophageal echocardiography (TEE) revealed a severe stenosis (mean gradient >40 mmHg) and a severe transprosthetic regurgitation of the aortic bioprosthetic valve, left ventricle hypertrophy, enlargement of the left ventricle and atrium, moderate mitral regurgitation and a moderate pulmonary hypertension. Due to the high-risk for surgical correction (age>75, second open heart surgery, infection of the tissue valve after SAVR, presence of aortocoronary by-pass) we referred the patient to interventional cardiology for TAVI procedure. **Results:** Valve in

valve TAVI procedure was successfully performed, post-operative TEE indicating a significant improvement of echocardiographic parameters (transvalvular gradient=28/16 mmHg, mild mitral regurgitation) and a minor paravalvular leak. **Conclusions:** TAVI is a fast developing technique with a continuous decrease in complications and mortality rates, while SAVR mortality remained unchanged. TAVI is associated with a significant survival benefit throughout a 2-year follow-up compared to SAVR, not only in high risk patients, but also in intermediate risk group.

**Keywords:** Transcatheter aortic valve implantation, surgical aortic valve replacement, aortic stenosis, infective endocarditis

## EXTRAHEPATIC PORTAL VEIN OBSTRUCTION IN CHILDREN: A CASE REPORT

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**Background:** Extrahepatic portal vein obstruction (EHPVO), although rare in children, is one of the most important causes of noncirrhotic portal hypertension (NCPH) among children. The incidence of EHPVO is estimated to be 0,72/million. The initial clinical manifestation can be represented by upper gastrointestinal bleeding, splenomegaly or ascites. In children, identified risk factors of EHPVO are neonatal vein catheterization, umbilical cord infections, blood transfusions, sepsis, dehydration and coagulation abnormalities. **Objective:** To present the case of a 9 years old female patient who was hospitalized in a regional hospital with abdominal pain and diarrhea. Two days later she was transferred to our hospital with the suspicion of a malignant hematologic disorder due to important splenomegaly. **Material and methods:** At the admission in our hospital the clinical exam revealed ponderal hypotrophy and splenomegaly. The patient history determined: small for gestational age, acute fetal distress, perinatal asphyxia, neonatal sepsis, resuscitated cardiac arrest at 2 days of life, cerebral hemorrhage and umbilical vein catheterization. Laboratory findings revealed signs of mild microcytic normochromic anemia associated with thrombocytopenia and leukopenia. The abdominal ultrasonography and color Doppler showed portal vein cavernous transformation, important splenomegaly (123mm), accessory spleen and normal hepatic parenchyma. The upper endoscopy determined 1st grade esophageal varices. The investigations for thrombophilia revealed deficiency of Protein C. **Results:** The diagnosis of EHPVO was based on splenomegaly, thrombocytopenia due to hypersplenism and the portal cavernoma. Sepsis and umbilical vein catheterization in neonatal period associated with deficiency of protein C were the risk factors for EHPVO in our patient. **Conclusions:** EHPVO represents a rare disorder in children having similarities with the malignant hemopathies. NCPH represents an uncommon cause of portal hypertension in children and the main cause is represented by EHPVO. The major risk factor is represented by the umbilical vein catheterization, therefore close follow up should be conducted in these cases.

**Keywords:** portal cavernoma, noncirrhotic portal hypertension, umbilical vein catheterization

## A DIFFICULT CASE OF LIVER CIRRHOSIS SECONDARY TO WILSON'S DISEASE AND LEPTOSPIRA INFECTION

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**Background:** Cirrhosis is the pathologic end-stage of any chronic liver disease, characterized by fibrosis and conversion of normal liver architecture to structurally abnormal nodules known as regenerative nodules. **Objective:** The aim of our presentation is to highlight the complex etiological factors leading to liver decompensation. **Material and methods:** We are reporting the clinical case of a 33-years-old female patient, who was admitted in the Institute of Gastroenterology and Hepatology Iasi, presenting an edematous ascitic syndrome, without any past medical history. In the context of clinical, biological and imaging data, the diagnosis of cirrhosis was suspected, without an established etiology, however excluding viral, toxic and malignant causes. During hospitalization, the patient developed a nitrogen retention syndrome, and was therefore transferred to the Nephrology Clinic for hemodialysis, where further investigations (abdominal CT, autoimmune markers) were conducted in order to establish the etiology. Anti-LC1 antibodies specific for type 2 autoimmune hepatitis have

been identified but not all of its criteria were met. Subsequently, the patient underwent a diagnostic laparoscopy, which confirmed the diagnosis of liver cirrhosis with advanced fibrotic changes. Copper and ceruloplasmin levels were also investigated, revealing significant changes, which have led to the suspicion of Wilson's disease, although in the absence of the Kayser-Fleischer ring and of any neurological manifestations. Additionally, anti-leptospiral antibodies were measured with increasing serum levels from 1/100 to 1/400. **Results:** It was concluded that hepatic decompensation occurred in the context of the pre-existing Wilson's disease, to which a *Leptospira* infection was associated. **Conclusions:** This case illustrates the fact that liver cirrhosis embraces a wide spectrum of etiological factors, the association of which can be challenging, requiring an organized and systematic approach. As the existing medical literature provided only few documented reports of a leptospirosis infection associated with Wilson's disease leading to severe liver dysfunction, this case encourages further investigation.

**Keywords:** Wilson's disease, leptospirosis, cirrhosis

## SEPSIS, A PATHOPHYSIOLOGICAL ENTITY: FROM INFLAMMATION TO COAGULATION AND BACKWARDS

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**Background:** Sepsis is a life-threatening entity, caused by an abnormal host response to an infection due an excessive activation of inflammation and massive cytokine release. Simultaneous activation of coagulation cascade through various mechanisms will close this vicious circle maintaining inflammation. **Objective:** Correlation of inflammation and coagulation parameters in septic patients regarding to bacterial etiology and evolution through septic shock and MSOF (Multisystem Organ Failure). **Material and methods:** We've done a prospective observational study involved a number of 56 patients admitted to the ICU, during Jan-Sept 2018. We monitored clinical evolution and pro-inflammatory markers, coagulation parameters, bacterial etiology and associated therapies in dynamics. **Results:** 64% of patients presented gram-negative infection, most of them were abdominal (53%), and pulmonary (18%). The mean values of the INR over the monitoring days were: 1.43±0.53 □ day 1, 1.55±0.85 □ day 2, 1.46±0.5 □ day 3. The mean values of aPTT were: 36.98±15.45, 35.33±9.4, 35.17±12.7. There was no significant difference between INR, aPTT and prothrombin activity depending on the germs involved (gram positive vs gram negative) in the first five days. The following significant correlations have been identified: between PCT and CRP values in first day (r=0.436), CRP and aPTT second day (r=0.276), PCT and aPTT third day (r=0.337). PCT values of all three days are statistically significant correlated with protein and albumin levels (day 1 □ r= -0.334, day 2 □ r= -0.463), day 3 □ r= -0.45). **Conclusions:** The activation of inflammation and coagulation cascade are mutually reinforcing, causing early evolution of sepsis to MSOF. Early intervention with interruption of the pathophysiological mechanisms improves ad vitam prognosis.

**Keywords:** sepsis, inflammation, coagulation, MSOF

## BEYOND THYROID ENLARGEMENT IN AN ADULT FEMALE

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**Background:** Primary thyroid lymphoma (PTL) is a rare, heterogeneous, Hashimoto thyroiditis (HT)-related condition, accounting 5% of thyroid cancers, women being more affected. The diagnosis is challenging and the clinical evolution mimics other thyroid malignancies. **Objective:** We aim to introduce a case of HT-related PTL presenting with rapid thyroid enlargement. **Material and methods:** This is a case report. Endocrine, imagery and hematologic assessments are provided. The patient's consent is obtained. **Results:** A 49-year old female known with HT was admitted to the emergency room with compressive symptoms caused by a cervical mass rapidly growing for last 3 months. She had severe anaemia: hemoglobin 6.9g/dL and autoimmune myxedema: TSH 25μUI/mL (Normal:0.5-4.5), anti-thyropoxidase antibodies 1000UI/mL (Normal<34UI/mL). Ultrasound and computed tomography showed heterogeneous thyroid, with a left lobe nodule of 5 cm and latero-cervical lymph nodes. Fine needle aspiration showed thyroiditis-related chronic inflammation, hyperplasia of germinal centers, possible lymphomatous degeneration (BETHESDA 5) without accurate diagnosis. Immunohistochemistry (IHC) was positive for CD10, and CD20 in B cells with high Ki67, but no precise diagnosis was feasible. Due to local

compression, the patient underwent total thyroidectomy with tracheostomy, complicated with severe hypocalcemia requiring large doses of vitamin D and calcium. Substitution levothyroxine was started. Pathological report confirmed a diffuse large B-cell lymphoma and chemotherapy was started. Post-operative IHC revealed a Ki67 of 80%. **Conclusions:** This case confirms the association of HT-PTL both involving B-cells. The most important differential diagnosis was anaplastic thyroid cancer. Particular aspects of the case are: the rapid tumor growth at presentation; the association with severe anaemia related to the myxedema but also to hematologic malignancy itself; the difficulties of diagnosis since the cytological report and associated IHC could not point the exact condition and the need for surgery as first-line therapy due to clinical evolution.

**Keywords:** Thyroid lymphoma, Hashimoto thyroiditis, myxedema, thyroid

## COCAINE- A MAJOR PUBLIC HEALTH PROBLEM WITH MULTIPLE MECHANISMS LEADING TO ISCHEMIC STROKE IN YOUNG PATIENTS

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**Background:** Potential mechanisms involved in cocaine-induced stroke include vasospasm, cerebral vasculitis, enhanced platelet aggregation, cardioembolism and hypertensive surges associated with altered cerebral autoregulation. **Objective:** The aim of this paper is to present a strong association between a grave life threatening disease with multiple possible mechanisms induced by a major public health problem. **Material and methods:** We present the case of a 20-year-old female patient with a history of borderline disorder, degenerative mitral valve disease with severe mitral regurgitation, alcohol and drug addiction with intravenous cocaine, cannabis and tobacco who was admitted in the Emergency Medicine Department of Montpellier after being found unresponsive at home. 14 days before, she was brought in the same department for a right upper paresis after a cocaine plug. **Results:** On admission, the neurological exam revealed aphasia, right-sided hemiparesis, right homonymous hemianopsia with a NIH Stroke Scale of 26, the Glasgow Coma Scale of 7 and negative Babinski's and Hoffman's reflexes. Also, meningeal syndrome, fever (39,9°C) and Claude-Bernard-Horner syndrome have been found. Abnormal findings in the cerebrospinal fluid were: 24 cells/mm<sup>3</sup> (100% polymorphonuclear leukocyte) with negative bacterial culture, indicating a diagnosis of aseptic meningitis. The MRI highlights a middle cerebral artery and an anterior choroidal artery stroke on the background of an occlusion of the post bulbular segment of the left internal carotid artery. To establish dissection or cardioembolic etiology of carotid occlusion, a transesophageal echocardiography and angiography of the neck were performed. The negative blood culture and transesophageal echocardiography excluded infectious endocarditis suspected due to cocaine toxicity, but the last one resulting in mitral valve prolapse with mitral regurgitation supports the cardioembolic etiology. At the same time, angiography of the neck showed left extracranial internal carotid artery dissection, an etiology sustained by the presence of Horner's syndrome. Orotracheal intubation was required for airway rehabilitation, followed by antiplatelet and antibiotic treatment. **Conclusions:** Cardiac embolism and arterial dissection represent frequent underlying pathophysiology for ischemic stroke in young patients with cocaine abuse.

