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Days of the University of Medicine and  
Pharmacy of Târgu Mureș  
8-12 December 2014

## **Annual Conference of the PhD and Post-Doc Students**

10 December 2014

## **Scientific Session of University Educational Staff**

12 December 2014

## **BOOK OF ABSTRACTS**



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# Acta Medica Marisiensis

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## MEDICINĂ CLINICĂ (CLINICAL MEDICINE)

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### THE RELATIONSHIP BETWEEN BLOOD PRESSURE VARIABILITY AND CARDIOVASCULAR RISK FACTORS IN PATIENTS WITH PRIMARY HYPERTENSION

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**Background:** The aim of the study is to assess 24-hour blood pressure variability, circadian blood pressure profile and its relation to 24-hour blood pressure and cardiovascular risk factors in primary hypertension without associated disease versus disease like diabetes mellitus and chronic kidney disease. **Material and methods:** This observational study included 90 hypertensive patients, 49 with primary hypertension without associated disease and 41 patients with primary hypertension and diabetes mellitus or chronic kidney disease. Circadian blood pressure profile, as well as 24-hour blood pressure variability was assessed using ambulatory monitoring. Laboratory data regarding cardiovascular risk factors and demographic data were collected in a questionnaire. **Results:** The number of dipper patients was higher in the group without associated disease, but the difference was statistically not significant ( $p=0.27$ ). In both groups positive correlation was found between 24-hour systolic blood pressure variability and 24-hour blood pressure ( $p=0.029$ ,  $r=0.3120$ , CI 0.03369 to 0.5454). In both groups 24-hour systolic variability was related to age ( $p=0.031$ ,  $r=0.3071$ , CI 0.02832 to 0.5416). In the second group systolic variability showed positive correlation with serum triglycerides ( $p=0.006$ ,  $r=0.416$ , CI 0.1252 to 0.6422). Morning surge was higher in the group with associated disease 23,22 +/- 1,7 vs. 17,51 +/- 1,39 ( $p=0.012$ ). **Conclusions:** Our findings suggest that systolic blood pressure variability is related to age, systolic blood pressure values and serum lipid levels. To prevent end organ damage in hypertension, the assessment of ambulatory monitoring derived 24-hour systolic blood pressure variability and its reduction may be at least as important as blood pressure lowering.

**Keywords:** internal medicine, Internal medicine, blood pressure variability, cardiovascular risk factors, ambulatory monitoring

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### LATE REVASCULARISATION IN LIMB ISCHEMIA: A CASE REPORT

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**Background:** It is known that critical ischemia of the leg is a limb-threatening condition requiring urgent diagnostic and treatment. Specialist vascular surgical units can reduce their rate of amputation significantly with an aggressive approach to revascularisation. **Material and methods:** We present a rare case report, an 80 years old man, who was surgically revascularized after more than 72 hours from the beginning of symptomatology. Limb ischemia cause was atrial fibrillation. The patient performed also an arteriography which demonstrated obstruction of left popliteal artery. **Results:** We performed thrombolectomy with the Fogarty catheter using spinal anesthesia. The patient has not developed Volkmann syndrome despite old symptomatology over 72 hours. After the operation evolution was complicated with an femoral hematoma after Seldinger puncture. This hematoma required surgical evacuation. In the end the patient was operated for the third time due to an extended necrosis. The plastic surgeon performed necrectomy and use an cutaneous flap of tensor fascia lata. **Conclusions:** This case shows that despite the old age of the patient and duration of ischemia evolution of this kind of disease could have good results. So the vascular surgeon is forced to try at any price surgical revascularisation before moving on to limb amputation.

**Keywords:** limb ischemia, surgical revascularisation, late

## THE GRADE OF LEFT VENTRICULAR DIASTOLIC DYSFUNCTION AS A PREDICTIVE FACTOR FOR PERMANENT ATRIAL FIBRILLATION

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**Background:** The objective of this study was to find a link between the grade of left ventricular diastolic dysfunction (LVDD) and the progression to permanent non-valvular atrial fibrillation (AF), in a group of patients with left ventricular diastolic dysfunction and paroxysmal or persistent atrial fibrillation. **Material and methods:** A bidirectional study on 57 patients, that met the inclusion criteria was conducted; each patient was admitted in a university-based hospital between 2013, January 1st-June 30, with a follow up 3 and 6 months later. Permanent atrial fibrillation development was noticed. **Results:** Out of the 57 patients, 23 had paroxysmal AF and 34 were with persistent AF. After 6 months, 21 patients progressed to permanent AF, representing 36.84% of the total patients. Female patients with age over 65 had more often atrial fibrillation, but more men progressed to a sustained form of AF. No statistically significant difference regarding the grade of diastolic dysfunction, the left atrial size or volume, or the left ventricular ejection fraction was observed between the patients with progression, compared to those without progression. **Conclusions:** The grade of left ventricular diastolic dysfunction did not prove to be a predictive factor for permanent atrial fibrillation, neither the left atrial size or volume, or the left ventricular ejection fraction.

**Keywords:** left ventricular diastolic dysfunction, left atrial volume, atrial fibrillation

## FIRST STUDY OF THE PROSTHESIS INDICATION DEAFNESSES IN MUREŞ COUNTY

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**Background:** Through this paper we would like to assess the frequency of the deafness pathology in the Ear, Nose and Throat Clinic of the Emergency County Hospital in Tîrgu Mureş and two other private institutions that have a ear linked profile and we took a special interest in the prosthesis indication ones. This study is a pilot preliminary one because it was conceived as a part of a larger one used to measure the number of possible cochlear implant recipients nationwide. **Material and methods:** We chose the 2011-2013 year interval to gather our data. The study first included all the patients from this time interval for which an audiometry testing was performed. Then a process of selection and exclusion was applied to the original group in order to obtain significant statistical data **Results:** The most important part of the study was to quantify the different types of hypoacusia and the relative number of candidates for various prostheses available these days **Conclusions:** This study quantifies the rising need for hearing prosthesis and triggers a signal

**Keywords:** deafness, prosthesis, cochlear implant, rehabilitation, sensorial hearing loss

## THE EFFICACY OF DUAL ANTIVIRAL THERAPY IN HEPATITIS C TREATMENT – 4 YEARS ANALYSIS OF CLINICAL PRACTICE

Petruţ Mădălina<sup>1</sup>, Kozma B<sup>1</sup>, Morarasu Diana<sup>1</sup>, Brusnic Olga<sup>1</sup>, Onisor Danusia<sup>1</sup>, Petrut M<sup>2</sup>, Dobru Daniela<sup>1</sup>

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**Background:** Hepatitis C virus infection represents an important public health burden worldwide, with an estimate of 489000 people chronically infected in our country. The purpose of this study was to assess the virological response to the dual antiviral therapy regimen, with a focus on the prognostic value of baseline parameters in viral kinetics. **Material and methods:** A total of 30 consecutive hepatitis C virus infected patients that underwent antiviral therapy consisting in the combination of pegylated interferon alpha-2a and ribavirin were enrolled in the study. Decompensated cirrhosis, hepatitis B virus/HIV co-infection, severe

chronic disease were major exclusion criteria. Clinical, biological and virological data were collected at baseline and during follow-up. We analyzed the correlations between age, gender, weight, initial viral load, baseline alanin aminotransferase levels, the degree of liver fibrosis, the degree of necro-inflammatory activity, steatosis and the achievement of sustained virological response. **Results:** Amongst the 30 patients studied, 18 were male and 12 female, with a mean age of  $54.2 \pm 8.38$  years and a mean weight of  $76.63 \pm 10.17$  kg. 4 (13.33%) of them had cirrhosis. The overall sustained virological response rate was 40% (12 patients), 7 patients (23.33%) were non-responders, 5 patients (16.66%) registered a viral breakthrough and 6 patients (20%) were relapsers. In the studied group weight and the presence of steatosis were the parameters significantly correlated with SVR ( $p=0.008$ ,  $OR=0.095$ ;  $p=0.034$ ,  $OR=8$ ), while the other followed parameters had no prognostic value for virological response. **Conclusions:** Our study verified literature data that specifies a sustained virological response rate of 40-50% for HCV genotype 1, but identified only baseline weight and steatosis as possible predictors of response. Predicting virological response before the start of treatment is important in making treatment decisions.

**Keywords:** chronic hepatitis C, baseline parameters, sustained virological response

## THE RISK/BENEFIT ANALYSIS OF ORAL ANTICOAGULANT TREATMENT IN ATRIAL FIBRILLATION USING HAS-BLED AND CHA2DS2-VASC SCORE

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**Background:** The objective was to evaluate the risk and the benefit of oral anticoagulant treatment (OAC) in nonvalvular atrial fibrillation (AF) patients, using the two scores recommended by the guidelines: the CHA2DS2-VASc score (congestive heart failure, hypertension, age  $\geq 75$  years, diabetes, stroke, vascular disease, age 65-74 years) and HAS-BLED score (1 point for each element: hypertension, abnormal renal/liver function, stroke, bleeding, labile INR, elderly  $>65$  years and drugs/alcohol). **Material and methods:** A retrospective observational study was conducted, on 144 patients with nonvalvular AF admitted between 1st of July 2013 and 30th September 2013 in the 3rd Medical Clinic of Tîrgu Mureş, with a prospectiv follow-up at 6 months. Based on the data collected from the patient charts, the thromboembolic risk was assessed using the CHA2DS2-VASc score and the hemorrhage risk was assessed using the HAS-BLED score. At 6 months, the patients were contacted via telephone, and were questioned. **Results:** There were 70 female and 74 male included, with the mean age of  $70 \pm 11$  years. From the total number of patients 13 (11.7%) had a history of stroke and the CHA2DS2-VASc score revealed that these 13 were in the high risk class. The presence of arterial hypertension and vascular disease were statistically associated with stroke. Hemorrhagic events were encountered in 19 patients (13.2%), and 16 of them had a higher than 3 HAS-BLED score. A history of bleeding, anemia and labile INR were the factors statistically associated with bleeding. **Conclusions:** The CHA2DS2-VASc score is useful in stratifying patients with AF in risk groups for thromboembolic events while the HAS-BLED score proved to be a useful tool in predicting bleeding events in anticoagulated patients. Patients on OAC with hypertension are exposed to higher risks of both stroke and hemorrhagic complications.

**Keywords:** atrial fibrillation, thromboembolic events, bleeding events, oral anticoagulant treatment

## A NOVEL DISEASE CAUSED BY INCREASE OF THE LIFESPAN: CHRONIC CUTANEOUS INSUFFICIENCY SINDROME OR DERMATOPOROSIS

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**Background:** With the increase of human lifespan we discover new disorders in many medical fields. The term "dermatoporosis" or "cutaneous insufficiency/fragility syndrome" was introduced by Kaya and Saurat in 2007 to describe lesions caused by lifelong

sun exposure similar to the ones induced by long term corticotherapy. The aim is to describe dermatoporosis clinical aspects, molecular mechanism and treatment. **Material and methods:** We will present dermatoporosis in a case series of patients. The lesions were caused by either lifelong sun exposure or long term corticotherapy. **Results:** Typically, the lesions appears in elderly people on the forearms. Rarely, we found them on the shins. The most common sign is skin atrophy. On this friable skin patients developed stellate pseudoscars and senile purpura of Bateman. In more severe cases we found long lasting ulcerations and deep dissecting hematomas that needed emergency surgical drainage. The decrease of CD44 receptors for hyaluronic acid, the main component of extracellular matrix, triggers the disease and the optimal treatment plan is topical combination of hyaluronic acid and retinaldehyd. **Conclusions:** Dermatoporosis, a new disease not entirely known among physicians, is increasing in frequency and severity. It can be treated with hyaluronic acid and retinoids and prevented by avoiding unnecessary corticotherapy and prolonged sun exposure with inadequate skin protection.

**Keywords:** dermatoporosis, corticotherapy, forearms, elderly, sun exposure

## ASSOCIATION BETWEEN INCREASED WAIST CIRCUMFERENCE AND DEPRESSION AND ANXIETY TREND

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**Background:** Abdominal adiposity assessed by increased waist circumference and depression have both high incidence and prevalence and are associated with increased general mortality and cardiovascular risk. They influence the professional and social life of each individual. Several studies showed a significant association between abdominal obesity, metabolic syndrome and depression. Early detection of these associations is important for an effective strategy for prevention and treatment. **Material and methods:** 80 patients admitted in hospital were screened for a cross-sectional descriptive study. Waist circumference was measured in centimeters (cm). We considered values greater than 80 cm in women and greater than 94 cm in men as increased waist circumference. Patients completed standardized questionnaires HADS (Hospital Anxiety Depression Scale). Tendency to depression and anxiety was assessed. The D score over 10 points showed trend to depression and the A score over 10 points to anxiety. The association between increased waist circumference and depression and anxiety was tested using chi square test, with a confidence interval (CI) of 95%, calculating the relative risk (RR) for each association. **Results:** In the 80 interviewed patients 34 (42.5 %) were men (mean age 62+/-SD), 46 (57.5%) were women (mean age 59+/-SD). Increased waist circumference was found in 22 men, and 30 women. We noticed a significant association between increased waist circumference and the tendency to both depression ( $p=0.0006$ ,  $RR=2.007$ ,  $95\%CI$  1.24-3.24) and anxiety ( $p=0.017$ ,  $RR=2.046$ ,  $95\%CI$  1.21-3.45). We found both anxiety and depression risks rather equal in men, and depression risk higher in women. **Conclusions:** Increased waist circumference is associated to depression and anxiety tendency in both genders. Depression trend is stronger in women and both depression and anxiety trend in men. Increased waist circumference seem to be an independent risk factor for depression and anxiety tendency. Psychotherapy should be added to lifestyle changes in patients with abdominal adiposity.

**Keywords:** waist circumference, depression, anxiety, HADS questionnaire

## RARE CAUSE OF CEPHALALGIA IN A YOUNG WOMAN – A CASE REPORT

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**Background:** Young adults meeting hypertension diagnostic criteria have a lower prevalence of a hypertension diagnosis. Headache is a rather common symptom among young people. Fibromuscular dysplasia (FMD) is an idiopathic, segmental, nonatherosclerotic and non-inflammatory disease of the muscular tunica of arterial walls, leading to stenosis of small and medium-sized arteries. FMD is much more common than previously thought and is a treatable cause of secondary hypertension. **Material and methods:** We present the case of a 18 y.o. young woman, with main symptom of pulsating headache. No previous significant diseases in her past medical history; in the presence of high blood pressure (BP) in left arm 180/90mmHg and 175/90mmHg in right arm "white coat hypertension" was suspected. Complete evaluation in order to identify the type of hypertension and maximize prediction of CV

risk was performed. Clinical history with abrupt onset and increasingly difficult to treat hypertension especially in women, were suggestive for renal artery stenosis, with suspected FMD. A complete ultrasound examination of the kidneys raised the suspicion of renovascular hypertension. Angiography confirmed the tight renal artery stenosis and intra-luminal irregularity of the renal artery. Sequential renal artery angioplasty was later performed with improved evolution both from the clinical point of view and controlled BP below 140/90 mmHg with minimal antihypertensive regimen. Angio CT exam of neck and brain arteries was performed, with no other FMD lesions. A periodic monitoring of the patient was recommended. **Results: Conclusions:** It is a good clinical practice to check blood pressure in every single young seen in a medical office for whatever reason. The percutaneous transluminal angioplasty showed significant improvement in reduction of antihypertensive treatment in a young patient with secondary hypertension. Recommendations for the diagnosis, evaluation, and management of secondary hypertension in young should be closely followed.

**Keywords:** family medicine, secondary hypertension, fibromuscular dysplasia

## CAPILLAROSCOPIC PATTERN IN PATIENTS WITH RHEUMATOID ARTHRITIS

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**Background:** Available data on capillaroscopic pattern in Rheumatoid arthritis (RA) are sparse and they suggest the following findings: elongated capillaries, tortuosity and prominent sub-papillary plexus. **Material and methods:** Study group included 53 consecutive patients with RA. A second control group consisted of 53 healthy volunteers without Raynaud's phenomenon (RP) and other known diseases. All patients were nonsmokers. Patients from both groups were interrogated by nail fold video-capillaroscopy. The following parameters were evaluated: shape, width, length, mean capillary density, avascular areas, hemorrhages, neoangiogenesis and sub-papillary plexus. **Results:** Raynaud's phenomenon was found in 5.66% (3/53) RA patients. Prominent sub-papillary plexus was found in 67.92% (36/53) RA patients and in 22.64% (12/53) healthy controls ( $p < 0.05$ ). Elongated capillaries were observed in 58.49% (31/53) RA patients and in 18.86% (10/53) healthy controls ( $p < 0.05$ ). The mean diameters of arterial and venous limbs in RA patients group ( $0.013 \pm 0.002$  mm and  $0.017 \pm 0.002$  mm) were significantly wider than those of healthy controls ( $0.010 \pm 0.002$  mm and  $0.012 \pm 0.003$  mm) ( $p < 0.05$ ). The mean capillary loop length in RA group ( $0.264 \pm 0.082$  mm) was higher compared to control group ( $0.230 \pm 0.081$  mm) ( $p < 0.05$ ). Tortuosity was observed in 16.98% (9/53) RA patients and none in control group. **Conclusions:** Prominent sub-papillary plexus, elongated capillaries and dilated capillaries are found more frequent in RA patients than in healthy individuals. The mean diameters of the arterial and venous limb were wider in RA with RP as compared with RA without RP patients, but not statistically significant. The mean diameter of capillary loops in RA patients without RP was also significantly wider than those of healthy controls.

**Keywords:** rheumatoid arthritis, Raynaud's phenomenon, capillaroscopy

## LEFT VENTRICULAR NON-COMPACTION CARDIOMYOPATHY: A CASE REPORT

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**Background:** Left non-compaction cardiomyopathy (LVNC) or "spongy myocardium" is a relatively rare primary genetic cardiomyopathy, characterized by prominent wall trabeculations and intertrabecular recesses which communicate with the ventricular cavity. It appears in isolated form or coexists with other congenital heart diseases and/or systemic abnormalities. **Material and methods:** We present a case of a 28-year-old woman, still active, who presented with exertional dyspnoea, dry cough, palpitations, non-specific chest pain/discomfort and progressive fatigue on exertion. There was no clear family history of cardiomyopathy, but we noticed sudden cardiac-related deaths at young age. Cardiovascular system examination revealed tachycardia, intermittent extrabeats without other changes. The rest EKG showed sinus rhythm, tachycardia (105 bpm), with normal axis, negative T-waves in DII, DIII, aVF, V4-V6. Consecutive 24 hours Holter EKG recordings revealed nonsustained ventricular tachycardia, paroxysmal atrial fibrillation, isolated ventricular extrasystoles. Two-dimensional echocardiography showed severe left ventricle (LV) systolic dysfunction (LVEF 30-35%), slight LV enlargement, normal right ventricle and small LV trabeculae in the apical area. Systolic pulmonary pressure was 45 mmHg. Cardiac magnetic resonance imaging demonstrated

dilated LV and the presence of the trabeculation of the lateral, anterior and the apical part of LV walls suggestive of LV non-compaction. A combined treatment for heart failure and cardiac arrhythmias was initiated with positive clinical results at a scheduled cardiology check-up one-month later. Patient was scheduled for an implantable cardioverter defibrillator (ICD) "life-saving". **Results: Conclusions:** The symptoms of heart failure and cardiac arrhythmias should be considered important in apparently healthy young patients. Besides intensive medical treatment is indicated the implantation of an ICD "life saving" and in advanced cases heart transplantation. Even if the electrocardiographic findings are non specific for non-compaction, a complete diagnostic evaluation is important, including sophisticated imaging techniques, a screening of first-degree relatives, and an extensive clinical, and genetic appreciation by a multidisciplinary team.

**Keywords:** non-compaction cardiomyopathy, genetic disorder, cardiac imaging

## NEW ECHOCARDIOGRAPHIC MARKERS OF RIGHT VENTRICULAR DYSFUNCTION IN ACUTE PULMONARY THROMBEMBOLISM

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**Background:** Acute pulmonary thromboembolism is a cardiovascular emergency encumbered by a high degree of mortality and morbidity, which have been significantly associated with the early presence of right ventricular dysfunction. Echocardiography is the most frequently used mode for evaluating right ventricular dysfunction, and its prognostic value for detecting the risk of early death in hemodynamically stable patients has been well established. **Material and methods:** The aim of the study was the evaluation of new echocardiographic markers of right ventricular dysfunction in patients with acute pulmonary thrombembolism and their correlation with 30-day mortality and comorbidities. Patients with angio-computer tomography confirmed pulmonary thrombembolism and recent onset of symptoms were enrolled and echocardiography was performed following a standard protocol immediately after presentation. Well-established markers of right ventricular dysfunction were measured such as free wall hypokinesis, enlarged end-diastolic diameter and reduced tricuspid annulus plane systolic excursion, as well as new markers such as reduced right ventricular outflow tract fractional shortening and reduced right ventricular outflow tract systolic excursion. The presence of each echocardiographic marker was correlated with 30-day mortality, the occurrence of comorbidities such as pulmonary thrombembolism relapse, myocardial infarction or ischemic stroke or rehospitalization within 30 days. **Results:** So far, 15 patients were enrolled and 12 patients were followed for 30 days. There were no deaths and no comorbidities and only one rehospitalization recorded. The presence of the new markers for right ventricular dysfunction was significantly associated ( $p=0.037$ ) with the presence of the established markers of right ventricular dysfunction with proven prognostic value. **Conclusions:** Reduced right ventricular outflow tract fractional shortening and Reduced right ventricular outflow tract systolic excursion are reliable markers of right ventricular dysfunction in patients with acute pulmonary thrombembolism. This paper was published under the frame of European Social Fund, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/133377

**Keywords:** acute pulmonary embolism, right ventricular dysfunction, echocardiography, right ventricular outflow tract fractional shorten, right ventricular outflow tract systolic excursion

## MINIMALLY INVASIVE TREATMENT WITH PLATELET RICH PLASMA IN PATIENTS WITH KNEE OSTEOARTHRITIS

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**Background:** The main target of the structural damage in osteoarthritis is the hyaline cartilage. New options such as PRP (platelet rich plasma) may cause structural improvement of the cartilage. **Material and methods:** The patients with osteoarthritis were

evaluated at enrolment and every three months by ultrasound knee ecography. A semi-quantitative knee ultrasound score was applied to monitor changes before and after the treatment. The score was composed by the presence of the following: bursitis (1 point), hypoechogenic changes at the level of the hyaline cartilage in the anterior transversal window (1 point), asymmetrical narrowing of the cartilage (1 point), the involvement of the medial cartilage in the longitudinal approach (1 point), the involvement of lateral cartilage in the longitudinal approach (1 point) and the presence of step up lesions - osteophytes (1 point). The evaluation was performed independently by two seaparate physicians. Another ultrasound - trained doctor was analysing all the images. **Results:** Twentythree patients were included in our study; with one patient excluded due to masive bursitis. No differences were found concerning the pathological findings between the first two evaluators (p: 0.3660). So far, only five patients have been evaluated at three months, and we were unable to find any improvements or worsenings concerning the ultrasound alterations (p: 0.7210). The ultrasound lack of modifications was not correlated with the functional status of the subjects. **Conclusions:** In the short term, the local treatment showed no improvement on structural damage, but it improved the overall status of the patients (less pain, improved mobility, a better quality of life). This paper was published under the frame of European Social Found, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/133377

**Keywords:** hyaline cartilage, minimally invasive, osteoarthritis, platelet rich plasma, knee echography

## IS THERE A RISK FACTOR MORE RESPONSIBLE FOR DISASTER?

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**Background:** Risk factors for peripheral arterial disease are generally the same as those responsible for the ischemic heart disease and in both cases they are overlapping with the risk factors involved in the etiology of atherosclerosis, like smoking, dyslipidemia, diabetes and hypertension. **Material and methods:** Case report: We present a case of a 61 years old male, whose ischemic peripheral suffering begins in 2003 at the age of 49 as a Leriche syndrome and he is subjected to a first revascularization procedure consisting in aortobifemoral bypass grafting in the same year. General examination reveals no risk factors except smoking. A year after, he returns with critical right lower limb ischemia due to bypass thrombosis and consequently an embolectomy is performed. Another embolectomy is performed soon after, succeeded by a right side femoro-popliteal bypass grafting with Dacron prothesis. The patient's condition remains good until 2008, when a femoro-popliteal bypass with inverted autologous saphenous vein is needed due to reocclusion of the previous graft. Up to this date, the patient keeps smoking and no other risk factors are identified. After another five years of continuing smoking the patient is readmitted to hospital with left lower limb critical ischemia. A femoro-popliteal bypass is performed, followed by two embolectomies and the amputation of the left thigh. **Results:** Discussions: Although our patient has a low/medium risk level of atherosclerosis through Framingham score and also a minimum Prevent CLI (PIII) score, the outcome of the multiple surgical revascularisation procedures resulted in amputation. **Conclusions:** There are enough reasons to believe that smoking as a single risk factor can strongly influence the unfavourable progression to amputation.