**Keywords:** cocaine, carotid artery dissection, cardiac embolism, ischemic stroke

## IGA MULTIPLE MYELOMA WITH ACUTE KIDNEY INJURY AND VASCULAR PURPURA, A RARE ASSOCIATION

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**Background:** Multiple myeloma (MM) is characterized by the neoplastic proliferation of plasma cells producing a monoclonal immunoglobulin (Ig), with medullar infiltration. Myeloma nephropathy is the most frequent renal complication of MM. It was reported that IgA myeloma can lead to Henoch-Schönlein purpura and IgA nephropathy, although the glomerular IgA deposition in MM is extremely rare. **Objective:** To assess the case of a patient with multiple myeloma and purpura, who rapidly progressed up to renal failure. **Material and methods:** We present a case of a patient with multiple myeloma with no history of renal disease. The main reason for hospital admission was acute kidney failure. He started with creatinine 5,82 mg/dl and it increased to 9,08 mg/dl over a



three-day period, with the stipulation that creatinine had a normal value prior hospital admission (1,04 mg/dl). During the hospitalization vascular purpura occurred on the lower limbs and inferior part of the abdomen and, so, it has been discussed the causes of purpura: allergic (to antihyperuricemic drugs and corticosteroid therapy), thrombocytopenic purpura associated with multiple myeloma (Platelets=  $38 \times 10^3 \mu\text{L}$ ) or IgA vasculitis, Henoch-Schonlein purpura. **Results:** The patient accuses severe bone pains which lead to an IRM investigation without contrast substance and revealed a nodular vertebral lesion L2 and osteolytic lesions on sacroiliac bone. Other paraclinical findings: increased ESR, anemia, proteinuria  $>3 \text{ g/day}$ , hypercalcemia and hyperuricemia. In order to complete the diagnosis was done sternal puncture which confirmed the diagnosis of MM. **Conclusions:** The prognostic is more reserved to the patients for whom the renal function cannot be recovered in the first days of therapy, that is why for this case has been discussed initiating hemodialysis, but finally, was not needed. The particularity is the appearance of vascular purpura, a rare finding in MM, which added a special note to the diagnosis and evolution of this case.

**Keywords:** Multiple myeloma, Kidney failure, purpura, proteinuria

## HUMAN PAPILLOMA VIRUS IN INFANTS: A CASE REPORT

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**Background:** The human papilloma virus (HPV) infects epithelial cells of skin and mucous membranes. HPV can be transferable from human to human by direct skin contact or through objects and the general names for the specific lesions are warts or verrucae. The clinical appearance and distribution is highly variable. Genital and peri-genital infection in infants is less frequent than in adults. High-risk HPV types have a strong association with carcinogenesis. **Objective:** This paper presents the case of a 2 year old male patient who was sent from the pediatrics section for the occurrence of multiple skin lesions in peri-genital area. **Material and methods:** Clinical investigation laid out the presence of cauliflower-shaped tumoral masses in the peri-genital region, and filiform scalp verrucas. There was no evidence of sexual abuse. Serology for VDRL, ITS and anti-HIV antibodies came back negative. At the clinical exam of the caring adult, the aunt responsible for the patient presents bilateral verrucas on both hands, therefore the possible way of transmission is heteroinoculation. **Results:** The patient was treated with Podophyllotoxin 0,5% and Isoprinosine 50 mg/body kg/day, having a positive evolution. Further check-up during the next year is necessary to establish the complete disposal of the virus. **Conclusions:** Several studies demonstrated that over 45% of the penile cancer patients are HPV positive. In younger men, the virus can also cause infertility. The HPV quadrivalent vaccine, can prevent penile cancer and infertility. Therefore, the HPV vaccine is recommended both to women and men, to prevent cancer as well as the infection itself. As the vaccine is more effective if given before the sexual active life, it makes sense to vaccinate boys and our case will be followed and consider vaccination after the age of 9.

**Keywords:** HPV, infants, vaccine

## SEVERE HYPONATREMIA IN A CASE OF HEPATOCELLULAR CARCINOMA DUE TO HEPATITIS C VIRUS INDUCED CIRROSIS

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**Background:** Hyponatremia is the most common water-electrolyte imbalance with a higher incidence in females and elderly. Severe hyponatremia is defined as a sodium concentration of less than 125 mmol/L. Although this condition is not uncommon, hunting for its etiology is a challenging issue for any clinician. **Objective:** Presenting a case of severe hyponatremia due to hepatocellular carcinoma (HCC). **Material and methods:** The patient is a 60-year old woman known with hypertension, smoker, stage II Chronic Obstructive Pulmonary Disorder, osteoporosis, hypothyroidism, right parathyroidectomy. She showed up at the emergency section of the County Emergency Hospital Mures with seemingly neurologic related symptoms such as: confusion, memory loss and epileptic seizures. We conducted a native cranial computer tomography (CT) which showed no intracerebral or cranial lesions. The blood tests showed severe euvoletic hyponatremia (109mmol/L) so we started correcting it with NaCl 0.5-1 mEq/h and prescribed symptomatic treatment. An abdominal ultrasound examination (US) showed

hepatomegaly, inhomogeneous, macronodular echostructure with a suspicion of cirrhosis associated with HCC. Superior digestive endoscopy marked out bulbitis and stage II esophageal varices. We suggested undergoing an abdominal CT scan and blood tests for hepatitis C virus (HCV) and alpha-fetoprotein. **Results:** The abdominal CT confirmed the HCC suspicion with the presence of a replacement process of the central hilar space and showed a complete thrombosis of the portal vein at hepatic hilum level. The HCV was confirmed but with normal levels of alpha-fetoprotein 4.61IU/ml. After treatment, the ionogram was in normal limits and the epileptic seizures have disappeared. **Conclusions:** While hyponatremia is corelated with HCC, its complex etiology makes it difficult to diagnose. In the presented case the localization of the HCC and the normal values of alpha-fetoprotein limit the therapeutical possibilities.

**Keywords:** Hepatocellular carcinoma (HCC), Hyponatremia, Alpha-fetoprotein (AFP), Hepatitis C virus (HCV)

## POTT'S DISEASE STILL A CHALLENGE NOWADAYS

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**Background:** Despite the worldwide important diminution of tuberculosis (TB) endemic, Pott's disease still could be met in regions with high TB prevalence in population with risk factors for transmission and host immunodepression. **Objective:** Presentation of the difficulties in diagnosis and treatment in a Pott's disease. **Material and methods:** Case report of a complicated case of Pott's disease. **Results:** A 54 year-old male (heavy smoker, alcohol user) was hospitalized in Nephrology Clinic for thoracic pain, weight loss, and polakiuria. He took antibiotics and anti-inflammatory drugs without benefit. The pneumological consultation and the thoracic CT-scan raised suspicion of a TB osteo-discitis. Magnetic resonance imaging (MRI) confirmed Pott's disease with D4-D7 osteolysis, paravertebral abscesses, posterior protrusion and a pleural effusion. Neurologic and orthopedic consults established the lack of neurologic deficit but recommended surgery (for disease confirmation, abscess drainage, and local stability increasing). The patient refused the intervention such as it was recommended a corset (for 2 months) and wide reevaluation. We started antituberculous antibiotic regime (isoniazid, rifampin, pyrazinamide, and ethambutol) but the patient develop after 2 weeks a drug-induced liver diseases that required antibiotics interruption and hepatoprotectors. In the present the patient is ongoing the standard antibiotic regime for 9 months and the corset with good tolerance and important clinical improvement. **Conclusions:** Histopathological/bacteriological confirmation is very difficult in vertebral TB. In our case the diagnosis was possible by the association of the clinical examination and the suggestive CT/RMI imaging. Despite the late presentation in the medical service and the advanced stage diagnosis, the complex antibiotic and orthopedic treatment avoided the neurological complication, permitted mobilization and the way to recovery. Close long time complex monitoring and reevaluation will be necessary. Management of Pott's disease needs a multidisciplinary approach for diagnosis and treatment (pulmonology, imaging, orthopedic, surgery, neurology, rehabilitation).

**Keywords:** Pott's disease, Late diagnosis, Multidisciplinary team

## CORRELATIONS BETWEEN BASELINE INFLAMMATORY STATUS, LEFT VENTRICULAR FUNCTION AND ADVERSE REMODELING IN ACUTE MYOCARDIAL INFARCTION – A MRI FOLLOW-UP STUDY

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**Background:** While systemic inflammation role in coronary plaque destabilization process which leads to acute events is well established, the impact of inflammatory-mediated effect on the extension of ventricular remodeling and scarring has not been elucidated so far. **Objective:** We aim to investigate the correlations between inflammatory status, assessed by hs-CRP baseline levels, left ventricular performance and adverse remodeling at 1-month follow-up, evaluated via cardiac magnetic resonance (CMR). **Material and methods:** 75 patients admitted with acute myocardial infarction (AMI) were enrolled and divided into 2 groups based on day 1 hs-CRP levels, after setting the cut-off value for hs-CRP at 2 mg/dl, as follows: group 1 (n=17) - low hs-CRP and group 2 (n=58) - high hs-CRP. Cardiac magnetic resonance (CMR) was performed at 1-month follow-up after AMI, in order to assess left ventricular ejection fraction, diastolic and systolic remodeling percentage. **Results:** High hs-CRP group presented a significantly lower ejection fraction (57.75 +/- 3.15 %) as compared with low hs-CRP group

(49.64 +/- 1.53), p=0.07. CMR based percentage of diastolic remodeling was 0.14+/-0.02 % in group 1 vs. 0.25+/-0.05 % in group 2, p=0.0051. A systolic remodeling percentage of 0.18+/-0.04 was obtained in group 1 as compared with 0.29+/-0.04% in group 2, p=0.02. **Conclusions:** Increased inflammatory status in day 1 after AMI is associated with adverse remodeling and more severe impairment of left ventricular function.