**Keywords:** arteriopathy, smoking, amputation

## THE IMPACT OF DEPRESSION AND ANXIETY ON THE RECOVERY OF PATIENTS WITH ISCHEMIC HEART DISEASE

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**Background:** The objective of the study is to determine the degree of depression, anxiety on quality of life influencing the rehabilitation and socio-professional reintegration patients with a diagnosis ischemic heart disease. **Material and methods:** The study prospectively performed on 206 patients diagnosed with ischemic heart disease. Depression rating scale was done using BDI and this anxiety scale STAS-X1, X2 STAS. These questionnaires were applied on admission and after 1 year. This depression and anxiety was confirmed by a psychologist and psychiatrist. We made a comparison between forms of depression, anxiety and ischemic heart disease present. **Results:** We did not find statistically significant differences between patients from urban and rural

( $x^2$  test,  $p = 0.6$ ), age and ischemic heart disease (t test;  $P = 0.23$ ); male and female ( $x^2$  test;  $p = 0.58$ ); smokers and nonsmokers (test 2,  $p = 0.46$ ), appropriate and inappropriate social status ( $x^2$  test,  $p = 1$ ), diabetes and without diabetes ( $x^2$  test,  $p = 0.68$ ). According to BDI scale-18.4% had mild depression, moderate depression 52.6%, 28.9% severe depression, 36.7% suffered a decompensation. If psychological variables: expressing anger, personality traits we find: the strongest correlation was obtained between anxiety and anger suppression subscale. Quality of life during the year improved significantly by 22% in patients no depression  $p = 0.001$ , 11.5% in those with mild depression  $p = 0.008$ , 7.8% in those with severe depression  $p = 0.032$ , only 5% to those with severe depression  $p = 0.078$ . **Conclusions:** higher anxiety level corresponds to a less favorable evolution of ischemic heart disease. Quality of life of patients with ischemic heart disease is correlated grade depression. As the degree of depression is higher the quality of life is affected. Quality of life of patients with ischemic heart disease improves with treatment and improved quality of life of patients with lower levels of anxiety is significantly higher than in those with higher levels.

**Keywords:** depression, anxiety, quality of life, ischemic heart disease

## VALUE OF THE LAB-SCORE IN IDENTIFYING FEBRILE INFANTS AT RISK FOR SERIOUS BACTERIAL INFECTIONS

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**Background:** Amongst children with fever without source the vast majority will have a self limited viral infection and a small percent will develop a serious bacterial infection (SBI) like urinary tract infection, pneumonia, bacteraemia, meningitis or sepsis. Practitioners are facing the challenge to distinguish between the two groups and currently new biomarkers are available for this purpose, like C-reactive protein (CRP) and Procalcitonin (PCT). Our survey aimed to identify SBI in infants with fever without source using a Lab-score proposed in 2008, which combines CRP, PCT and urinalysis. **Material and methods:** This survey is part of a prospective observational study aimed to identify children with fever without source at risk for SBI. Patients were recruited from the Emergency Department of Tirgu Mures Emergency Clinical County Hospital, Romania, during 2013. SBI diagnosis was based on urine, blood and cerebrospinal fluid cultures and chest radiographs. For infants included, aged 7 days to 12 month, CRP and PCT were determined and afterwards the Lab-score was calculated. Positive and negative likelihood ratios and post test probabilities were calculated for each parameter and score. **Results:** From 90 infants included, SBI was diagnosed in 19 (21,11%): 10 urinary tract infection, 7 pneumonia, 1 urinary tract infection and bacteraemia, 1 sepsis. Positive and negative likelihood ratios for CRP ( $\geq 40$ mg/l) and PCT ( $\geq 0,05$ ng/ml) were 10,27/0,45 and 7,07/0,24 and post test probabilities 73%/65%. For the Lab-score ( $\geq 3$ ) positive and negative likelihood ratios were 10,43/0,28 and the post test probability generated 73%. **Conclusions:** In our survey the Lab-score proved strong prediction value for identification of febrile infants at risk for SBI, but showed no significant difference compared with CRP and PCT which both proved to be good and similar predictors for SBI.

**Keywords:** fever, infants, serious bacterial infection, Lab-score

## EVALUATION AND SOCIO-PROFESSIONAL REINSERTION IN PATIENTS WITH ISCHEMIC HEART DISEASE

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**Background:** Prospective study objective is to assess the socio-professional reintegration of patients with ischemic heart disease. **Material and methods:** A prospective study of 206 patients diagnosed with ischemic heart disease. Patients were evaluated for three years and track in terms cardiology and work capacity evaluation and recovery was made after heart disease. The event was made by your medical expert work capacity. **Results:** Patients with coronary heart disease 76%, hypertension 68%, 30% valvular disease, arrhythmias 43.3%, diabetes 20%, stroke 14%, 9.3% obesity. Old myocardial infarction 24%, 46% acute myocardial ischemia. The mean age of patients was  $56 \pm 1.1$  years, of which 49.1% women and 50.9% men ( $p = 0.08$ ). Ejection fraction at admission:  $35.2 \pm 8.1$  average is, and at discharge increased by 6% to  $37.4 \pm 5.9$  ( $p = 0.052$ ) and at 1 year increased by

12.5% $39.6\pm 9.2$ ( $p<0.01$ ) . According to the level of education:secondary education 34%( $p<0.001$ ),high school 45.4%( $p<0.01$ ),higher education 20.6%( $p=0.056$ ).Patients professionally active at admission 70.38%( $p<0.001$ ),professionally inactive (unemployed , do not have a job)29.61%( $p<0.001$ ).Among patients after 1 year of active professional 46.89%( $p<0.001$ ).were employed in the degree of disability grade III,19.31%( $p<0.001$ ) in grade II disability degree and 29.69%( $p<0.001$ ) in 365 days sick leave.Among the non-working patients 55%( $p<0.001$ ) were enrolled in degree of disability grade III, 19.67%( $p<0.001$ ) in grade II disability degree( $p<0.01$ ).At 2 years after onset of illness in patients in grades III invalidity 54.71%( $p<0.001$ ) were reintegrated in professionally,41.17%( $p<0.001$ ) remained in the fence III disability and 4,41% ( $p<0.001$ ) were reclassified in grade II disability . Of those employed in grade II disability : 71.42% ( $p<0.001$ ) were classified in Grade III disability has the right to work part-time , 21.42%( $p<0.001$ ) remained in grade II disability and 7.14% or professionally reintegrated. **Conclusions:** Effective and fast treatment of heart disease has a main purpose the complete and fast reinsertion of patients in previous environment. The event depends cardiac health determinants,psychological,the previous work and socio - economic.

**Keywords:** ischemic heart disease, ejection fraction, professional rehabilitation

## BRAF POSITIVE ONCOCYTIC VARIANT OF PAPILLARY THYROID CARCINOMA IN A PATIENT WITH AMIODARONE INDUCED THYROTOXICOSIS – DIFFICULTIES IN THE FOLLOW-UP

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**Background:** Oncocytic papillary thyroid carcinoma (OPTC) is considered a rare but aggressive variant of papillary thyroid carcinoma (PTC), accounting for 1-10% of all PTC. **Material and methods:** Case presentation: A 58-year-old female with past medical history significant for paroxysmal atrial fibrillation (treated for 2 years with amiodarone 200 mg/day), hypertension and ischemic cardiopathy, presented in the endocrinology department with weight loss despite increased appetite (10 kg/1 month), palpitations and nervousness. **Results:** Laboratory tests revealed hyperthyroidism, the thyroid ultrasound examination showed two hypoechoic nodules in the right lobe (13/8 mm) and in the left lobe (19/16/22 mm) respectively, characterized by irregular margins, rich intra- and perilesional vascularization and microcalcification. Thyroid scintigraphy with Tc99m described "cold" nodules. Fine-needle aspiration was performed from both lesions and the cytological findings was "suspicious for papillary thyroid carcinoma" - Bethesda V. The patient underwent thyroidectomy and central neck lymphadenectomy without complications. Histopathological examination showed a multifocal oncocytic variant of papillary thyroid carcinoma, with extrathyroidal extension, pT3, without lymph nodes metastasis. The molecular analysis for BRAFV600E mutation was positive. The patient subsequently underwent radioiodine ablative therapy (83.16 mCi), the whole-body scan showed residual thyroid tissue. Thyroid hormone suppressive therapy was introduced and after 6 months thyroglobulin (Tg) level was  $< 0.1$  associated with high values of anti-thyroglobulin antibodies (TgAb) (1710 UI/ml). This pattern of undetectable thyroglobulin level but positive TgAb was persistent at consecutive follow-up visits. **Conclusions:** Because Tg assays are prone to TgAb interference, in our patient with many poor prognostic factors (age $> 45$  years, tumor size (pT3),multifocality,extrathyroid extension,positive BRAFV600E),the undetectable Tg level should be interpreted with caution. TgAb levels will serve as a surrogate for serum Tg measurement during follow-up. **ACKNOWLEDGEMENT:** This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HRD),financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/137390.

**Keywords:** oncocytic papillary carcinoma, hyperthyroidism, antithyroglobulin antibodies

## COLORECTAL CANCER MANAGEMENT

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**Background:** We try to evaluate how the European guides in colorectal cancer (CRC) management are implemented in a Clinic Hospital in Targu Mures and if these rules could be totally accepted or adapted to our national singularity. **Material and methods:** For a number of 441 patients included in the study, the electronic prospectively maintained archive of 3rd Surgery was interrogated for: age, preoperative colonoscopy, postoperative colonoscopies, if and when chemo-radiotherapy was initiated, stage of the disease, type of surgery. Local and regional relapses were assessed and their incidence was related to type of surgery. Survival analysis was done in a simplified manner and differentiated for age below and above 75 years. **Results:** Patient age distribution revealed a deviation to the right compared with a normal distribution. Median age found was 64.76±11.47. Colonoscopy was done in only 65 cases, exclusive preoperatively and followed by surgery in 18±16.47 days. Chemo-radiotherapy was administered in 168 cases, only 12 of them initiated preoperatively and continued at 47±12.89 days after surgery. The type of surgery performed was found positively correlate with the stage of the disease for first three stages while for stage 4 we noted a dramatically decrease for radical resection vs. palliative surgery. The survival probability for the patients in this study showed a 50% survival rate at 1 year and only 2% at 5 years, far away from other studies results. **Conclusions:** While CRC patient age histogram remain centered around 65 years, for passive screening is recommended a 55 years age. Stage 3 and 4 of disease for CRC are over 70% of cases, like 20 years ago, despite the increased patient accessibility for enhanced Imagistics and endoscopy. Survival rate in CRC is far lower than other studies Integrated CRC management and European practical guides are still "in wish" stage.