**Keywords:** Inflammatory status, Cardiac magnetic resonance, Adverse remodeling

## COMPLETE ABSENCE OF CARDIAC ELECTRICAL ACTIVITY AND LONG MYOCARDIAL REFRACTORY PERIOD IN A PATIENT WITH DILATED CARDIOMYOPATHY

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**Background:** Failure to capture is the inability of a pacemaker stimulus to depolarize the myocardium and a life-threatening scenario in a pace-dependent patient. Several causes can be incriminated, among which programming of the device, elevated myocardial threshold, or exit block due to dyselectrolytemia. **Objective:** The purpose of this case report is to discuss long ventricular refractory period as a cause for failure to capture in a patient with absent cardiac electrical activity. **Material and methods:** We present the case of a female patient with a family history of sudden cardiac death in a sister with complete atrioventricular block and implanted pacemaker. At the age of 26, the patient was diagnosed with dilated cardiomyopathy and binodal disease and a single chamber VVI pacemaker was implanted. The patient underwent cavo-tricuspid isthmus ablation for atrial flutter, and right after the reentry circuit was interrupted, there was a complete absence of atrial and ventricular electrical activity. In the context of permanent pacing, heart failure symptoms and a left ventricle (LV) ejection fraction of 40%, the pacemaker was upgraded to a triple-chamber pacemaker for cardiac resynchronization therapy(CRT). Two years later, the patient complained of paroxysmal episodes of dyspnea and intermittent right ventricle only paced QRS complexes were observed on the ECG, with failure of capture on the LV lead, without an increase of the stimulation threshold. During threshold testing, capture was observed at a rate of 60 bpm, but no capture at higher pacing rates, which raised the hypothesis that the failure to capture on the LV lead is due to a very long refractory period of the myocardium. **Results:** As no treatable cause was identified, the device was programmed in DDD mode, at 60 bpm, with frequent follow-up for early identification of changes in capture status. **Conclusions:** Failure to capture due to myocardial refractoriness might be a cause for ineffective CRT.

**Keywords:** cardiac resynchronization therapy, myocardial refractoriness, failure to capture, dilated cardiomyopathy

## HYALURONIDASE EFFICACY IN TREATING KELOID SCARS, A CASE REPORT

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**Background:** The keloid appears as a result of overgrowth of a tissue and tend to be greater than the original wound, affecting normal skin. In the histopathological section, a hyperkeratinised epithelial layer is observed with chaotically arranged collagen fibers. Hyaluronidase has been used successfully in ophthalmic surgery in combination with a local anesthetic and today it appears to have an important adjuvant role in the treatment of keloids. **Objective:** The main objective of this paper is to highlight the benefits of hyaluronidase, an enzyme that has the ability to break the fibrous adhesions, in treating the lesion of keloids, lowering the symptoms of pain and pruritus. In this paper we present a case report and compare the treatment schedule with published literature data in order to assess treatments efficacy and safety. **Material and methods:** A female aged 24 tried for several years different treatments to improve the aspect of a keloid scar without relevant results. Treatment schedule has included topical or intralesional corticosteroid administration, which was meant to treat the itching, redness and discomfort due its anti-allergic, anti-inflammatory and proteolytic activity. She was treated with betamethasone, the most used corticosteroid according published studies, without notable results. Another ineffective approach was silicone based patches used with the aim to stop the growing of the scar, but they have failed. Then surgical excision was performed, followed by topical silicone gel treatment for 3 months, yet this involved the appearance of a new bigger scar. The cryotherapy was also inefficacious. **Results:** The most effective treatment was a combination of intralesional triamcinolone acetonide followed by hyaluronidase injection, used to complete the

healing after corticosteroid therapy. **Conclusions:** Nowadays, hyaluronidase is also used in dermatology single (in the case of small scars) or combined with corticosteroid therapy (in severe keloid scars), combining the two treatments giving the best results.

**Keywords:** keloid, hyaluronidase, fibroproliferative disorders, triamcinolone acetonide

## TIEZE SYNDROME MASKED BY CERVICAL HERNIA

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**Background:** Tietze syndrome is a rare, non-suppurative, inflammatory disease, with higher incidence under the age of 40. It is characterized by chest pain and swelling of the costochondral or sternoclavicular joints. This syndrome is benign, so it may resolve itself without treatment. The exact cause is still unknown. **Objective:** Presenting a case of Tietze syndrome associated with Cervical Hernia, thus pinpointing the importance of diagnosing this rare condition and where the pain may occur. **Material and methods:** A 39-year-old female, current smoker (20 pack-years), presented to the family medicine department complaining of severe cervical pain with sudden onset, radiating to the left shoulder, especially after intense physical activity. We also observed the swelling of left sternoclavicular joint. The patient refused hospitalisation, so we had to find the cause of the pain and the best possible therapy considering the limited financial resources of the patient. We referred her to a cardiology consult which excluded myocardial ischemia. Then, based on Magnetic Resonance Imaging (MRI) which showed cervical disk herniation at C4/5, C5/6 level, she was prescribed 3 sessions of Computed Tomography (CT) guided infiltration, abnormally with no amelioration of the pain. After 4 months of investigations and ineffective treatment we referred her to the rheumatology department. She was diagnosed with Tietze Syndrome and received a Nonsteroidal Anti-Inflammatory Drug treatment. **Results:** The patient's symptoms almost completely disappeared after 10 days of treatment. These results indicate a particular case of this rare syndrome in which the pain was felt in the cervical region instead of thoracic as mentioned in the literature. **Conclusions:** Tietze syndrome should be considered as a cause of pain, especially in young patients under the age of 40. Early diagnosis of this disease may provide better pain management and it sure would reduce the cost and time put into unnecessarily investigating other diseases.

**Keywords:** Tietze Syndrome, Cervical Hernia, Cervical pain

## CHANGES IN ARYLSULFATASE B LEVELS IN PATIENTS TREATED WITH HEMODIALYSIS

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**Background:** Coded by the ARSB gene, a lysosomal enzyme, called Arylsulfatase B (N-acetylgalactosamine-4-sulfatase) is responsible for the breakdown of sulfatides from glycosaminoglycans (GAGs). Specifically removes the 4-sulfate group from chondroitin sulfate and dermatan sulfate. Pseudo-deficiency in different chronic diseases like chronic kidney failure has been described without knowing the exact molecular mechanism in such pathology. **Objective:** To evaluate the serum levels of the Arylsulfatase B (ARSB) in patients with chronic kidney disease under hemodialysis treatment. **Material and methods:** 58 serum sample was examined from patients treated with hemodialysis (HD). Peripheral blood sample was collected in sodium heparin tubes. The serum was isolated by spinning the blood tubes in a centrifuge at 2500 RPM for 10 minutes at room temperature. Until further processing, samples were stored at -20 degree. The method of enzyme detection is based on a 4-hour long hydrolysis of the Arylsulfatase B on the 4-nitrocathecol sulfate (p-NCS) and blocking the reaction with barium acetate. **Results:** Regarding ages and sexes no significant difference was observed. 26 patients out of 36 who spent less than 5 years under HD treatment had low ARSB level (<0.09 nmol/4h) while 17 patients out of 22 who had spent more than 5 years on HD treatment had high ARSB level (p=0.0004). KT/V index vs ARSB levels showed significant difference pointing out that most of the patients with accurate KT/V index (>1.2) had low ARSB level (p=0.04). Comparing etiology, most of the renal cases had high ARSB levels while those with non-renal etiology had low ARSB levels (p=0.02). **Conclusions:** Based on the results can be concluded that long distant metabolic disorders can higher the level of ARSB in the blood, while accurate dialysis treatment can normalize

it. Most of the cases with non-renal etiology had low ARSB levels, pointing out the fact that probably chronic renal disease can influence this enzyme level without knowing the precise pathophysiology of it. This work was supported by the Collegium Talentum 2018 Programme of Hungary.

**Keywords:** ArylsulfataseB, ARSB, Hemodialysis

## A CHALLENGING MANAGEMENT OF GASTRIC POLYPOSIS - CASE REPORT

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**Background:** Gastric polyposis, a rare entity is related to a series of pathologic conditions that may vary in histological aspect, potential for neoplasia and clinical approach. There is a deficiency of publications regarding therapeutical decisions and management. **Objective:** This paper has the position to emphasize a very difficult decision that an endoscopist has to take regarding the management and follow-up of a patient with a large number of gastric polyps. **Material and methods:** We report a case of a 63 years old woman diagnosed with gastric polyposis, in order to disclose her clinical course and to establish a demanding therapeutical decision. **Results:** The woman was admitted in the Gastroenterology Clinic I Tîrgu Mureş in march 2018, for flatulence (bloating), nausea and vomiting. The clinical exam revealed a patient in a relatively good overall condition. The laboratory tests unveiled a mild anemia. Endoscopic gastric investigations that took place, brought out that in the antrum, prepyloric, a 10x10mm high sessile polyp was found and multiple polyps between 5 and 8 mm in size, with fibrin coated cushion. Corpus, fornix with numerous polyps; sizes between 5x5mm and 10x15mm. Polypectomy was established for 3 times, initially for 1 polyp, laborious recovered and biopsied, the second one for 5 and last one for 8 polyps, also asociated with biopsy. The histopathological examination for all fragments to be investigated showed up that all polyps presented were hyperplastic polyps. **Conclusions:** Regarding gastric polyposis management, decisions are very hard to take. We recommend the total gastrectomy or sub-total gastrectomy as therapy, given the huge number of polyps and their possible risk of malignancy and also to avoid further anemia by occult blood loss. Furthermore, a regular, systematic endoscopic surveillance associated with polypectomy would bring only few positive results in this particular case.

**Keywords:** gastric polyposis, polypectomy, total gastrectomy, management

## FATAL MUSHROOM INTOXICATION IN A 9-YEAR-OLD GIRL

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**Background:** It is estimated that there are over 5000 species of mushrooms worldwide. Of these, only up to 25% have been named, and 3% are poisonous. Their toxicity depends on the type of mushroom, the amount and age of the mushroom, the season, the geographic location and the way in which the mushroom was prepared prior to ingestion. The symptoms of mushroom intoxication may result in organ failure and death. **Objective:** The objective of this paper was to underline the severe outcome of mushroom intoxication in child. **Material and methods:** We report the case of a 9-year-old girl diagnosed with mushroom intoxication underlining the clinical course and the management of this condition. **Results:** The 9-year-old girl was admitted in the Pediatrics Clinic 1 Tîrgu Mureş for nausea, abdominal pain, and diarrheic stools after consuming wild mushrooms. The clinical exam revealed influenced general status, dry lips, diminished cutaneous turgor, and abdominal tenderness. The laboratory tests showed leukocytosis (18740/ $\mu$ L), thrombocytosis (517000/ $\mu$ L), and elevated transaminases (aspartate aminotransferase-AST 120 U/L, alanine aminotransferase-ALT 167 U/L). She benefited from gastric lavage, activated charcoal, and we initiated high doses of Penicillin by vein, gastric and liver protectors. The patient's condition worsened, and after approximately 48 hours, she developed a severe hepatic cytolysis syndrome (AST >10000 U/L, ALT 9988 U/L), lactate dehydrogenase 10312 U/L, creatine kinase 1431 U/L, conjugated hyperbilirubinemia (T<sub>Bi</sub> 4.924 mg/dL, D<sub>Bi</sub> 4.405 mg/dL, LDH 10312 U/L), hyponatremia (121 mmol/L), renal dysfunction (creatinine 1.14 mg/dL), hypoglycemia 29 mg/dl, and impaired coagulation tests. She was transferred to the intensive care unit, where she benefited from therapeutic plasma exchange, but unfortunately she died within 24 hours. **Conclusions:** Public education regarding the consumption of wild mushrooms is essential for decreasing the mortality and morbidity related to this condition.

**Keywords:** mushroom intoxication, child, multiple organ failure

## STEROID DEPENDENT NEPHROTIC SYNDROME, A CHALLENGE IN APPROACH: A CASE REPORT

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**Background:** Pediatric nephrotic syndrome (NS) is one of the most frequent glomerular disease among children. NS is 15 times more common in children than in adults. NS is defined by the presence of nephrotic range proteinuria, hypoalbuminemia and hyperlipidemia. 70-80% of children with primary NS respond to steroid therapy, while the others 10-20% are steroid-resistant. Steroid dependent NS (SDNS) is defined by two consecutive relapses when on alternate day steroids or within 14 days of its discontinuation. **Objective:** We aim to present the case of a 2-year-old male child, known with NS since the age of 1, on chronic steroid treatment, admitted at pediatrics department with multiple relapses. **Material and methods:** The patient was admitted with the complaints of facial puffiness, pedal edema and loss of appetite. On physical examination pedal edema, pallor, moon face and hirsutism were present. His blood reports revealed hypoalbuminemia (1.28 g/dL), hyperlipidemia (cholesterol-438.1mg/dL, triglycerides-379.4mg/dL), hypocalcemia (2.01 mmol/L), thrombocytosis (659.000/microliter), normal urea and creatinine level (30.4 mg/dl and 0.24 mg/dl). Urine analysis showed proteinuria (500 mg/dl). The abdominal ultrasound reveals the presence of rectovesical ascites for which the patient received albumin 20%. Due to his multiple relapses and clinical presentation, pulse steroid therapy (metilpredinsolone 300 mg) was given to him to obtain the remission. **Results:** Due to his multiple relapses (3) during tapering, the patient was diagnosed with SDNS. The patient has indication for renal biopsy to evaluate the prognosis and clinical approach. The patient will be treated with cyclosporine. Side effects of corticotherapy as thrombocytosis, hirsutism, hypocalcemia, moon face and weight gain were observed. **Conclusions:** SDNS is a true challenge in therapeutic approach and management, due to increased morbidity and complications, multiple side effects of corticotherapy and high costs of immunosuppressive and immunomodulator treatment.

**Keywords:** steroid dependency, pediatric, nephrotic syndrome

## UNKNOWN DEEP VENOUS THROMBOSIS-UNEXPECTED PULMONARY EMBOLISM

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**Background:** Pulmonary embolism(PE) is caused by the blocking of the pulmonary arterial bed. Often, the cause is a thrombus that migrates from the level of the lower limbs. The untreated evolution endangers the life of the patient all the more if the patient presents risk factors. **Objective:** Our intention is to present the case of a patient with PE in the context of an unknown DVT in patient presenting with altered mental status associated with other multiple affections. **Material and methods:** A 71 years female patient, obese, recently diagnosed with arterial hypertension , known with significant anxiety □ depressive disorder and repeated episodes of loss of consciousness presents at the emergency room. After the clinical and paraclinical investigations, she is diagnosed with acute PE and the patient is sent at the Medical Clinic II Emergency County Hospital. Here it is the suspicion of a acute coronary syndrome, that clinical was not sustained after all. During the hospitalization, the patient manifests a generalized epileptic tonic □□□□□□□□ seizure**Results:** Laboratory and paraclinical examinations showed at pulmonary CT angiography filling defects of the inferior lobar artery, middle right and the tributary segmental arteries. At echocardiography, left ventricular hypertrophy with good systolic function without right ventricular dysfunction and it can be observed ECG changes of ST-T segment in the inferior and anterior-lateral derivations .At venous ultrasonography, it was evidenced an old deep venous thrombosis (DVT) of the popliteal tibial spindle ,lower limb. A coronarography was recommended which was refused by the patient. Her evolution under treatment was favorable, but she requested her premature discharge. **Conclusions:** The interesting aspect of this case is that on the background of a poor symptomatology, loss of consciousness, leads to the diagnosis of unexpected PE, as unknown DVT consequence that was discovered, in a patient with altered mental status produced by antidepressants and anxiolytics overdose.

**Keywords:** Pulmonary embolism, Altered mental status, Antidepressants

## SILENT AORTIC DISSECTION: CASE REPORT

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**Background:** Aortic dissection is a life-threatening condition that involves the partial tearing of the intimal aortic layer, followed by blood entering the fold and extending it, resulting in the formation of a false lumen where blood is accumulated. **Objective:** This paper aims to emphasize the importance of detailed medical history and examination in acute conditions in order to determine the main pathology even if the definitive diagnosis lacks the primary signs. **Material and methods:** A 43-year-old, hypertensive male patient has been accusing chest tightness and dyspnea for six days before being admitted to the hospital. He presented profuse sweating and cough with pink frothy sputum while lacking fever and denied thoracic or abdominal discomfort. Laboratory findings showed increased D-Dimers, BNP, troponin and creatinine, echocardiography revealed left ventricular enlargement, aortic widening, aortic regurgitation, mitral regurgitation and decreased left ventricular compliance. He was diagnosed with hypertensive renal disease, arrhythmia, heart failure, lung infection, respiratory failure and type III hypertension. Within two days, his symptoms worsened and he was transferred to ICU where he was ventilated and received hemodialysis, antibiotic, antiarrhythmic, antihypertensive, heart and renal failure therapy. After three more days, his status improves and he was transferred to CCU unit where he undergoes CT and X-Ray, but without revealing any valuable informations. Despite the rigorous treatment, his oxygen partial pressure levels were still low, accompanied by superficial breathing. The patient denied the symptoms of chronic renal failure, so acute kidney failure was considered, therefore the blood pressures of lower extremities were compared and the left lower limb's systolic pressure was 40 mmHg lower than the right one and also significantly colder. CT angiography was performed. **Results:** Stanford B aortic dissection was diagnosed. **Conclusions:** Through this case, I tend to edify the importance of comprehensive analysis of all clinical data in determining the definitive diagnosis.

**Keywords:** Cardiology, Silent Aortic Dissection, Kidney Failure, Hypertension

## CHANGES IN THE LABORATORY PARAMETERS OF DIABETIC PATIENTS IN KETOACIDOSIS

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**Background:** Diabetic ketoacidosis is an acute metabolic disorder which occurs as a result of insulin deficiency and it is characterized by hyperglycemia, ketonemia and metabolic acidosis. **Objective:** The aim of the study was to evaluate the pathological changes of the laboratory parameters in patients diagnosed with diabetic ketoacidosis, and the complexity of their paraclinical assessment. **Material and methods:** The study was performed during January-October 2018 in Tîrgu Mureș, at the Department of Diabetology, Nutrition and Metabolic Diseases of the Emergency County Hospital. We collected demographic data and evaluated the first set of laboratory test results obtained after admission to the hospital, including electrolytes and parameters of metabolic balance performed on Cobas 6000, parameters of blood-gas analyzer, hemogram (CELLDYN 3700) and urine test results. **Results:** 27 diabetic patients, 59% male, were admitted to the hospital with ketoacidosis during our research period, 52% of them having type 2.37 % type 1, and 11% other types of diabetes mellitus. The average age of the patients diagnosed with ketoacidosis was 51.3 years +/- 15.70 (SD). The mean serum glucose level was 502 mg/dl +/- 196 (SD), the average pH value being 7.18 +/- 0.13 (SD). Correlation could be observed between pH and bicarbonate concentration ( $r=0.9114$ ,  $p<0.0001$ ) and between pH and base excess ( $r=0.8862$ ,  $p<0.0001$ ). 41% of the patients presented hyperpotassemia when admitted to the hospital. Ketonuria was between 15-150 mg/dl, 52% of the patients presented the highest value of this interval. 63% of the patients presented leukocytosis, the mean number of leukocytes being  $13.8 \times 10^9/L$  +/- 6.5 (SD) in the study group. **Conclusions:** Several changes of metabolic,

electrolytes and acid-base parameters could be observed in the diabetic patients presenting ketoacidosis, some of them being life-threatening imbalances, which require proper treatment and reevaluation. Most frequently infectious diseases could be the cause of the ketoacidotic state in the studied patients.

**Keywords:** diabetes mellitus, ketoacidosis, laboratory parameters

## RETROSPECTIVE STUDY OF CARDIOVASCULAR PATHOLOGY ENCOUNTERED IN THE DIABETIC PATIENT

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**Background:** Cardiovascular complications represent the main cause of death and disability in diabetic patients.

**Objective:** The present study aims the identification of the most commonly encountered cardiac pathologies in diabetic patients. **Material and methods:** We performed a retrospective study involving 356 patients with diabetes from SCJU Targu Mureș, 55.05% female and 44.94% male, hospitalized between 01.01.2018 and 31.12.2018. 82.02% of these patients were diagnosed with type 2 diabetes, 14.6% with type 1 diabetes, and 3.37% with secondary diabetes due to pancreatic disorders. As associated risk factors, 22.91% were overweight, 25.56% had grade 1 obesity, 11.79% grade 2 obesity, 6.17% grade 3 obesity, and 4.77% morbid obesity. Arterial hypertension was detected in 84.55% of the patients (8.98% grade 1, 63.2% grade 2, and 12.35% grade 3). **Results:** After data processing we obtained the following results: the most common pathology was chronic ischemic cardiopathy (in 4.49% of the patients with type 1 diabetes, in 54.77% of the patients with type 2 diabetes and in 1.12% of the patients with secondary diabetes), its frequency being higher in patients with insulin-requiring diabetes (81.33% of the cases). The most affected age category was between 61-70 years. 5.61% of the total number of patients had documented myocardial infarction in recent history, 8.98% had stable pectoral angina and 6.46% had atrial fibrillation, most of the complications being associated more frequently with type 2 diabetes. **Conclusions:** Cardiovascular pathology is commonly found in diabetic patients, the results being consistent with the data in the literature.

**Keywords:** Cardiovascular complications, Diabetes, Chronic ischemic cardiopathy

## THE IMPORTANCE OF ANGIO-CT IN ASSESSING MULTIPLE AORTIC ANEURYSMS

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**Background:** Aortic aneurysm represents a localized enlargement of the aorta greater than 1.5 times its normal size. It most commonly involves abdominal aorta, because of the difference in wall structure, which makes it more susceptible to damage. Aortic aneurysms mainly affect patients older than 50 years. Other risk factors are: smoking, atherosclerosis, obesity, diabetes and hypertension. It is usually asymptomatic unless complications occur, the most significant one being rupture of the aneurysm, which presents with severe thoracic or abdominal pain. **Objective:** To demonstrate the usefulness of contrast-enhanced CT scan in diagnosing aortic pathology, especially aortic aneurysm, and to evaluate the risks of its complications. **Material and methods:** It has been performed a non-contrast and contrast-enhanced CT scan, with both arterial and venous phases. It was administrated 100 ml of contrast agent (Optiray) with flow rate of 4 ml/s. **Results:** We present a case of a 62-years-old patient that was examined by a computed-tomography(CT). The non-enhanced CT scan revealed multiple enlargements at the level of aortic arch (50 mm diameter), descendent thoracic aorta (61 mm diameter) and abdominal aorta until the bifurcation (maximum diameter of 92 mm). The contrast-enhanced phase showed the presence of parietal thrombosis, with thickness up to 41 mm, at the level of abdominal aorta. **Conclusions:** Singular aortic aneurysms are common in patients older than 50 years, with predisposing factors. The particularity of this case is that this is a patient with multiple aortic aneurysms, which is less common.