**Keywords:** colorectal cancer, survival, management

## INDIVIDUAL PROGNOSTIC FACTORS IN GASTRIC CANCER

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**Background:** Study of prognostic factors in gastric cancer **Material and methods:** We conducted a retrospective study on 5-year survival on 112 patients with gastric adenocarcinoma operated between 2004-2009. We used the Surgery Clinic I and Health Insurance House databases. Studied parameters: age, sex, depth of invasion, histological type, surgery, number of lymph nodes excised and report overrun / removed lymphnodes. **Results:** There is no significant survival difference according sex. We found significant differences in the survival rate of tumours confined to the mucosa and muscularis mucosae (100% and 60% respectively), compared to the cases of deeper invasion (p <0.05). Intestinal type has a better but insignificant prognosis compared to diffuse type (22% versus 5.66%). Five years survival was slightly lower after D1 lymphadenectomy D1 compared to D2 lymphadenectomy (25.92% versus 29.16%). We found large differences among the number of perigastric lymph nodes (between 3 and 42 in groups 1-6). Survival was significantly higher (p <0.05) in patients with 0 and <20% overrun lymphnodes compared to the > 20% overrun ones (23.07%, 55.55% vs. 3.89%) of all excised nodes. **Conclusions:** Merely the number of removed lymph nodes may be a source of error in staging if not taken into account the groups they belong; the most constant individual prognostic factors are the depth of invasion and overrun/removed lymph nodes report; D2 lymphadenectomy has superior results in terms of 5 years survival compared to D1 lymphadenectomy, but, at least in our study, the difference is insignificant.

**Keywords:** Surgery, Gastroenterology, Gastric cancer, lymphadenectomy, 5-year survival

## THE VOTE CLASSIFICATION IN OBSTRUCTIVE SLEEP APNEA SYNDROME

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**Background:** Obstructive sleep apnea syndrome is a disorder characterized by snoring and apnea caused by narrowing and occlusion of the upper airway during sleep. The best method to evaluate this narrowing or collapse of the upper airway is drug-induced sleep endoscopy DISE followed by the VOTE classification. **Material and methods:** In the study were included 105 patients with Obstructive Sleep Apnea Syndrome. The VOTE classification is trying to describe the patterns of obstruction during DISE and may direct treatment interventions. This classification evaluates the structures such as velum, oropharyngeal lateral walls, including the tonsils, tongue and epiglottis that most commonly play a role in obstruction of upper airway. The severity of structures obstructions is graded on 3 point scale: 0- no obstruction (no vibration, <50%), 1- partial obstruction (vibration 50-75%), 2- complete obstruction (collapse, >75%), as well as the conformation of this obstruction: antero-posterior, lateral or concentric. **Results:** The statistical correlations between uvula, webbing, and tonsils size and severity of apnea were significant  $p < 0.05$ . Between epiglottis size and severity of apnea was an insignificant correlation  $p = 0.11$ . **Conclusions:** DISE and VOTE classification provide an important information about the phenomena of the upper airway during sleep, visually and acoustically and so the surgeons may be able to develop effective treatment plans.

**Keywords:** VOTE Classification, Obstructive Sleep Apnea Syndrome, Drug induced sleep endoscopy, Webbing, Upper airway

## CORRELATIONS BETWEEN DEPRESSION, COGNITIVE STATUS, FUNCTIONAL SCORES, DISABILITY AND BRAIN MRI LESION LOAD IN MULTIPLE SCLEROSIS

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**Background:** Depression and cognitive impairment are the most frequent mental disorders in multiple sclerosis (MS) and represents an important cause of morbidity and mortality. The aim of the study was to analyze which are the main determinants of depression in multiple sclerosis. **Material and methods:** 32 patients with relapsing remitting multiple sclerosis (RRMS) were included in the study without relapses and corticosteroid treatment in the last 30 days. The mean age of the patients was  $35.4 \pm 9.2$  years, M/F ratio 0.33. Depression level was evaluated by the Romanian version of Beck Depression Inventory (BDI), the cognitive function with Paced Auditory Serial Addition Test 3 (PASAT 3), Symbol Digit Modalities Test (SDMT). The functional status and disability level of the patients were evaluated with Multiple Sclerosis Functional Composite and Expanded Disability Status Scale. In all patients a cerebral MRI with a 1.5T MRI device with intravenous contrast administration was performed. **Results:** 23 patients were without depression (score 1-10), 4 patients presented mild mood disturbance (score 11-16), 3 borderline clinical depression (score 17-20), 2 moderate depression (score 21-30). The mean BDI score was  $8.71 \pm 7.16$ . BDI score correlated significantly with EDSS ( $R=0.38$ ,  $p=0.03$ ), PASAT 3 ( $R=-0.42$ ,  $p=0.01$ ), SDMT ( $R=-0.58$ ,  $p=0.0007$ ), Timed 25-Foot Walk ( $R=0.43$ ,  $p=0.01$ ), 9-Hole Peg Test ( $R=0.45$ ,  $p=0.008$ ). From the EDSS functional scores significant correlations were found with the urinary score ( $R=0.4$ ,  $p=0.01$ ) and sensitive score ( $R=0.49$ ,  $p=0.004$ ). BDI score correlated significantly with the total number of T2 lesions ( $R=0.31$ ,  $p=0.05$ ) and did not correlated with the number of active lesions. **Conclusions:** The main determinants of depression in RRMS patients are the cognitive impairment, the affection of fine hand movements (9-HP), gait impairment (T25FT) and bladder and sensitive disfunction.

**Keywords:** Neurology, Multiple sclerosis, Depression, Cognitive dysfunction

## THE LONG-TERM EVOLUTION OF MULTIPLE SCLEROSIS PATIENTS TREATED WITH INTERFERON-BETA-1B: A 10-YEAR LONGITUDINAL STUDY

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**Background:** Interferon-beta1b (IFN- $\beta$ ) was the first approved disease modifying treatment that showed efficacy in the treatment of multiple sclerosis (MS) patients. The aim of our study was to evaluate prospectively the long term efficacy of IFN- $\beta$ 1b treatment in our MS population. **Material and methods:** 37 MS adult Caucasian patients were included in the study that were treated for minimum 10 consecutive years with IFN- $\beta$ 1b in the Regional MS Centre, Targu Mures, Romania. All patients were evaluated every 6 months regarding the: expanded disability status scale (EDSS), the annual relapse rate (ARR), the evolution of the disease related to the initial symptoms based on functional scores (FS), the progression from relapsing remitting (RR)MS to secondary progressive (SP)MS. The values were compared using statistical analysis. **Results:** Upon inclusion, 31 patients had RRMS while SPMS was found in 6 cases. The mean age of the patients at the initiation of treatment was  $34.5 \pm 7.3$  years and the mean treatment duration was  $12.6 \pm 2$  years. The male/female ratio was 12/25. The onset of disease was with pyramidal dysfunction in 7/37 patients, with brainstem (BS) involvement in 14/37, with sensitive and visual dysfunction in 9 and 7 patients respectively. The mean EDSS at the beginning of the treatment was  $2.6 \pm 1.4$  and currently increased at  $3.7 \pm 2.1$ . The progression of the EDSS was observed in 23/37 patients. Conversion from RRMS to SPMS was observed in 12/37 cases. The EDSS progression correlated significantly with the pyramidal FS, cerebellar and bowel and bladder FS and did not correlated with visual, BS and sensitive FSs. The ARR significantly decreased from  $0.94 \pm 1.29$  before treatment to  $0.19 \pm 0.21$  during treatment. The EDSS progression did not correlated with the duration of the disease before treatment. **Conclusions:** The IFN-  $\beta$ 1b treatment decreases significantly the ARR and MS progression. The onset of disease with pyramidal dysfunction predicts the most unfavorable outcome.

**Keywords:** Neurology, Multiple sclerosis, Multiple sclerosis, interferon-beta-1b

## MID-SEPTAL VERSUS APICAL RIGHT VENTRICLE LEAD PLACEMENT IN PATIENTS WITH HEART FAILURE AND CARDIAC RESYNCHRONIZATION THERAPY – AN ECHOCARDIOGRAPHY-BASED STUDY

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**Background:** In patients with heart failure and cardiac resynchronization therapy, left ventricle lead placement has been shown to influence hemodynamics and, implicitly, the response to therapy and clinical outcomes. Results regarding right ventricle lead placement are, however, conflicting. In the current study, we aimed to compare the hemodynamic consequences, as assessed by echocardiography, of mid-septal versus apical right ventricle lead placement in patients with cardiac resynchronization therapy. **Material and methods:** We conducted a prospective study on 31 patients (24 male, 7 female, mean age  $60 + 8,37$  years), who underwent cardiac resynchronization therapy in compliance with current guidelines. Two groups were formed, according to the site of right ventricle lead implantation (mid-septal in 25 patients and apical in 6 patients) and submitted to serial echocardiographic examinations: prior to implantation, within 2 days after implantation and after one, three, six months and one year, respectively. **Results:** In all patients, ventricular asynchrony was immediately reduced after resynchronization therapy; also, end-systolic left ventricular volumes were significantly diminished ( $p = 0,04$ ), while left ventricle ejection fraction was improved ( $p = 0,0001$ ). These differences persisted at one, three, six months and one year, respectively. No statistically significant differences were recorded between patients with mid-septal versus apical lead placement in terms of left ventricle ejection fraction, ventricular volumes or ventricular asynchrony parameters. **Conclusions:** Right ventricle lead placement does not influence significantly echocardiographic measurements of left ventricular dimensions or function, or left ventricle asynchrony.

**Keywords:** heart failure;, cardiac resynchronization therapy;, lead placement;, ventricular asynchrony

## CORRELATION BETWEEN THE TYPE OF TREATMENT AND MORTALITY RATES IN NONST ELEVATION ACUTE MYOCARDIAL INFARCTION

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**Background:** The aim of the study was to analyze the correlation between the type of treatment and mortality in patients with non ST elevation Acute Myocardial Infarction (NSTEMI). **Material and methods:** Study lot consisted in 55 patients with acute non ST Acute Myocardial Infarction admitted in our department in the period January-June 2014. All patients described typical chest pain, had electrocardiographic ST depression or prominent T wave inversion and positive biomarkers of myocardial necrosis. We followed the evolution of these patients in relation to the type of treatment: group 1- immediate revascularization (<12 hours), group 2- delayed revascularization (>12 hours) and group 3- conservative treatment (24 patients). **Results:** Medium age was 67 years old in group 1, 68 years old in group 2 and 61 years old in group 3. We recorded the following risk factors in the study population: smoking 20% in group 1, 31,2% in group 2 and 25% in group 3, hypertension 66,6% in group 1, 50% in group 2 and 58,3% in group 3, renal insufficiency 6,6% in group 1, 12,5% in group 2 and 8,3% in group 3, diabetes 6,6% in group 1, 31,2% in group 2 and 16,6% in group 3, dyslipidemia 9,6% in group 1, 14% in group 2 and 21% in group 3. Mortality rates were 28,5% in group 1, 0% in group 2 and 71,5% in group 3, with a global mortality rate of 12,72%. Coronary angiography indicated the presence of severe, multivascular disease in 46,6% of patients in group 1 and 62,5% in group 2. **Conclusions:** The mortality rates in NSTEMI is significantly correlated with the associated comorbidities, the presence of multivessel disease and the type of invasive approach.

**Keywords:** Cardiology, Cardiology, delayed angiography, multivessel disease, invasive t

## EPIDEMIOLOGICAL CHARACTERISTICS AND PROSPECTIVE 6-MONTHS FOLLOW-UP OF CHILDREN WITH PULMONARY ARTERIAL HYPERTENSION

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**Background:** Pulmonary arterial hypertension (PAH) is a rare disease associated with significant morbidity and mortality. Paediatric patients often present with mixed aetiologies. **Objectives:** To characterize the epidemiology, management and outcome of paediatric PAH. **Material and methods:** Children with PAH were included and followed prospectively for six months. WHO functional class, 6-minute walk test, biomarkers, electrocardiogram, spirometers and echocardiographic parameters were evaluated in progressive PAH group. **Results:** 204 children were included with a mean age of 6.13 years from July 2012 until July 2013. Transient PAH (n=170, 83.33%) included persistent pulmonary hypertension of the newborn (n=8, 3.92%) and children with congenital heart defects with systemic-to-pulmonary shunt-flow PAH (n=162, 79.41%) in whom PAH resolved after successful surgery correction. Progressive PAH (n=34, 16.66%) included idiopathic PAH (n=5, 2.45%), Eisenmenger syndrome (n=17, 8.33%) and post-operative PAH (n=6, 2.94%). Patients with progressive PAH remained stable regarding clinical status, WHO functional class, 6-minute walk distance, biomarkers, spirometers parameters and echocardiographic parameters with prognostic value. **Conclusions:** Paediatric PAH is characterized by various age-specific diagnoses, the majority of which comprise transient forms of PAH. Paediatric PAH associated with congenital heart defects represents a heterogeneous group with highly variable clinical courses. PAH specific therapies may have contributed to disease stability and favourable outcomes. **ACKNOWLEDGEMENT:** This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HDR), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/137390.

**Keywords:** pulmonary, arterial, hypertension, children

## COMPARISON BETWEEN CLINICAL AND ECHOCARDIOGRAPHIC FINDINGS IN INFANTS AND CHILDREN DIAGNOSED WITH HYPERTROPHIC CARDIOMYOPATHY

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**Background:** Hypertrophic cardiomyopathy (HCM) is a rather common hereditary disease with an autozomal dominant character, caused by mutations of genes that code for proteins of the cardiac sarcomere. The observed prevalence of this disease is much lower in pediatric patients compared to adults, because HCM usually has late gene expression. HCM presenting in infancy has been shown to have a very high mortality. **Material and methods:** 37 patients diagnosed with HCM in the IIIrd Pediatric Cardiology Department from TîrguMureswere included in this study. Patients were divided into two groups: group 1 included patients diagnosed before 1 year of age, and group 2 - patients diagnosed after 1 year of age. Data regarding familial and personal history, and echocardiographic findings were compared between these two age groups **Results:** Group 1 included 14 patients and group 2 included 23 patients. Positive familial history was found in both groups (group 1 - 4 cases, group 2 - 3 cases), all of them in obstructive forms of HCM. While in group 1, asymmetric septal hypertrophy was predominant (10 cases - 71.4%), in group 2 - concentric left ventricular hypertrophy predominated (14 cases - 60.8%). Right ventricular hypertrophy was found in 3 cases in group 1, compared to 1 case in group 2. Obstructive HCM was found in 11 patients in group 1 (78.57%) compared to 14 patients in group 2 (60.8%). Mean peak instantaneous gradient in left ventricular outflow tract was 83.36mmHg in group 1, compared to 104.5mmHg in group 2. Diastolic function was impaired in 88.8% of cases with obstructive HCM in group 1, compared to 36.36% in group 2. **Conclusions:** HCM can affect children of any age, being a heterogeneous disorder in terms of evolution, the age of onset, type and extent of hypertrophy.

**Keywords:** hypertrophic, cardiomyopathy, infants, children

## ANAESTHESIA AND POSTOPERATIVE ANALGESIA PERFORMED BY THE INSERTION OF A PERINEURAL CATHETER AT THE BRACHIAL PLEXUS

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**Background:** *This paper was published under the frame of European Social Found, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/136893* Postoperative pain management is of major importance and the existence of a device that ensures a good analgesia in the immediate postoperative period and also removes the side effects of the systemic drugs, is becoming a necessity. These goals can be achieved by inserting a catheter on brachial plexus, through which anaesthesia and postoperative pain treatment can be delivered. The goal was to obtain a good quality anaesthesia-motor and sensory blockade- and also a good postoperative analgesia by inserting a perineural catheter at the brachial plexus site. **Material and methods:** The presented cases are part of a prospective, randomised study, which includes adult patients who will undergo brachial plexus anaesthesia through a perineural catheter. The perineural catheter is introduced by ultrasound guidance with neurostimulation control. After insertion, a quantity of 0.4mg/kg is administered from a mixture of Ropivacaine and Lidocaine, equivalent concentration of 0.5%. In the postoperative period, the analgesia is ensured trough the already installed catheter. The analgesic mixture contains Ropivacaine and Lidocaine, equivalent concentrations of 0, 25%. The rate of administration of this mixture is 5 ml every 4 hours, starting after 6 hours since anaesthesia was performed. **Results:** The anaesthesia, obtained through the perineural catheter, was a good quality anaesthesia ensuring both, good sensory and motor block. The feedback regarding postoperative analgesia was positive, this type of pain management being efficient and without the systemic drug side effects. This approach of brachial plexus block, was easily accepted by the patients and was rated as a very satisfactory. **Conclusions:** The insertion of a perineural catheter for anaesthesia and postoperative analgesia, represents a safe and efficient method of achieving both analgesia and anaesthesia.

**Keywords:** regional anaesthesia, brachial plexus, perineural catheter, postoperative analgesia, patient satisfaction

## THE ASSESSMENT OF THE COLO-RECTAL POLYPS IN ORDER TO THE NEW DIAGNOSTIC AND THERAPEUTIC STRATEGIES

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**Background:** The application of the new diagnostic and therapeutical strategies in the management of the diminutive polyps requires knowledge of the histological and endoscopic characteristics of the colo-rectal polyps. Real-time assesment of the histology of the colo-rectal polyps has consequences both on therapy and postscreening and postpolypectomy colonoscopic surveillance. **Material and methods:** This paper is a descriptive retrospective study on 52 pacients reffered for colonoscopy (conventional and narrow band imaging- NBI) in Gastroenterology Clinic - Clinical County Hospital Targu Mures from January 2014 until Septembrie 2014. 80 polyps were assessed. Narrow band imaging examination targeted on the protrusive lezions allowed NICE clasification and subsequently corroboration of the histology prediction and histopathology result. Were excluded from the study patients with polyps associated with IBD or intestinal polyposis syndromes **Results:** Polyp detection rate was 48,58%, the quality of bowel preparation in hospital was fair in 84,5%.The predominant histological type was the tubular adenoma(46,25%), most of the polyps were located in the sigma(40%). Among the diminutive polyps, 58,33% were hyperplastic( $p<0,0001$ ), mainly in the recto-sigmoid (66,67%); the incidence of high grade displasia or cancer was 0. Real -time prediction of the histology of the colo-rectal polyps using NBI established: NICE I: 19 polypys, histology- 16 hyperplastic, 1 serrated, 2 adenomatous( $p<0,0001$ , Sb: 100%, Sp: 95%), NICE II: 59 polyps, histology- 53 adenomatous, ( $p<0,0001$ , Sb: 96%, Sp: 76% ), NICE III: 2 polyps- histology-cancer. **Conclusions:** We didn't observe a pattern of distribution in the topography of the diminutive polyps, histologically the predominant type was the hyperplastic. Narrow band imaging is accurate in real-time prediction of the histology of the colo-rectal polyps. The serrated adenomas might be erroneously assesed. The results have relevance in application of the new strategies in the management of the diminutive polyps.

**Keywords:** colo-rectal polyps, narrow band imaging, real time prediction of the histology

## CORRELATIONS BETWEEN MARKERS OF VULNERABILITY DETERMINED BY VH-IVUS AND THOSE DETERMINED BY ANGIO CT IN CORONARY LESIONS

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**Background:** The aim of this study was to demonstrate the correlation between the vulnerability markers determined by Intravascular Ultrasound associated with Virtual Histology (VH-IVUS) and those evaluated using coronary computed tomography angiography in the culprit lesions (CL) of patients with acute coronary syndromes (ACS). **Material and methods:** We included a total number of 43 patients with acute coronary syndrome, in whom we analyzed the plaques in the coronary tree CCTA and IVUS. **Results:** By Angio CT, low density core volumes presented a good correlation with the percentage of the NC ( $r = 0.7303$ ,  $P < 0.0001$ ) and the fibro-fatty tissue in the CL ( $r = 0.4928$ ,  $P < 0.0008$ ). A low attenuation plaque was found in 67.4% in the culprit lesions and 29.03% in the non-culprit lesions ( $P = 0.0001$ ). A low-density core  $> 6.0\text{mm}^3$ , was significantly correlated with the quantity of the necrotic core (NC) (22.08% versus 7.97%,  $P = 0.001$ ) and the fibro-fatty tissue by IVUS (18.68% versus 15.87%,  $P = 0.02$ ). **Conclusions:** A low-density core within the coronary plaque could represent a marker of vulnerability significantly correlated with the necrotic core by VH-IVUS in the culprit lesions of patients with ACS.

**Keywords:** markers of vulnerability, Angio CT, IVUS, coronary lesions

## PARTICULAR ASPECTS OF A PANCREATIC INSULINOMA CASE.

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**Background:** With a very low incidence, characterized by hypersecretion of insulin, insulinoma is a rare pancreatic endocrine tumor. **Material and methods:** We present the case of a young patient aged 33 years, without notable personal history, and suggestive family history. Disease has began with a psychomotor agitation episode, state of consciousness preserved and stopped after ingestion of sweet liquids. Subsequently mentioned episode, is found in hypoglycemic coma at home occurred after a sustained effort, with rapid return to normal on glucose administration. In order of excluding endocrine pathology, hormonal tests are dosed, with normal results, but still with a low blood sugar. We suspect the existence of a insulinoma. Patient is subject of a fasting for 12 hours with constant surveillance, capillary blood glucose dosage every 90 minutes and venous blood sampling at a blood glucose value of 40 mg/dl. After about 8 hours, he becomes incoherent with low capillary blood glucose. Venous blood samples are taken, from which glycemia, insulin, C-peptide, cortisol are metered. Due to a worsening confusional state, glucose is administered with a fast state improving. Results advocates diagnosis of insulinoma. **Results:** Fasting test - glucose 29 mg / dl, insulin 26mU / ml, C-peptide 4.5 ng/mL. Abdominal ultrasound examination revealed pathological pancreatic changes. Abdominal-pelvis CT reveals a substitute process space of 19 mm, ordered on the tail of the pancreas. Endoscopic ultrasound pancreatic exploration revealed a formation of about 2 cm that was punctured and examined histopathologically. Results diagnosed the sample as part of a well-differentiated endocrine tumor with uncertain behavior pT1 and is surgical resected. **Conclusions:** We present a rare case of pancreatic tumor at a young patient in which Whipple triad was highly suggestive and led to insulinoma suspicion, confirmed by the conducted investigations with favorable evolution 4 years after surgery.

**Keywords:** insulinoma, endoscopic ultrasound exploration and puncture of, rare case of, whipple triad, fasting test in

## CORRELATIONS BETWEEN CONTRAST DENSITY GRADIENT IN CORONARY COMPUTER TOMOGRAPHY ANGIOGRAPHY AND FUNCTIONAL SIGNIFICANCE OF CORONARY ARTERY STENOSIS

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**Background:** Evaluating the hemodynamic significance of a coronary artery stenosis is a challenging topic, extremely important for evaluation of indication of revascularization in atherosclerotic coronary artery stenosis. The aim of this study is to evaluate the role of a new marker reflecting the functional significance of a coronary artery stenosis, represented by the attenuation degree of contrast density along the stenosis by Coronary CT. **Material and methods:** We evaluated retrospectively 30 patients with pectoral angina and coronary luminal narrowing who underwent 64-slice Coronary Computed Tomography Angiography. We measured the intraluminal contrast density (Hounsfield units [HU]) at two levels, proximal and distal to stenosis, and the attenuation gradient was calculated. **Results:** At baseline were not significant differences in terms of age, risk factors (Hypertension, diabetes). The average contrast density was 77,96 proximal to the stenosis and 67,6 distal to the stenosis. The average transluminal gradient was 10,36 The average length of the coronary lesions was 16,93 mm . In those lesions with significant stenosis, expressed by >70% luminal narrowing, we recorded a significantly higher transluminal attenuation gradient as compared to those with <70% luminal narrowing (6.16 +/-3.7, 95%CI 4.3-80 vs 16.6 +/- 8.4, 95% CI11.3 - 21.9). The degree of luminal narrowing significantly correlated with the contrast attenuation gradient ( $r=0.71$ ,  $p<0.001$ ). **Conclusions:** The assessment of intraluminal contrast density by Coronary Computed Tomography Angiography may represent a new noninvasive method to obtain relevant information about the clinical significance of a coronary stenosis. Larger studies are requested to emphasize the benefits brought by CCTA in evaluating coronary lesions.