**Keywords:** aortic aneurysm, CT, arterial phase



## THE IMPORTANCE OF EARLY IDENTIFICATION OF CRANIO-FACIAL DYSMORPHISM – AN “ALARM” SIGNATURE IN NEURO-PEDIATRIC PATHOLOGY

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**Background:** Facial asymmetry has been associated with neurological conditions explained by the close relationship during embryological development. Cranial neural crest cells influence the shape and morphological features of the face. The disruption of neuro- facial maturational and developmental processes can lead to long lasting abnormalities in central nervous system functions and structures accompanied with craniofacial dysmorphism. The etiology is diverse with infectious, toxic, traumatic origins, genetic etiologies may also lead to prenatal acting factors: chromosomal or non-chromosomal, with monogenic or polygenic determinism. **Objective:** Early identification of cerebral anomalies or malformations starting from a comprehensive dysmorphic examination as a necessary component of the evaluation of the child with neuropsychiatric disorder. **Material and methods:** Clinical pathology including children with mental or developmental delay as the first alarm sign, accompanied after months or years with seizures, hypotonia, spasticity, was investigated. The purpose was to elaborate a "Sign inventory" which includes cranium, face, forehead, nose, eyes, ears, lips, neck. Ecography, CT and/or cerebral IRM, genetic testing, where it was possible, were realized in order to identify cerebral anomalies. **Results:** Cranio □ facial dysmorphism is present in the majority of cases in correlation with cerebral malformations. The frequency of anomalies was observed in ears, eyes and nose areas. Single minor external modification was generally associated with minor inner cerebral abnormality, however multiple minor external modifications were predictive for inner serious problems: various agenesis or malformations. **Conclusions:** An optimal dysmorphic examination will include a focused evaluation for minor anomalies that might suggest an etiology or contribute to the recognition of a particular diagnostic pattern.

**Keywords:** dysmorphism, neurological and psychological disorders, craniofacial anomalies

## ERYSIPELAS BULLOUS EROSION AFTER INFECTION WITH B-HEMOLYTIC GROUP A STREPTOCOCCUS

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**Background:** The causing agent of erysipelas is  $\beta$ -hemolytic group A Streptococcus. Normal evolution of erysipelas is toward spontaneous healing after a few weeks. Immunosuppressed patients can have a particular aggravating evolution in the absence of treatment that can end in death in 50% of the cases. **Objective:** A 70 year old patient presents shivers, fever and inflammatory plaque situated on the left calf. The acute episode debuted one week prior to hospitalization evolving with alteration of the general state, followed by the development of a painful inflammatory plaque, with a small quantity of edema, pruritic, with skin flap and white-gray scumous tissue. The patient also presented intertrigo between second and third interdigital spaces. Past medical history includes hypertension class 2, angina pectoris and an old myocardial infarction. **Material and methods:** Laboratory test results concluded in high values of ESR, leukocytes, serum fibrinogen, presence of C reactive protein and modifications in serum proteins electrophoresis with a high level of  $\alpha$ -globulins suggesting the presence of inflammation. High level of ASLO titre suggested a recent infection with Streptococcus. **Results:** The patient has been treated with Penicilin G and Benzpenicilin injected intramuscular for bacterial infection, NSAID Diclofenac for inflammation, Furosemid for edema and Pentoxifilin for microcirculation improvement. **Conclusions:** The particularity of this case consists in the occurrence of a first episode of erysipelas in a bullous form of erosion at an old patient based on several insufficiently investigated immunological suppressions. The entrance gate was the neglected mycotic intertrigo, having a slow but favorable evolution under treatment, without further systemic complications.

**Keywords:** erysipelas, postbullous erosion, streptococcus

# POSTER - DENTAL MEDICINE

## ESTHETIC MANAGEMENT OF DENTAL FLUOROSIS: A MINIMALLY INVASIVE APPROACH - CASE STUDY

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**Background:** Today's dental materials promise efficiency, rapid improvement or even complete removal of defects through minimally invasive techniques in treating dental fluorosis. **Objective:** We have evaluated the efficiency of treating dental fluorosis stains affecting the incisal thirds of the maxillary central incisors, which occurred after an incorrect treatment with fluoride. **Material and methods:** A case study on a 23-year-old patient with dental fluorosis characterized by opaque white stains on the upper central incisors (1.1, 2.1) and on the molar cusps caused by hypomineralization of tooth enamel, induced by ingestion of excessive fluoride during enamel formation. Our patient used two fluorine-containing pharmaceuticals simultaneously (tablets and syrup) prescribed by her family doctor, since the age of two months until she reached the age of two years, then stopped abruptly the treatment. By following a resin infiltration technique available in today's dental world, our goal was to solve this esthetic issue with a minimally invasive, conservative treatment. The kit used for the infiltration technique contains three syringes: one acid gel (composed of 15% hydrochloric acid, water, silica and additives), one ethanol, and one resin infiltrant (composed of tetraethylene glycol dimethacrylate, additives and initiators). **Results:** An improvement in the esthetic appearance was achieved by following the resin infiltration technique with the methacrylate-based resin in one session of treatment, proved and objectified photographically and also followed by clinical examination which shows stable results one and two weeks post-treatment, although the stains were not completely removed. **Conclusions:** Fluoride therapy and the correct use of fluoride supplements remains an accessible and advantageous prophylactic method. In case of dental fluorosis we can resort to a conservative method as an alternative therapeutic approach that improves such opacities esthetically and exhibits no complications.

**Keywords:** fluorosis, minimally invasive, treatment

## DENTAL IMPRESSION: PROGRESSES OR REGRESSES?

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**Background:** Impression is one of the most provocative thing for the student to do starting with the first year. **Objective:** A detailed observation of the quality of a dental-impression made in each of the sixth years of study, by dentistry-students from Târgu-Mureş. **Material and methods:** For getting the results as close to the truth as we can and making them as relatable as possible, there has been randomly chosen six students from each year of study. Each of them made the dental-impression of the same patient using the same materials and methods. The results has been compared and there has been evaluated the quality, precision and accuracy of the dental-impressions. The objectivity was given by the model which has been poured. **Results:** Each result of the impression or the dental-cast from each year of study emphasized that there is a perfect correlation between the quality of the dental-impression and the model at each year of study. The evaluation showed a visible progress from the first to the second year, a regress in the third and the fourth year, but a great progress in the sixth year. **Conclusions:** The sinusoidal evolution of the results given by the dental-impression during the sixth years it is explicable because of the change of 'personality' of the students and the achievement of the practical abilities. In the sixth year the responsibility is growing because they are closer to the finish line. That is why it makes sense for them to reach the pick of the results. The conscientiousness from the beginning of the study materialises with the 'maturity' from the lasts years of study.

**Keywords:** dental-impression, progress, regress, dental-cast

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## UNDER ONE MILLIMETER DISTANCE BETWEEN CORRECTNESS AND INCORRECTNESS WHILE USING THE STAMP TECHNIQUE

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**Background:** The famous stamp technique has been significantly taken ground ever since it was discovered. **Objective:** Despite its growth in the world of dental medicine, is the stamp technique really a flawless one? Or is it just a method for lazy dentists? **Material and methods:** We have realised the impression of the occlusal face of a number of intact extracted teeth, using a liquid rubber-dam. The teeth were fixed in stands, made out of putty silicone. After that, we have done class I cavities and applied all the necessary bonding agents. The cavity was filled with different types of composites: nanohybrid-bulk, nanocomposite and an universal one. Using the liquid rubber-dam impression, pressed against the surface of the composite we just applied, it wrapped around the morphology of the impression. After removing the rubber-dam, we adjusted anything that needed to be adjusted, using a composite spatula. **Results:** The macroscopic results were perfect, with an impressive marginal adaptation and a great morphology of the occlusal surface. But as we went further with examining it, at a microscopic level, we have observed the presence of flaws. **Conclusions:** Despite the apparent ease of use of the stamp technique, the apparent perfect aspect of the occlusal face of the teeth and spending less time adjusting the composite, it still has flaws, which can be critical for the final result. Also, the fact that it is limited to only smaller cavities, shows that it has restricted applicability in oral rehabilitation. What's more, it doesn't challenge the dentist to improve the modelling part of their job, which can really turn away some doctors.

**Keywords:** Stamp-technique, Marginal-adaptation, Time-consuming, Aesthetic

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## TOOTH DIMENSIONS IN PATIENTS WITH ANTERIOR TOOTH AGENESIS

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**Background:** Tooth agenesis is characterized by congenital absence of primary or permanent teeth. Multiple teeth agenesis is diagnosed as hypodontia, anterior (incisors) and/or posterior (bicuspid) teeth can be involved. **Objective:** The main purpose of the present study is to examine the teeth dimensions in patients with anterior teeth agenesis and compare these measurements with controls. **Material and methods:** Study models were used for measuring teeth dimensions. In the hypodontia group 7 models were included, while in the control group 15. We used a professional DSLR camera and took serial photos of every tooth, from different angles. It was important to place a 10 mm long scale on each image for image calibration purposes. The images were organized and measurements were done using the Image-Pro-Insight software. Three different measurements were made on every tooth from buccal view: the mesio-distal diameter, the inciso-gingival dimension and the area of the buccal surface. Statistical analysis was made using GraphPad InStat software unpaired T-tests. **Results:** In the case group only upper second incisors were missing. The dimensions of the upper canines regarding the buccal surface area were significantly smaller than in the control group ( $p=0.0007$ ). The lower canines revealed decreased dimensions in the buccal surface area ( $p=0.0001$ ). Furthermore, the upper and lower first incisors also show significant changes in the buccal surface area and the inciso-gingival dimensions. **Conclusions:** The present study showed that in the incisor and canine region significant dimensional reductions could be present in patients with hypodontia in the anterior region.