**Keywords:** computer tomography, contrast density gradient, atherosclerosis, coronary lesions

## EPIDEMIOLOGICAL ASPECTS OF CONGENITAL HEART MALFORMATIONS IN CHILDREN AND THEIR IMPLICATIONS IN DEVELOPING A CLINICAL MONITORING REGISTRY

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**Background:** Congenital heart malformations (CHM) are one of the main causes of death during the first year of life. The main issues regarding CHM management in Romania are the lack of data that describe the true incidence on population level, lack of standardized diagnosis and CHM reporting at national level. Our goal is to analyse the incidence of CHM in children within the Emergency Cardiovascular and Transplant Institute in Targu Mures (IUBCVT) in order to determine the rate of enrollment, contouring the registration and follow-up form. **Material and methods:** We have conducted a retrospective, descriptive study concerning children discharged between 2008-2013, with a main diagnosis or comorbidity belonging to the category Q20-Q28 (Congenital cardiac malformations - ICD 10 AM), belonging to the Pediatric Cardiovascular center of IUBCVT. The study group was made up of 839 new-borns discharged from the Neonatology clinic of the Mures County Emergency Clinical Hospital (SCJU) and 4423 children discharged from IUBCVT. **Results:** The incidence of CHM in new-borns discharged from SCJU varied between 5,23% and 11,47 %. Of the total 839 new-borns, 139 underwent surgery in the IUBCVT within the first 30 days of life. The most frequent malformations found were interatrial communication (46,52 %), persistent ductus arteriosus (22,10 %), interventricular communication (9,04%). Disease group based morbidity within the IUBCVT demonstrates the large share of interventricular communication (20.05 %), interatrial communication (15.98%) respectively of persistent ductus arteriosus (13,05%). Of the 1255 children that underwent surgery, the most frequent procedures (17,93%) were conducted for interatrial communication. **Conclusions:** Establishing a CHM clinical registry is important for the screening, diagnosing, monitoring of congenital cardiac malformations as well as aiding in choosing the right treatment path. This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/133377/

**Keywords:** congenital cardiac malformations, monitoring, clinical registry, cardiology

## IS NAFLD A RISK FACTOR FOR COLORECTAL POLYPS?

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**Background:** Non-alcoholic fatty liver disease (NAFLD) is considered to be the most common of all liver disorders, and its prevalence is almost certainly increasing. Because of the presence of NAFLD in metabolic syndrome and of latter's role in the appearance of colorectal polyps, many studies have tried to find a link between the liver disease and colorectal polyps. The aim of the study was to determine whether NAFLD is a risk factor for colorectal polyps. **Material and methods:** We examined 560 patients diagnosed with NAFLD who underwent colonoscopy at Mures County Hospital, between January 2011 and June 2014. Fatty liver disease was assessed by abdominal ultrasound, with NAFLD defined as fatty liver disease in the absence of alcohol use of > 40 g/week or other secondary causes. We divided the 560 patients into two groups, according to the presence or absence of polyps. Data were collected from patient's history, physical exam, laboratory tests and abdominal ultrasound. **Results:** The prevalence of colorectal polyps was 16,6% (93) in the NAFLD patients. 51 (54,8%) of them were female, and the Chi2 test identified a statistically significant association between the female gender and the appearance of polyps (p=0,028; OR=1,652; CI=1,052-2,596). No statistical association was found between the smoking status and the development of colorectal polyps (p=0,245) and only 18 of 93 patients were smokers. Of 93 patients with polyps, 68 (73,1%) have associated diabetes mellitus, but without statistical correlation (p=0,214). According to family history of colorectal polyps none of the patients have data about a possible

polyposis pathology. **Conclusions:** Our study demonstrate a relationship between some characteristics of NAFLD and the development of colorectal polyps. Further studies are required to confirm whether NAFLD is a predictor for the appearance of polyps.

**Keywords:** NAFLD, colorectal polyps, abdominal ultrasound, colonoscopy

## SURGICAL RISK FACTORS OF PATIENTS WITH OPERABLE GIST

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**Background:** Gastrointestinal stromal tumors (GIST) are the most frequently mezenchimale tumors of the gastrointestinal tract. They usually appear on the stomach or small intestine but can occur anywhere along the gastrointestinal tract and rarely even outside it. This study aims to analyze the results after surgical treatment of GIST and identify key risk factors influencing postoperative course of these patients in order to discover the most effective therapeutic methods to significantly improve postoperative course of these patients. **Material and methods:** We retrospectively reviewed the medical records of all patients who underwent surgical removal of GISTs from 2004-2014. Patient demographics, criterion for admission, surgery, complications, secondary dissemination, histopathological data and clinical course were analyzed following patient survival at 12, 24, 36 and to 60 months postoperatively. Statistical analysis was performed using the MedCalc software program, and survival analysis was done by Kaplan Meyer. **Results:** During this period we analyzed a total of 27 cases, including 12 males and 15 females with age from 33 to 80 years (median, 61). The tumor was located in the stomach (9 cases; 33%), small intestine in five cases (19%) and duodenal or rectum three patients (13 cases; 48%). Multivariate analysis revealed that tumor size ( $P < 0,01$ ), criterion for admission ( $P < 0,01$ ) and secondary dissemination ( $P < 0,01$ ) are independent prognostic factors. **Conclusions:** Factors (age and sex of patients, size and tumor site, presence or absence of metastasis) are prognostic risk factors with significant differences in the evolution of patients with operable GIST. It is a small number of patients requiring an extension and a prospective multicentric.

**Keywords:** gastrointestinal stromal tumors, prognostic risk factors, postoperative course

## CORRELATIONS BETWEEN DISTANCE-RELATED DIFFERENCES IN CRITICAL TIMES AND MORTALITY IN A REGIONAL STEMI NETWORK

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**Background:** The purpose of this study was to investigate the correlation between distance-related differences in critical network times and mortality of STEMI patients presenting to hospitals belonging to the same STEMI network. **Material and methods:** We studied 416 STEMI patients who presented to a pPCI center ( $n=141$ ) or to a territorial hospital located in: zone 1 -  $<70$  km from the pPCI center ( $n=101$ ), zone 2 -  $70-150$  km from the pPCI center ( $n=81$ ), or zone 3 -  $150-250$  km to the pPCI center ( $n=93$ ). We analyzed the following time intervals: (1) presentation time (PT), from onset of symptoms to first medical contact, (2) protocol initiation time (PIT), from first medical contact to STEMI protocol initiation, (3) door to balloon time (DTB), from arrival in the pPCI center to balloon dilatation. **Results:** We didn't find significant difference in PT between the groups (183.08 min vs 199.1 min vs 166.7 min vs 161.95,  $p=0.4$ ). In zone 3 PIT was significantly lower (61.66 min in zone 3 vs 92 min in zone 2 vs 107 min in zone 1,  $p=0.002$ ). DTB time (from the door of the pPCI center to balloon dilatation) was significantly longer for patients who presented directly to pPCI center compared to those arriving from zone 1, 2 or 3 hospitals (86.96 vs 52.27 vs 39.94 vs 43.9 min,  $p<0.001$ ), who found the cath lab already prepared when they arrived, as a result of STEMI phone activation. Despite of the differences in distance to pPCI center we found similar rates of mortality (3.5% in pPCI center, 3.9% in zone 1, 3.7% in zone 2 and 3.2% in zone 3). **Conclusions:** A well organized STEMI network, as the one existing in zone 3 in our study, could shorten the critical network times thus presenting similar mortality rates with the centers located closer to the pPCI center.

**Keywords:** STEMI, network, Critical time, mortality

## PREDICTIVE FACTORS IN THE ONSET OF EPILEPSY IN CHILDREN WITH CEREBRAL PALSY

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**Background:** the aims of the study was to identify predictive risk factors and the development of epilepsy in patients with cerebral palsy (CP). **Material and methods:** We performed a bidirectional study in which 177 patients diagnosed with CP were selected from Pediatric Neurology and Psychiatry Clinic of Tg Mures. Two groups were formed: group 1 with 86 cases of CP, and group 2 with 91 patients with CP and epilepsy. We analyzed: the history related to pregnancy and birth, gestational age, birth weight, fetal distress, the presence of neonatal convulsion, age of onset for the epilepsy, associated types of seizures, the response to anticonvulsant and brain changes identified by imagistic examination. **Results:** 91 (51.4%) patients had associated epilepsy, 49 (53.8%) of this presenting seizures in their first year of life. Epilepsy was identified most frequently in quadriplegic form (76,2% vs 23,8%) with OR=3,04, 95% IC=1,42-6,52, with a p=0.005 statistically highly significant. In this group, the most common were partial seizures (34,4%), GTCS represented (12,5%) infantile spasms (9.4%), epileptic encephalopathies like Lennox Gastaut and West type (62.5%), and also neonatal seizures, which were an important risk factors in the development of epilepsy (p=0.01). 80% of on-term infants who had neonatal seizures later developed epilepsy. Fetal distress represented by low Apgar score, low birth weight, cytomegalovirus infections, and history of pathologic pregnancy were associated with an increased risk of developing epilepsy. Epileptic patients had more abnormal abnormal cerebral finding than among the non-epileptic patients, with a p=0.01, cerebral atrophy being representative (37,5% vs 16%). 28(30.8%) patients develop resistant epilepsy, 13 (46.4%) of them having quadriplegia. Early onset of epilepsy constitutes a sign of severity in epileptic forms (OR = 3.09, 95% CI = 1.187 to 8.061, p = 0.01). **Conclusions:** This study highlights the importance of early identification of risk factors in the development of epilepsy in children with CP and requires careful follow-up and early treatment of these cases.

**Keywords:** predictive factors, cerebral palsy, epilepsy, children

## PREDICTORS OF HEPATOCELLULAR CARCINOMA IN PATIENTS WITH LIVER CIRRHOSIS

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**Background:** Hepatocellular carcinoma (HCC) is one of the most important health issues, with an increasing incidence worldwide. The aim of the present study was to determine the factors that predict HCC occurrence in a group of patients with liver cirrhosis condition developed on various etiologies. **Material and methods:** A total of 282 consecutive patients with liver cirrhosis consulted between the January 1, 2013 and July 31, 2014 were enrolled in a prospective study. Data from patient's history, physical exams, laboratory tests and abdominal ultrasound have been collected. **Results:** 282 patients were included in the study with the median age of 59,6 and the male/female ratio of 1.38/1, while 12.41% (35) were diagnosed with HCC. Alcohol consumption was documented in 19 cases (54,28%) without statistical association (p=0,621) and in the context 7 (20%) were smokers (p=0,403). According to etiological factors of liver cirrhosis: 7 (20%) had background B virus infection, 15 (42,85%) C virus infection and 11 (31,42%) cases incriminated other causes of cirrhosis (alcohol). Chi square test identified a statistically significant association between the occurrence of HCC and viral etiology of cirrhosis (p=0,01, r=18,830). Nonetheless no statistical association was found between Child Pugh scoring of cirrhosis and HCC (p=0,774) but a statistically significant association yet inversely proportional was identified between neoplasia and obesity (p=0,008, r=-0,157). **Conclusions:** In conclusion, the viral etiology of liver cirrhosis is found to be an important risk factor for HCC, and also liver cancer was inversely associated with nutritional status.

**Keywords:** Internal Medicine, Gastroenterology, hepatocellular carcinoma, liver cirrhosis, predictors

## GASTRIC INTESTINAL METAPLASIA: PREVALENCE, CLINICAL, ENDOSCOPIC AND HISTOLOGICAL FEATURES

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**Background:** Gastric intestinal metaplasia represents a risk factor for intestinal type of gastric cancer. The prevalence of intestinal metaplasia appears to be higher in *Helicobacter pylori* infection, in first-degree relatives of gastric cancer patients and it increases with patient age. The aim of this study was to determine the prevalence, clinical, endoscopic and histological features of gastric intestinal metaplasia. **Material and methods:** We retrospectively analyzed all the esophagogastroduodenoscopies with biopsies performed between the January 1, 2014 and October 31, 2014. Data including age, gender, symptoms, endoscopic and histological findings were collected. *Helicobacter pylori* was determined by histological examination of biopsies. **Results:** 482 patients (283 females and 199 males) were included in the study. The main indication for endoscopy was: dyspepsia (267), anemia (58) and 85 patients were examined for other symptoms. Endoscopic findings were: 154 cases of erythematous gastritis, 90 of erosive gastritis, 62 of atrophic gastritis and 52 cases of peptic ulcer. The prevalence of *Helicobacter pylori* infection was 28,8%. 137 patients had intestinal metaplasia at histological examination and the prevalence was 28,4%. A similar distribution between gender was observed with a significant increase of intestinal metaplasia with age (P 0,0001). Regarding to the indication for upper endoscopy, the prevalence of intestinal metaplasia was 17% among patients with dyspepsia, 2% in patients with anemia and 5% in patients examined for other symptoms. No significant association was noticed (P 0,32). In regard to endoscopic findings, intestinal metaplasia was significant associated with atrophic gastritis (P 0,0001), erythematous gastritis (P 0,0079), while there was no association with erosive gastritis (P 0,24) and peptic ulcer (P 0,19). **Conclusions:** Gastric intestinal metaplasia is a common finding in patients investigated by esophagogastroduodenoscopies with biopsies. The prevalence of intestinal metaplasia increases with age. Endoscopic findings like erythema and atrophy are strongly associated with gastric intestinal metaplasia, emphasizing the importance of sampling biopsies.