**Keywords:** Agensis, Hypodontia, Dimension

# POSTER - PHARMACY

## OSTEOPOROSIS - COMPARATIVE ANALYSIS BETWEEN CURRENT AND NEW THERAPEUTIC CONCEPTS

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**Background:** Osteoporosis is a pathology encountered especially among menopausal women, that can have a severe evolution, causing bone fractures, by affecting especially the spine and the hip. The current treatment of osteoporosis is effective, but has multiples side effects. **Objective:** The purpose of this paper is to highlight the differences between the current treatments and the new therapeutic concepts and to emphasize the advantages of the new ones. **Material and methods:** The literature review of scientific data from platforms like ScienceDirect, Pub Med, Toxnet using as key words "osteoporosis", "bisphosphonates", "sclerostin inhibitors", " comparative analysis". **Results:** Data from the scientific literature suggest that sclerostin inhibitor, romosozumab could be a more effective therapeutic alternative compared to bisphosphonates or denosumab. Romosozumab, a monoclonal antibody that inhibits sclerostin, due to its double action in inducing bone formation and inhibiting bone resorption, has a stronger effect in reducing the incidence of bone fractures. Abaloparatide, a novel synthetic analog of human PTHrP (parathyroid hormone -related protein), has a superior anabolic effect on the bone, compared to teriparatide, in severe cases. Research has shown also that a better antiosteoporotic effect is obtained if anti-resorptive medication, such as denosumab, is administered after the treatment with modern compounds. **Conclusions:** The new therapeutic targets have showed superior antiosteoporotic effect, especially when they are continued with classic therapy. However, for romosozumab there are suspicions of heart-related side effects, safety studies still being in progress.

**Keywords:** osteoporosis, comparative analysis, sclerostin inhibitors, abaloparatide

## MICRORNAS - POTENTIAL BIOMARKERS FOR OBESITY

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**Background:** MicroRNAs (miRNAs) are short non-coding RNAs with a length of 20 □□ nucleotides, which regulate gene transcription. Adipose tissue is an important source of circulating exosomal miRNAs, working as endocrine regulators of gene expression in distant tissues. The major function of miRNAs in adipose tissue is to stimulate or inhibit the differentiation of adipocytes and to regulate specific metabolic and endocrine functions. Since miRNAs are released from cells into biofluids, they are considered as an important source of information for the characterization of metabolic disorders, including obesity. **Objective:** The purpose of this paper is to identify the miRNAs involved in obesity, in order to understand the etiology of metabolic disorders, which may then be explored as prognostic markers or as a new therapeutic target in managing obesity. **Material and methods:** MiRNAs have been associated with physiopathological disorders related to obesity, such as oxidative stress, impaired adipogenesis, insulin signaling, apoptosis, angiogenesis, and inflammation. Furthermore, circulating miRNAs showed significant association with plasma levels of adipokines (adiponectin, leptin). **Results:** A number of miRNAs have been confirmed to be present in high concentrations in serum/plasma and other body fluids. Remarkably, the screening of the tissue expression pattern of some miRNAs established that these miRNAs are amply co-expressed in plasma samples and other tissues. Specifically, miR-20b, miR296, and Let-7f have been shown to be involved in the regulation of gene targets that participate in the regulation of angiogenesis and WNT signaling pathway. Also, higher levels of miR-27 and miR-424 were correlated with higher fat depot measurements in nonobese women. These results highlight the importance of miRNA expression in subcutaneous adipose tissue. **Conclusions:** As fundamental post-transcriptional gene regulators, miRNAs are involved in the development and function of adipose tissue. Recent studies highlight the importance of miRNA and encourage further investigations of miRNAs as innovative and predictive biomarkers for obesity.

**Keywords:** miRNAs, obesity, biomarkers, metabolic disorders

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## SAFETY AND TOLERABILITY OF LIRAGLUTIDE

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**Background:** Liraglutide is a GLP-1 receptor agonist, approved for both the treatment of type 2 diabetes (Victoza<sup>®</sup>, 1.8 mg daily) and obesity (Saxenda<sup>®</sup>, 3.0 mg daily). Due to its mechanism of action, the side effects should be minimal. GLP-1 receptor agonists stimulate anorexigenic POMC/CART neurons and indirectly inhibit orexigenic neurons, via GABA dependent signaling; this resulting in decreased appetite. **Objective:** The aim of this paper is to focus on the potential risks of liraglutide treatment, in order to establish its safety and tolerability profile. **Material and methods:** Two databases (PubMed, Science Direct) were searched to investigate the safety profile of liraglutide. The articles taken in consideration were published before December 1, 2018. **Results:** For liraglutide, the average trials withdrawal rate due to adverse events was around 10%, that means an encouraging tolerability profile. In SCALE trials, the main adverse events were gastrointestinal events, including nausea, vomiting, constipation, and diarrhea, but most events were mild or moderate in severity and occurred after administration of high doses. Even though there were reported some cases of acute pancreatitis, in the LEADER trial no significant difference in the incidence of pancreatitis was observed between placebo and treated groups. Liraglutide is contraindicated in patients with a personal or family history of medullary thyroid carcinoma or multiple endocrine neoplasia syndrome types 2. Also, for the treatment of obese patients with type 2 diabetes, liraglutide should be administrated with precaution due to the risk of hypoglycemia. On the other side, for patients with obesity and cardiovascular diseases, physicians might consider liraglutide as first-line treatment. **Conclusions:** Liraglutide generally offers a safety profile, but for some individuals, the adverse events associated with its use may lead to treatment discontinuation or contraindication. Taking into consideration that it is recently approved by FDA, evaluation of its long-term safety requires further post-authorization clinical trials.

**Keywords:** liraglutide, safety profile, tolerability, side-effects

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## STUDY ON THE QUALITY OF "OWN-BRAND" PRODUCTS IN A LOCAL SUPERMARKET

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**Background:** Studies from the literature show that there is a significant difference between "own-brand" products and those of other companies, the "own-brand" foods have a higher caloric content (kcal/100g) as well an excessive amount of food additives (colorants, gelling agents, acidifying agents, preservatives). Instead, these products have an aggressive marketing strategy (promotion, shelf position) and a convenient price. **Objective:** The aim of our study was to compare caloric content declared on the label, salt content, position on the shelf and the promotion in the case of 115 "own-brand" products with similar products from other companies in a local supermarket. **Material and methods:** Pictures were taken of "own-brand" products and for each one product were taken photos of three similar products from other companies. Photos show the location of products on shelves, the front-of-pack and the back-of-pack. The nutritional content was extracted from the photos and compared in a mathematical program. **Results:** Of those 115 own-brand products, 98% were placed on shelves at the height of 1,3-1,5 meter (at eye level) and 20 products (18%) had promotional prices. In terms of kilocalories content, in the case of 82 products, the caloric content was higher by 1.28-66.66% than the other companies products. In the case of processed food, the contain of salt was higher by 7.84-88.60% for its "own-brand" products. **Conclusions:** The position on shelves can mislead the consumer in case of "own-brand" products, therefore reading the label before buying a product is extremely important for a balanced diet and a healthier lifestyle.

**Keywords:** "own-brand" product, caloric content, salt content, marketing strategy

## EXTENSION OF EYELASHES IN AESTHETIC PURPOSE

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**Background:** The applying of false eyelashes began in 1882, being made by stitching natural hair on eyelids. Now there are several types of eyelashes extensions such as: natural hair mink, silk false eyelashes, Mink false eyelashes, Slim false eyelashes. The eyelashes extensions have a wide range of thicknesses ranging from 0.04 to 0.18 g. Their lengths ranging from 6 mm to 16mm, they are also in different curves. The use of extensions has become a very common trend. **Objective:** We wanted to observe the evolution of those who use these extensions over a long period of time. **Material and methods:** We observed an ensemble of 30 clients over a period of 6 months, with a frequency of eyelashes maintenance every 3 weeks. We also recommended to everyone to wash their face daily with water only. For the application of the eyelashes we needed: a disposable towel, oil-free micellar water, cleansing disks, microfibre sticks for cleaning the eyelashes, jade stone for glue, primer for degreasing eyelashes, adhesive containing: Ethyl Cyanoacrylate, ethoxy-2-cyanoacrylate, phthalic anhydride, carbon black, isolating tape for lower eyelashes-in order not to irritate the eyes, two pieces will be cut and X-shaped, one on the first half of the lower eyelashes and the other on the second half of the lower eyelashes. We used mink false eyelashes. we observed an ensemble of 30 clients over a period of 6 months, with a frequency of eyelashes maintenance every 3 weeks. We also recommended to everyone to wash their face daily with water only. The length of extensions was chosen according to the length of the natural eyelashes. In order not to damage the natural eyelashes in time. **Results:** After 6 months of continued use of eyelashes extensions, we did not notice the need to take a pause from this procedure, because their natural eyelashes were intact, for this the length of the extensions was not be more than 4mm longer than the natural eyelash. They all followed the advice of washing daily, so they did not have eye infections. Three of them showed irritation and redness because they opened their eyes during the application procedure. **Conclusions:** Application of eyelashes extensions in adequate sanitary conditions and with specific quality products is only a method of beauty that will not influence the health of the users.

**Keywords:** eyelashes extensions, eye safety, adhesive



# INDEX OF AUTHORS

---

Ősz Bianca-Eugenia 117, 128  
 Șerban Gâz A 67  
 Țilea I 97  
 Santa Iasmina Maria 109, 121  
 Șerban R C 10, 11  
 Șerban Răzvan Constantin 6  
 Ștefănescu Ruxandra 69  
 Ștefan Alexandra-Elena 8  
 Ștefan Roxana-Florina 60, 62  
 Știrbu-Pofîngă Daniel 16, 108  
 Șuş Ioana 117  
 Șulea Cristina-Maria 20  
 Țuță Liliana 114

-

- 21, 88, 89

## A

ABUKHALAF BASEL 15, 33, 94  
 ATAIKIRU USIWOMA 89  
 Abu-Farha M 93  
 Abukhalaf I 15, 33  
 Acatrinei Daniela 85  
 Adrian Bîrseti 41  
 Afrăsinei V 16  
 Akerman C 7  
 Al Hussein H 85  
 Al Hussein Hamida 85, 112  
 Alexandra Paval 61, 63, 120  
 Alexandru Stefan Zalana 52  
 Allalo Abdulkader 93  
 Almasy Evoke 92, 113  
 Alpsy E 15  
 Alpsy E 95  
 Anca Alexandra Molnar 28, 74, 78, 79  
 Andrei Alexandru Tomac 83, 84, 115, 118  
 Andrei Feier 24, 84  
 Andrei Mesina 25  
 Andreia Beatrice Stefania 123  
 Anitei Emanuel-David 87, 88  
 Antochie Cristina-Ioana 105  
 Attila Jankó 42  
 Auti Rakesh 93

## B

Bădău Adela 41  
 Bădău Dana 41  
 Bălan Ioana-Georgiana 117  
 Bănescu Claudia 20  
 BURLACU DIANA 15, 95  
 Bacarea Anca 99  
 Baci Madălina-Cerasela 3, 24, 83, 94  
 Baci Marina-Raluca 105  
 Badau D 41  
 Balan Alkora-Ioana 6, 10, 11

Balan Irina 98  
 Balasa A 31  
 Ban Erika-Gyongyi 100  
 Bartelick Miruna 104, 106  
 Bartels U 13  
 Bataga T 30, 80  
 Bededek Theodora 116  
 Bejenaru George-Eduard 26  
 Benedek Theodora 17  
 Benedek I 17, 18, 96, 108  
 Benedek Theodora 14, 17, 18, 19, 20, 108  
 Benegui Angelica-Raluca 73  
 Benkó Tímea-Noémi 21  
 Berța Lavinia 56  
 Bercheșan Vlad-Răzvan 113  
 Bereczki-Temistocle Despina-Luciana 75  
 Binzari Elena 7  
 Blacque O 34  
 Blaga Madălina 6  
 Boțianu P 76  
 Bobârnac Remus Leonard 11, 30  
 Boghițoiu Tudor Gabriel 9  
 Boia E 89  
 Boilă Sabina- Emanuela 76  
 Boiti Kinga 45  
 Bojescu George 60, 61, 63, 101  
 Bolat Mihail Muharrem 27  
 Borșa Sonia-Andreea 75  
 Bora Edvard Balazs 104  
 Borda Angela 6  
 Borodi Paul-Gabriel 3, 24, 83, 94  
 Borz C 87  
 Borz Paul-Cristian 77, 87  
 Borz Rares-Calin 117  
 Botoncea M 78  
 Botoncea M 74, 77, 81  
 Botoncea Marian 73, 81  
 Bozdoghina Ioana-Daniela 85  
 Brînzaniuc Klara 27  
 Brad A 61  
 Brigitta-Irén Bacsó 28  
 Bucur Sabina 117  
 Bud E 50  
 Bud I T 71  
 Bud T 75  
 Buda Elvira - Ioana 80, 115, 117  
 Bulboaca Ioan Daniel 97  
 Bumbu Anamaria 72  
 Bumbu Anamaria Victoria 27, 28  
 Burlacu Agnes 15, 95  
 Burlea Simina 76  
 Buruian M 24  
 Butilca Alexandru-Ilie 77, 87  
 Butiurca V 73  
 Butiurca Vlad-Olimpiu 77, 78, 81

## C

Călin M 28, 79

## INDEX OF AUTHORS

---

CSISZER IREN 79  
 Cadar Ana-Elena 80, 115, 118  
 Camelia Libenciuc 14  
 Cammalleri Giuseppe 104, 106  
 Caranica Andreea-Georgiana 102, 105  
 Carsote Mara 101, 113  
 Catalina Mihaela Oana 102, 105, 114  
 Cebotari Cristian 47  
 Celsie Mihaela Maria 122  
 Cergan R 27  
 Cerghizan Anda-Mihaela 115  
 Cerghizan Diana 49  
 Chelaru Daniela 102, 105, 114  
 Chelaru Ioana 80, 110, 115, 117  
 Chira R 107  
 Chiribau Alexandra 87  
 Chirilă Paula Maria 95  
 Ciciu Elena 114  
 Cif Georgeta Liliana 72  
 Ciobanu Iulia Andreea 61, 101  
 Ciobanu Maria Cristina 85  
 Ciobanu Roxana-Paraschiva 112  
 Ciolacu Andreea 77  
 Cioloca Oana 5  
 Ciurea M E 83  
 Claudiu Ghiragosian 85  
 Clocoțan M 96  
 Coșarcă C 39, 75  
 Coșarcă C M 86  
 Coșarcă M C 74  
 Cocona Georgiana 102, 114  
 Colakoglu Alisa Mirel 100  
 Comes Alexandra 105  
 Conțiu Loredana- Maria 27, 28, 72  
 Constantin L A 73  
 Corău Dragoș Mihai 122  
 Corduneanu Roxana-Mihaela 78  
 Corina Ginga 63  
 Corina Uta 77  
 Cosarca M 83  
 Cosarca M C 84  
 Cosma Catalin 77, 78, 79, 81  
 Costan Ana Maria 62, 64  
 Cotoi Ionela 8  
 Cotoi O S 2, 3  
 Cotoi Paul S. 2, 3  
 Cozac Dan Alexandru 11  
 Cozmescu Elena 105  
 Crișan Roxana-Emilia 129  
 Cridon Mara Delia 37  
 Cristean Petronela Cristina 29  
 Cristina Motoi 18  
 Croitoru M 55  
 Croitoru M D 58  
 Cuzic Viviana 102  
 Cuzuioac Ioana 55

**D**  
 DUCROS ANNE 114

Damian C 64  
 Damian D 63  
 Damian D C 61  
 Dan Elena-Călina 27, 28, 72  
 Dan Nicolae Zolog 29  
 David Camelia Andreea 85  
 David-Daniel Moț 97  
 Decean Luminița 115  
 Decean Luminița 110  
 Derzsi Z 26  
 Dima A C 26  
 Dinu Andreea-Adelina 122  
 Dobos Timea 8  
 Dobreanu D 117  
 Dobreanu Minodora 8, 9  
 Dobrin Ana 60, 61  
 Dobru Daniela 106  
 Domokos Erzsébet 66  
 Donca Melina 45  
 Dorobanțu D 72  
 Dorobantu D 72  
 Drăguț Claudiu 57  
 Duicu Carmen 120  
 Dumitrescu Nicoleta 112  
 Dumitrescu T 86  
 Dumitru Cătălin Sârbu 71, 96, 109  
 Dumitru M 27  
 Durdui Ana-Maria Cecilia 101, 113

**E**  
 Elisabeta Aniței 87, 88  
 Eliza Nicoleta Giurgiu 86  
 Elkahlout A 111  
 Enciulescu C 9  
 Ermiş-Hagicalil Nurten 4, 99

**F**  
 Fădur Mihaela-Georgiana 72  
 Fâșie D 102  
 Fülöp Emőke 103  
 FLORIN RAZVAN CURCA 53  
 Falka Madalina - Oana 130  
 Fazakas Z 33  
 Fazakas Zita 8, 34  
 Filep R C 29  
 Filip Cristina 55, 129  
 Filip-Elwin Roman 87, 88  
 Filipas Dejan 24, 33  
 Flămînd Oltean Sânziana 30  
 Flaiser Adina 30  
 Fleșeriu Tudor 121  
 Florea Laura 16  
 Florescu Adrian-Gabriel 62, 64  
 Fufezan Maria Louise 34  
 Furdui Ioana Monica 97

## INDEX OF AUTHORS

---

### G

Gînj Anca Maria 81  
 Gîngör Hale Nur 99  
 GAROFIȚA BAMBOR 86  
 Gașpar Radu-Alexandru 104, 119  
 Gabriel Rusu 19  
 Gabriela Pîslariu 17  
 Gal Ioana Alexandra 60  
 Galawanji Marius 51  
 George-Adin Boariu 98  
 George-Laurențiu Vasilache 10  
 Georgescu Grațiana 4, 99  
 Gheorghe Anca-Teodora 99  
 Gherasim Dorin Nicolae 29  
 Gherghina ( Enache) Roxana Ștefania 102, 114  
 Gherghinescu M 76  
 Ghirca Veronica 24, 25  
 Giangă Antonia Ionela 112  
 Ginghina Raluca 63  
 Girbovan Anamaria Hermina 85, 112  
 Gliga Mirela Liana 95  
 Glodarenco Diana-Maria 4, 99  
 Gohoreanu Teodora 4, 99  
 Gorga Andreea 118  
 Gorga Simona Mădălina 118  
 Gorga Simona Madalina 80, 84, 115  
 Gozar H 26  
 Grama Alina 104, 112  
 Grama Paul 107  
 Grigoraș Alina 10  
 Grigoraș Teodor 10  
 Grigore Mădălina 112  
 Grigorescu Bianca-Liana 92, 113  
 Guido Albanese 116  
 Gurzu Simona 8  
 Gyárfás Ágnes 39

### H

Hărșan Sofia Teodora 71, 75  
 Halățiu Vasile-Bogdan 10, 11  
 Halmágyi Salomea-Ruth 112  
 Hancu G 57, 69, 129  
 Harpa M 96, 109  
 Harpa M M 71  
 Hashi Abdullahi 33  
 Hashim Hashim Talib 5  
 Hoza Alexandra-Maria 63  
 Hoza Oana-Elisabeta 63  
 Huțanu Dragoș 73  
 Hulea Patricia 71, 75, 110, 115  
 Hunor Kovács 26, 28, 74, 78

### I

ILIESCU ADRIAN-ALEXANDRU 87, 88  
 ILIONIU AGATHA MARIA 63, 81, 120  
 Iacob R E 89

Iacob Alina 51  
 Iancu Maria 101, 113  
 Ibănescu Raluca 74, 81, 96, 120  
 Ignat Ana Sonia 110  
 Illia Kobliuk 4  
 Imre Silvia 56  
 Ioan Nemes 29  
 Ioan Teodor Bud 79  
 Ioana-Alexandra Vadana 111, 120  
 Ioana-Claudia Lt. Costan 62, 64  
 Ion Bogdan Manescu 7, 8, 9  
 Iosep Diana Gabriela 16, 108  
 Irina Săplăcan (Potîngă) 92  
 Iulia Echim 56  
 Iulia Mădălina Staicu 60, 62  
 Iustina-Elena Ionică 55  
 Ivanescu A 80

### J

Jîtcă G 117  
 Jerca Astrid 121  
 Jimborean Gabriela 116  
 Juncan Teodora-Paula 64  
 Jung I 8

### K

Kövecsi Attila 27  
 Kata Dézsi 126  
 Kerekes Bernadette 126  
 Kerekes Máthé Bernadette 50  
 Kirchmaier Ádám 21  
 Kiss Petra 26, 28, 100  
 Koller Ana-Maria-Roxana 104, 119  
 Koszta Brigitta 8  
 Kovacs Nimrod 118  
 Kovacs Z 118  
 Kulcsar Diana - Florina 49  
 Kwizera Cedric 78

### L

Lăzăruc Tudor 16, 108  
 LUCA SONIA TEODORA 79  
 Laios Florin 101  
 Lambiase Alfonso 49  
 Laslo Alexandru 87  
 Laszlo Sergiu - Ștefan 79  
 Laura-Beatrice Lăpușneanu 34  
 Lenard Farczadi 69  
 Leonard Dominic Rusu 106  
 Livădariu Roxana-Maria 82  
 Louka Anna Maria 15, 33, 94  
 Luca Celina 77  
 Luca Cristina 77  
 Luca Liliana 15  
 Luca Rares 121  
 Luca Sabina-Gabriela 82