**Keywords:** Internal Medicine, Gastroenterology, Prevalence, Intestinal metaplasia, Gastric cancer

## CHARACTERISATION OF CORONARY ATHEROSCLEROSIS IN PATIENTS WITH MYOCARDIAL BRIDGES USING CARDIAC COMPUTED TOMOGRAPHY

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**Background:** The myocardial muscle bridge (MB) represents the most common congenital anomaly of coronary arteries. The purpose of this study was to evaluate the correlation between myocardial bridges and location and severity of coronary atherosclerosis. **Material and methods:** We analyzed over 4000 cardiac computed tomography angiographies in which we evaluated all the segments for atherosclerotic plaque, proximal and distal to the bridge. **Results:** We identified 396 cases (incidence of 9,53%, mean age 55.96 +/-12.39) with myocardial bridge, patients presenting with symptoms of angina and ECG modifications. Bridges were of variable depth (superficial 73, 45%, intramyocardial 26,45 %) being more frequently localized in the intermediate part of the left anterior descending artery (LAD) (89,89%). The mean of Ca Scor was 106,86 +/- 283,48. The prevalence of atherosclerotic plaques at the distal LAD was lower as compared with the localization in the middle segments. No atherosclerotic plaques were found inside the intramyocardial segments of the LAD. **Conclusions:** Myocardial bridges represent a common form of non-atherosclerotic coronary artery disease that can be easily identified with Angio CT. Angio CT is a noninvasive method that is able to depict in a complex way the myocardial bridging and associated atherosclerotic plaque in the proximal segments.

**Keywords:** myocardial muscle bridge, atherosclerotic coronary lesions, computed tomography angiography

## DRUG ELUTING BALON CORONARY ANGIOPLASTY FOR TREATMENT OF IN-STENT RESTENOSIS

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**Background:** Treatment of coronary in-stent restenosis with drug eluting balloons is a new treatment strategy which could replace the classical treatment represented by implantation of a drug eluting stent in these difficult and increasingly more common cases. The aim of this study was to assess the safety and efficacy of drug eluting balloons versus drug eluting stent implantation and plain old balloon angioplasty in the treatment of in-stent restenosis. **Material and methods:** We enrolled 51 patients with in-stent restenosis. Group 1 - 19 patients treated with drug eluting balloons, group B - 15 patients treated with drug eluting stents, and group 3 - 17 patients treated with classical balloon angioplasty. Angio CT multislice 64 was performed to assess the degree of restenosis at 6 and 12 months. Primary endpoints of the study were technical success rates and MACE rates at 6 months and 1 year. Secondary endpoint was the restenosis rate assessed by angio CT 64 multislice at 6 and 12 months. **Results:** Technical success was similar in all groups (100% in gr. 1, 85% in gr.2, 92% in gr.3). A total of 5 MACE events were recorded after 1 year, none in group 1, 1 in group 2 and 4 in group 3. Angio CT 64 multislice revealed no significant in-stent restenosis in gr.1, 2 cases with restenosis < 35%, 1 case with significant in-stent restenosis in gr. 2, and 5 cases with significant in-stent restenosis in group 3. **Conclusions:** Treatment of coronary in-stent restenosis with drug eluting balloons presents superior efficacy and safety compared with classical methods of treatment for in-stent restenosis.

**Keywords:** drug eluting balloons, in-stent restenosis, drug eluting stent, plain old balloon angioplasty

## CORRELATIONS BETWEEN TOTAL ISCHEMIA TIME AND MORTALITY IN ACUTE MYOCARDIAL INFARCTION

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**Background:** The main goals of therapy in acute myocardial infarction (AMI) are the fast restoration of coronary flow and shortening of the total ischemic time. The myocardial ischemic time is represented by the time from symptom onset until reperfusion occurs and is the main determinant of myocardial viability in STE elevation acute myocardial infarction (STEMI). The aim of this study was to address the relationship between total ischemic time and mortality in AMI in a well-organized STEMI network. **Material and methods:** The study population consisted of 267 (n=267) patients with STEMI treated by primary angioplasty. We analyzed the following time intervals: the time from symptoms onset until first medical contact and then until reperfusion. We calculated the total ischemic time and we correlated this time with in-hospital, 6-months and 1-year mortality rates. **Results:** The main age of the patients was 62 year (+/- 10). Six month mortality rate was 14,98%. The main ischemic time among patients who died in hospital was 447,18 min, compared with those alive at 6 months in whom ischemic time was 314,30 min (p=0.0001). **Conclusions:** These results suggest that every minute of delay in primary angioplasty for STEMI affects 1-year mortality. Based on the idea that "time means myocardium" we consider that all efforts should be made to shorten the total ischemic time, for example a well organized STEMI network, or training doctors in order to send the patient with acute myocardial infarction as quickly as possible to an interventional center.

**Keywords:** STEMI network, myocardial viability, total ischemic time, STEMI, mortality rate

## SOCIO-DEMOGRAPHIC CHARACTERISTICS OF PATIENTS DIAGNOSED WITH ADVANCED CHRONIC VENOUS INSUFFICIENCY (C4-C6) CORRELATED WITH CLINICAL AND PARA-CLINICAL FINDINGS

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**Background:** Chronic venous insufficiency (CVI) is a common clinical problem. According to the latest assessments, its frequency reaches almost 25% in European countries. Advanced chronic venous insufficiency (aCVI) however has a lower, but increasing incidence over time (around 6.8% in 2012). The aim of this present study was to assess the correlation between socio-demographic characteristics as well as clinical findings and para-clinical findings of aCVI patients. **Material and methods:** A total number of 2636 patients diagnosed with CVI have been evaluated retrospectively for over an 8 year time period (2006 January-2013 December). In case of 795 of them, diagnosis of aCVI (C4-C6) has been established. Based on the patients data recorded, we have evaluated the CEAP class and the venous score of these patients, as well as the following: age, gender, demographics, symptoms, clinical and para-clinical findings, and even the therapeutical approach. All the assessed data has been evaluated using descriptive statistics, t-Student test, and chi square test. **Results:** The assessed data have demonstrated a significant correlation between aCVI (C4-6) and male patients ( $p=0.00049$ ). At the same time, the clinical score of the patients was also higher in males, showing a significant correlation ( $p=0.0156$ ). More than that the CEAP clinical class, and the clinical score also correlated with the age of the patients ( $p<0.00001$ ) Based on the demographics, we found another significant correlation: patients originating from rural areas showed significantly higher clinical score ( $p= 0.00085$ ). Simultaneously evaluation of etiology demonstrated a high risk of developing venous ulcer in patients with history of thrombosis ( $p<0.0001$ ). **Conclusions:** Based on our results, the typical profile of a patient with aCVI has been outlined. Using this profile, the general practitioner and even the internal medicine specialist can recognize those patients with an elevated risk of developing aCVI, and accordingly can choose a more appropriate therapeutic approach.

**Keywords:** advanced chronic venous insufficiency, socio-demographic characteristics, C4-C6 class venous disorder

## THE MOST FREQUENT TYPES OF ENTHESITIS FOUND IN REACTIVE ARTHRITIS

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**Background:** Reactive arthritis is a condition that appears after an interval of 1 to 4 weeks from an infection with enteral and urogenital gate at patients with positive HLA-B27. A characteristic lesion of the seronegative spondyloarthropathies is enthesitis, which represents an inflammation concerning tendons, ligaments, joint capsule or muscle fascia insertions on the bone. The aim of this study was to demonstrate which are the most frequent types of enthesitis found in reactive arthritis. **Material and methods:** We performed a retrospective study which included 20 patients aged 17 to 47, accepted in the Rheumatology Clinic of the Emergency County Hospital Craiova, in 2010-2013. Patients were diagnosed with reactive arthritis according to the ESSG criterion, enthesitis being among them. The ultrasound evaluation of enthesitis was performed with the help of an Esaote MyLab 25 ultrasound, using an 18 MHz probe in both longitudinal and transverse section, investigation including entheses of the quadriceps, patellar (proximal and distal) and achilean tendons. **Results:** The loss of fibrillar echostructure at insertion, with a hypoechogen, scratchy aspect and the growth in dimensions of the examined tendons represented the ultrasound changes in patients with reactive arthritis. Furthermore, in advanced stages we highlighted an irregular aspect of the cortical bone deep inside the tendon. The presence of the Doppler signal tangential to the cortical bone confirmed the diagnosis of enthesitis. Eighteen patients were diagnosed with achilean enthesitis, with positive Doppler signal, the rest presented bilateral quadriceps tendon enthesitis. There were no ultrasound changes at patellar tendons. **Conclusions:** The results of this study lead to the conclusion that the most frequent type of enthesitis in reactive arthritis is at achilean tendon, followed by quadriceps tendon. However due to the relatively small number of patients examined, a possible extension of this study in the future is needed.

**Keywords:** enthesitis, reactive arthritis, ultrasound

## THE IMPORTANCE OF ANTICARDIOLIPIN ANTIBODIES IN PATIENTS WITH NEUROLOGICAL MANIFESTATIONS OF ANTIPHOSPHOLIPID SYNDROME

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**Background:** Because thrombosis occurs only occasionally despite the presence of antiphospholipid antibodies, it is considered that these antibodies increase the risk of thrombosis, however, thrombus formation occurs in the presence of other thrombophilic conditions. **Material and methods:** The paper aims to investigate the prevalence of IgG anticardiolipin antibodies (ACL) in patients with the following neurologic manifestations: stroke, cerebral venous thrombosis, epilepsy, multiple sclerosis, depression. We will try to prove the existence of an association between ACL and risk factors for stroke. We conducted a retrospective study of 149 patients hospitalized in the Clinic of Neurology I SCJU Targu Mures during 2008-2014. The patients were investigated for the presence of antiphospholipid syndrome and divided into groups according to sex and age. **Results:** In patients with stroke, the prevalence of ACL was 20% in men aged 18-50 years, and 38% in those aged 50 -82 years. Women showed a prevalence of 29% in the first age group and 26% in the second category. The prevalence of risk factors for ischemic stroke was higher in the group with negative ACL when compared with the group with positive ACL. In patients with cerebral venous thrombosis, ACL prevalence was higher in men, and the results were reversed in anxious-depressive disorder group. In the group with multiple sclerosis, 13% of women had positive ACL. **Conclusions:** Since the prevalence of risk factors was lower in patients with positive ACL and stroke, we deem it necessary for a antifolipidic syndrome screening to be performed in patients with ischemic stroke in the absence of risk factors, regardless of age.

**Keywords:** anticardiolipin antibodies, stroke, risk factors for ischemic stroke

## THERAPEUTIC PITFALLS IN DRUG CLOSURE OF THE PATENT DUCTUS ARTERIOSUS IN EXTREMELY LOW BIRTH WEIGHT PREMATURE NEWBORNS

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**Background:** Patent ductus arteriosus involves maintaining the permeability of the vascular ductus located between the pulmonary artery and the descending aorta, due to the failure of transition from fetal to adult type circulation. Although it also occurs in mature newborns, this malformation is characteristic to premature newborns with extremely low birth weight. The main pathophysiological factors identified in this pathology are immaturity of the smooth muscles, presence of vasodilatory mediators and persistent hypoxemia. Ductal-dependent cardiac malformations require drug therapy for keeping the permeability of the ductus arteriosus until the time of corrective surgery. **Material and methods:** We present the case of an extremely low birth weight premature newborn, derived from twin pregnancy with suspected specific pathology, respectively feto-fetal transfusion syndrome, admitted to the Regional Center of Neonatal Intensive Care Unit Tîrgu-Mureş. **Results:** Premature newborn with GA 31-32 weeks, extremely low birth weight, derived from twin pregnancy, with adequate prenatal follow up, is born by caesarean section for severe intrauterine growth restriction secondary to feto-fetal transfusion syndrome suspicion. The newborn develops respiratory distress syndrome by surfactant deficiency, intraventricular hemorrhage grade I/II, and severe retinopathy. The detection of a systolic murmur in the second week of life, the diastolic theft revealed by transfontanelar ultrasound, as well as lower diastolic blood pressure values raise the suspicion of patent ductus arteriosus and therefore, specific treatment with cyclooxygenase inhibitors is initiated. Progressive alteration of the newborns condition and the evidence of a coarctation of the aorta imposed the initiation of Prostaglandin E1 therapy and subsequent surgical correction. **Conclusions:** Although beneficial, prophylactic or therapeutic closure of persistent ductus arteriosus may worsen the evolution of a newborn with a "silent" cardiac malformation and associated pathology.