## INDEX OF AUTHORS

Luchian D I 53  
Lupu Aurica 24  
Lupu Maria Alina 5

## M

Mădălina Aurelia Husariu 81, 96, 116  
Mărculeț Eliza Mihaela 112  
Mărginean Cristian Dan 119  
Mărginean Cristina-Oana 119  
Mărginean L 29  
Mártha Krisztina 126  
Mátyás Már 26, 28  
MOLNAR-VARLAM Cristina-Stanca 52  
Macarie Melania 119  
Macec Adelina 72  
Maior David 4  
Man A 45  
Manea Andrei 2, 3  
Manu Doina Ramona 8, 9  
Mare Anca 45  
Mare Greta 25  
Mareș R G 111  
Mares Razvan Gheorghita 111  
Marginean L 24  
Maria Țocu 120  
Maria Andrada Sasca 83, 84, 115, 118  
Marian Andreea-Cristina 82  
Mariana Păcurar 46  
Mariana Pacurar 52  
Marinescu Luchian 83  
Martha Orsolya Katalin 61  
Martu Dr. Silvia 53  
Matei Bianca 72  
Matei Carmen Mihaela 10  
Matei Denisa Paula 26  
Matei Oana-Adriana 17, 110  
Melîț Lorena-Elena 119  
Mercuț Răzvan 83  
Mesaroș Petru-Vasile 60  
Mesina C 25  
Mihăilă Theofana 96, 116  
Mihaela Zaharia 7  
Mihai Larisia 105  
Mihalcea Elena 123  
Miklos Amalia 55, 67, 129  
Milașcon Laura Rebeca 37  
Milan Andreea Maria 55  
Mircea Dumitru C 55  
Mirica Anca-Maria 55  
Miron Mihnea 16, 108  
Mocan Mihaela 107  
Mocanu Andreea 2, 3  
Moldovan Octavia-Laura 66, 128  
Moldovan C 2  
Moldovan Flaviu 30, 80  
Moldovan Iunia 45  
Moldovan Teodora-Lucia 122  
Molnar C 30, 73, 74, 77, 78, 81

Molnar Cristina 45  
Molnar-Varlam Cristina 46, 47, 125, 126  
Molnar-Varlam Rareș 41  
Monea Monica Dana 49  
Monica Tarcea 14  
Morariu Mirabela 14  
Morozan Alina 24  
Muntean A 19  
Muntean Alina-Cristina 17, 110, 122  
Muntean Mihai-Gabriel 57  
Munteanu Adriana 73  
Munteanu Andreea-Cătălina 85  
Munteanu Cristina-Laura 81  
Munteanu Marius Andrei 80, 83, 84, 115  
Mureșan A 39, 75  
Mureșan Melania 14  
Muresan A 71  
Mursa Maria-Andreea 86  
Muscalu Ana-Maria Alexandra 17  
Musuroi Ionut-Alexandru 86

## N

Nánia Csilla 121, 122  
NICUȚĂ OANA 61  
Nadasan V 4, 97  
Narcis-Florin Ungureanu 74, 75, 96, 107  
Neațșu Bianca-Maria 125  
Neag Catalin 36  
Neagu N 36, 37  
Nechifor Albert-George 77  
Nechifor-Boilă Adela 6  
Nechita Andrada 116  
Nedelcu Cristina 118  
Negovan Anca 20  
Negrila Alina Alexandra 83  
Negroiu Ancuța-Ileana 69  
Nemes-Nagy Enikő 8, 121  
Nicolescu Cosmin-Lucian 73, 78  
Niculae A M 64  
Nistor D O 111  
Nistorescu Nicoleta 58  
Nistoreanu Virginia 47  
Noémi Gergely 126  
Nora Evelin Seres 27, 123

## O

Oana Oprea 107  
Olariu T R 5  
Olariu Tudor Rareș 5  
Oltean Mihaela Septimia 74, 104, 119  
Onciu Teodora 9  
Onișor Danusia Maria 63  
Onuțiu Remus Emilian 109, 121  
Opincariu Diana 18, 19, 20  
Oprea B 80  
Oprea Oana Roxana 7  
Oprea Oana-Roxana 96

## INDEX OF AUTHORS

---

Opriş Mihaela Maria 111  
 Orban Emese 9  
 Ordeanu V 60, 62  
 Ormenişan Alina 75  
 Oroian Laura 118  
 Orzan Rareş-Ilie 13  
 Ovidiu Ursu 42

### P

Păsăilă Cătălin-Silviu 88, 89  
 Păun Diana-Loreta 21  
 Pârvănescu V 83  
 Pâslaru Francesca 4  
 Péterfi Orsolya 66, 67  
 PAVÁL LUIGI 101  
 POPA DELIA- MELANIA 112  
 POPESCU ALEX OTNIEL 4, 97  
 PREDĂ IULIA 50  
 Paşca Maria Dorina 101  
 Paşcanu Maria Ionela 13  
 Pań H 121  
 Pańturoiu Diana-Elena 50, 51  
 Pantazi A C 102  
 Pantea Monica 20  
 Papp Enikő Gabriella 50  
 Paradiso Donato 103  
 Pasca Maria-Dorina 60  
 Pascanu Ionela 104  
 Pasere Simona 47  
 Pataki Simona 103  
 Patraulea Bogdan 106  
 Pavel Anda-Florentina 88, 89  
 Pavel Andriescu 120  
 Perian Marcel 6, 11  
 Pescaru George 16, 108  
 Petra Katyi 126  
 Petrişor Dragoş-Ioan 60, 101  
 Petrişor Marius 92, 113  
 Petruţa Alexandru-Ioan 4  
 Pinteă - Simon Ionela - Anca 103  
 Pinteă Ionela Anca 98, 105  
 Pinteă-Simon Ionela Anca 92  
 Pintilie Irina 6  
 Piotraschke Lena 100  
 Pistol Ana-Maria 46, 125, 126  
 Podar Denisa-Marieta 128, 129  
 Podeanu Mihaela-Andreea 83  
 Poenaru Col. Marcela 62  
 Pogăcean Manuela-Claudia 92  
 Policastro Andrea 26, 100  
 Pop Ananda Diana 58  
 Pop Andrada Alexandra 117  
 Pop M 51  
 Pop T L 112  
 Popa D 74, 75, 83, 84  
 Popa D G 86  
 Popa Vicenţiu 84  
 Popescu Septimiu 29

Porav-Hodade D 24, 25  
 Pricope Florina-Stefana 9  
 Puşcaş Laurenţiu Paul 41

### R

Răuţă Alexandra 71, 96, 109  
 Răuţă Alina - Elena 121, 122  
 RÎŞCA ELENA 86  
 Réka Bibó 126  
 RACHIŞ DELIA-LIANA 86  
 RALUCA-MARIA RUGEA 114  
 Raţ Cristina-Alexandra 71, 96, 109  
 Raţ Nora 17  
 Rab Karina 76  
 Racoş Szabo Elisabeta 123  
 Radu-Cătălin Răuţă 71, 96, 109  
 Ramona Nina Cocos 114  
 Rareş Munteanu 103  
 Rares Juganaru 46  
 Rascu Miruna 7  
 Razvan Marian Melinte 29  
 Razvan Marian M 29  
 Rebegea Andrada-Elena 60  
 Rech René 100  
 Reis Penaforte Pedroso Mariana 15, 33, 94  
 Reti Zsuzsanna 110  
 Rezuş Ioana-Irina 77  
 Roşca Ioana 56  
 Roman Adina 106  
 Rus (Nistor) Andreea-Florina 27, 28  
 Rus Bianca - Simona 125  
 Russu C 30, 81  
 Russu Cristian 81  
 Russu Eliza 81  
 Russu M O 24  
 Russu O 84  
 Rusu Petronela 106  
 Rusu Renata-Andrea 106  
 Rusu Roberto 19

### S

Sântean Claudiu-Ionuţ 71, 96, 109  
 Sîrbe Claudia 112  
 Sîrbu Voichiţa Ileana 111  
 STROE V 87  
 SUCIU H 87  
 Sanda Ioana 52  
 Sanpalean Roxana 63  
 Sarkany Anita 57  
 Sava Anca 10  
 Scridon Alina 6, 10, 11  
 Seimeanu Andrei-Florin 61  
 Serban Georgiana-Mihaela 31  
 Sergiu Muntean 36  
 Sergiy D 93  
 Sfarti V C 112  
 Shakir A 5

## INDEX OF AUTHORS

---

Silișteanu Elena-Claudia 113  
 Simina-Otilia Olariu 17  
 Simu I 122  
 Simu Patricia 122  
 Sin Anca 109  
 Sincu Mihaela 2, 3  
 Sipos R S 9, 28  
 Sobral Gonçalves Juliana 97  
 Somkerekı Cristina 6  
 Stancu Mihai 7  
 Stancu Tanita Andrada 26  
 Stauder A 3  
 Stoica Alexandra 94  
 Stoica Alexandra Mihaela 49  
 Stoica Oana 49  
 Strătilă Elena Diana 76  
 Strătuță Andreea Cătălina 27  
 Streiche Laura 50, 51  
 Stroe V 87, 88  
 Suci H 85, 87, 88  
 Susanu Cristian-Octavian 20  
 Szőke Andreea-Raluca 20  
 Szász Hilda-Aletta 8  
 Székely Varga Margit 37  
 Szabó I A 21  
 Szabo A 36  
 Szabo D 42  
 Szabolcs F 28  
 Szasz Eموke 6  
 Szekely Varga Margit 36  
 Szigyarto Timea 111

### T

Tătar Andrada Claudia 73  
 Tătar Cristina Maria 120  
 Tătar Maria Cristina 97, 118  
 Tőkés Botond 29  
 Tanase C 56  
 Tekula Tejashwini Reddy 93  
 Teodora Ciupag 97  
 Teodora Eremia 60  
 Tero-Vescan Amelia 55, 57, 66, 128, 129  
 Tilinca Mariana Cornelia 121, 122  
 Tilinca Raluca Maria 121, 122  
 Todea Ștefania 69  
 Todoran Butilă Anamaria 123  
 Todoran N 130  
 Toducz Emma 50  
 Toganel Cornelia 106  
 Tohati A 47, 125  
 Toma Andrei-Razvan 26  
 Toma Camelia-Maria 56  
 Trâmbițaș C 85  
 Tudor A 78  
 Tudor Bianca 78, 92, 98  
 Tudor Sirbu 46, 125, 126  
 Tudosie M 60, 62  
 Turdean S 2

### U

Ungur Tania-Bianca 74, 107  
 Urs Horea-Gabriel 101  
 Ursache Adina-Elena 18, 96, 107, 108  
 Ursachi Tatiana 4  
 Uzun Cosmina-Cristina 3, 94

### V

Vilceanu Irina Andreea 101, 113  
 Vacaru Gabriel Cristian 83  
 Vancea Sebastian George 74, 75, 84, 107  
 Vangheli Adrian 111, 120  
 Varga Andreea 37  
 Vari C 56  
 Vari Camil-Eugen 69  
 Vasilca Tudor 26, 60, 62  
 Velescu Beatrice Elena 18, 96, 108  
 Venkata Ratnam Itham 93  
 Virginas Annamaria 13  
 Vitalie Popov 78  
 Vizitiu Alexandru 74  
 Vlad Cristiana Elena 16  
 Vlad Olimpiu B 79  
 Vlaicu Tudor 24  
 Vlasiu Andreea 125  
 Vlasiu Silviu 73  
 Voinea Cristiana 50, 51  
 Volovăț Simona Ruxandra 16, 108  
 Vuță Monica 8  
 Vultur Ioana Maria 61

### W

Wagner Benedikt Johannes 78

### Z

Zăgan Cătălin Andrei 18  
 Zagrean Ana-Maria 7  
 Zah Corina Adelina 107  
 Zahan Ancuța 6  
 Zaharia Marius-Cristian 19  
 Zdroba Diana-Daniela 18, 96, 108