**Keywords:** extremely low birth weight, patent ductus arteriosus, feto-fetal transfusion syndrome

## LMWH VS COUMADIN-INDUCED SKIN NECROSIS IN A PATIENT WITH SVT

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**Background:** Coumadin and LMWH induced skin necrosis are rare clinical conditions. Tissue lesions caused by cumadins appear in 0,1 % of patients having oral anticoagulant treatment, most of them manifesting after 3-6 days of treatment. Heparin induced skin necrosis may occur at the injection site or at distant areas, debuting in 1-17 days after the initiation of injections, one of these forms being associated with thrombocytopenia. **Material and methods:** 63-years-old female patient, known with hypertension and right-sided hemiparesis, had presented to the emergency department with pain and erythema of her internal right thigh. Venous Doppler-echography showed ISV thrombosis, thus she was started on anticoagulant treatment with Fragmin and Sintrom. On the 5th day of treatment she developed plantar hematoma on her left leg, followed by the appearance of hematomas with central necrosis, on the lower third of her right calf and on coxofemoral regions. Therefore, we raised the suspicion of heparin or coumadin-induced cutaneous necrosis, we stopped the anticoagulation for 5 days and restarted it with the administration of Rivaroxaban, fresh frozen plasma, antibiotics and local, sterile, saline dressings. After four days the patient presented DVT on her left PV, PTV, FV. **Results:** Coagulation abnormalities were suspected, but infirmed by specific laboratory tests, such as ProteinC(472.2%) $\times$ , proteinS(77.10%)N, lupus anticoagulant (LA1-screening 53, 5s, LA-confirmation 38,0s)N. Hemogram showed normal platelet values. To exclude a malignancy, abdominal CT-scan was performed, which revealed a right adnexal inhomogenic cystic lesion, CA125(6,5U/ml)N, requiring further gynecological investigations. For the treatment of skin lesions, the patient required necrectomy and skin graft application. **Conclusions:** Particularly, considering that the patient was initially anticoagulated with LMWH and coumadins simultaneously, the etiology of her cutaneous lesions remains uncertain.

**Keywords:** skin necrosis, LMWH, coumadins

## EPICARDIAL FAT VOLUME AS A NEW MARKER EXPRESSING THE SEVERITY OF CORONARY ARTERY DISEASE

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**Background:** Epicardial adipose tissue is a new CV risk marker, expresses an inflammatory status and increased a higher risk of coronary artery disease. Our aim was to determine the correlation between coronary plaque calcification expressed in calcium score and epicardial fat volume (EFV). **Material and methods:** We enrolled 96 patients with symptoms of angina and electrocardiogram modification (at rest or during exercise). Cardiac CT was performed in the to assess the Calcium score and epicardial tissue volume in all patients. Patients were divided into three groups according to the Calcium values: group 1 - low risk, with a Ca score below 100, group 2 - intermediate risk with a calcium score between 100 and 400, and group 3 - high risk, with a calcium score above 400. **Results:** In our study, 63 patients were male (65%), and 33 (35%) female, mean age: 59.49 +/- 11.35. Most frequent cardiovascular risk factors were hypertension (84%) and dyslipidemia (60%). Seventy-one percent of patients presented low calcium score, 10% intermediate risk and 19% high calcium score. The average volume of epicardial fat was 78.46  $\pm$  37,47cm<sup>3</sup> (extreme values 16.89 - 234.88 cm<sup>3</sup>). Calcium score in patients with low or intermediate risk EFV average value was 71.98  $\pm$  3.82 cm<sup>3</sup>, compared to 87.58 cm<sup>3</sup> in patients with Ca scor > 400. We recorded a statistically significant correlation between high CaScore and EFV (p = 0.02), and an inverse correlation between high EFV and low ejection fraction. **Conclusions:** The epicardial fat volume could represent a new marker for evaluation of coronary artery disease severity, correlated with other markers that express the severity of atherosclerotic process, such as calcium score.

**Keywords:** Epicardial Fat Volumen, CaScore, Cardiac CT

## OFFICE ASSESSED BLOOD PRESSURE AND AMBULATORY BLOOD PRESSURE MONITORING IN CHRONIC KIDNEY DISEASE PATIENTS VERSUS KIDNEY TRANSPLANT RECIPIENTS: A SINGLE CENTRE EXPERIENCE

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**Background:** How reliable is office assessed blood pressure (BP) in chronic kidney disease (CKD) patients and kidney transplant (KTx) recipients is yet to be determined, although the diagnosis of arterial hypertension in the general population has been based on these measurements. The aim of this study was to investigate the potential differences between office assessed BP and ambulatory blood pressure monitoring (ABPM) in CKD patients and KTx recipients. **Material and methods:** We conducted a prospective study which enrolled 45 adult patients (24 KTx and 21 CKD). Morning and evening seated office BPs were assessed using a sphygmomanometer at 5 consecutive outpatient visits. A mean systolic BP (SBP) and diastolic BP (DBP) was calculated. Ambulatory blood pressure was measured over 24 hours using a Meditech ABPM-05 device. T-test was used for statistical analysis. **Results:** In our study, office SBP was statistically significant higher in CKD patients than KTx recipients both in the morning and in the evening ( $p=0.0433$  and  $p=0.0066$  respectively). ABPM showed higher night-time SBPs ( $p=0.0445$ ) and higher overall, day-time and night-time DBPs in KTX recipients ( $p=0.0001$ ,  $p=0.0006$ ,  $p<0.0001$  respectively). In CKD patients, office measured SBPs and DBPs are significantly higher than overall SBPs and DBPs as assessed by 24hr ABPM. In KTx patients, morning office DBPs are significantly higher than overall DBPs on 24hr ABPM. Ambulatory blood pressure monitoring also revealed a non-dipper profile in 9 (42.85%) CKD patients and 16 (66,66%) KTx patients. A riser profile was identified in 2 (9.52%) CKD patients and 5 (20.83%) KTx patients. **Conclusions:** Office BP monitoring as assessed by clinician is acceptable but tends to overestimate BP in both CKD and KTx study groups. Ambulatory blood pressure monitoring still stands as a superior method for outcome management in both CKD and KTx patients.

**Keywords:** office blood pressure, ambulatory blood pressure monitoring, chronic kidney disease, kidney transplant, arterial hypertension

## CONTINUOUS LOCAL ANALGESIA IN POSTOPERATIVE TREATMENT OF LARGE INCISIONAL HERNIAS –PRELIMINARY RESULTS

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**Background:** *"This paper was published under the framework of European Social Found, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/ 136893"* The incisional hernias are a frequent complication after laparotomy. For the treatment of large incisional hernias is often necessary extended subcutaneous tissue dissection, which is followed by postoperative high intensity pain. The aim of the study is to ensure postoperative patient comfort without using major analgesics **Material and methods:** We present the preliminary results of an ongoing study from Surgery Clinic 1 of Emergency Clinical County Hospital of Târgu Mureş, Discipline Surgery 1, Department M5, University of Medicine and Pharmacy Târgu Mureş. The study comprises in the intraoperative insertion of a subcutaneous catheter (Pajunk InfiltraLong) placed on lay, through which we administered continuously Ropivacaine 0,5% **Results:** Until now we included 10 patients in the study. For 5 of the patients the wound infiltration was started with 7 ml/h in the first 6 postoperative hours, after that the rate was decreased to 5 ml/h until the end of the 72 hours when the catheter was removed. For 2 patients the wound infiltration was started with 10ml/h in the first 6 postoperative hours, after that the rate was decreased to 7 ml/h in the first day, followed by 5 ml/h for the next two days. Two patients needed a minor analgesic in the immediate postoperative period and one patient needed major analgesia in the first 24 hours. **Conclusions:** By using the this method, postoperative analgesia can be achieved without using major systemic analgesics, patient comfort can be realised just by adjusting the infusion rate

**Keywords:** continous analgesia, incisional hernia, catheter, ropivacaine

## THE PREVALENCE OF CHRONIC LIVER DISEASE - IMPLICATIONS FOR RENAL IMPAIRMENT

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**Background:** Renal impairment plays an important role in the prognosis and evolution of chronic liver disease, in particular in its advanced stages. The aim of our study is to analyze the prevalence of chronic liver disease (hepatitis and cirrhosis of different etiologies) and to assess possible correlations between these and impaired renal function. **Material and methods:** To achieve the objectives, we conducted a retrospective observational study based on data collected from observation charts of patients admitted to the 2nd Medical Clinic, Emergency County Hospital Tîrgu-Mureş between January 1st 2012-December 31 2013. In this study we included, based on informed consent, 401 patients with documented liver pathology, with preserved or modified renal function. **Results:** Age distribution shows that 41.1% of cases occurred between 51 and 60 years of age. Sex distribution shows that 65.3% of cases were male. Toxic cirrhosis was found in 40.8% of males and viral C cirrhosis in 15.1% of women. Toxic cirrhosis associated the following complications: ascites (35.7%), encephalopathy (75%), PAH (68.6%), esophageal varices and upper GI bleed (35.7%). Analyzing the risk factors of renal failure we found that increased mean values of creatinine are associated with viral B cirrhosis ( $p = 0.02$ ), portal vein diameter (OR 1.37), portal hypertension (OR 1.24), male gender (OR 1.84) and the age group 61-70 yo (OR 1.04). **Conclusions:** The current study demonstrated that renal function in chronic liver disease correlates with viral etiology of liver disease, its advanced stage, the presence of portal hypertension, older age and male gender.

**Keywords:** renal impairment, creatinine, toxic cirrhosis

## URINARY TRACT INFECTIONS PROFILE IN PATIENTS WITH CHRONIC KIDNEY DISEASE

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**Background:** Despite an increasing population of patients with chronic kidney disease (CKD), data on epidemiology, clinical features and risk factors of urinary tract infection (UTI) in this groups are sparse. The aim of this study was to investigate the potential differences between UTIs profile in different stages of CKD. **Material and methods:** A retrospective analysis was performed in 63 hospitalized patients with CKD and UTI. CKD was defined as  $eGFR < 60 \text{ ml/min/1.73m}^2$  for  $>3$  months with or without kidney damage according to the NKF-KDOQI. UTI was defined as a single bacterial species isolated in a concentration greater than 100,000 CFU per millilitre of urine in clean-catch midstream urine specimens. Risk factors for UTIs in stage III-IV of CKD versus stage V of CKD were analysed with Fisher test. **Results:** 49 patients were diagnosed with moderate and severe CKD ( $eGFR 15-60 \text{ ml/min/1,73m}^2$ ), 14 patients with very severely reduced kidney function ( $eGFR < 15 \text{ ml/min/1,73m}^2$ ). Escherichia Coli was the most prevalent infectious agent, cultured from 60.31% (38/63) of samples, followed by Klebsiella spp at 15.87% (10/63) patients. 63.49% (40/63) of urinary tract infections were demonstrated in women, 36.51% (23/63) in men. 73.33% (44/63) of patients were overweight ( $BMI > 25 \text{ kg/m}^2$ ). Statistical analysis demonstrated that renal lithiasis, urinary tract abnormalities and obstructive uropathy were important risk factor for UTI in CKD stage III-IV ( $p$  value= 0.0001,  $p=0.029$  respectively), and diabetes mellitus was a risk factor for UTI in patients with CKD stage V ( $p=0.0005$ ). **Conclusions:** This study shows that females with CKD were prone to have more UTIs than males, Escherichia Coli was the most prevalent infectious agent of urinary tract infections in patients with CKD. Urinary lithiasis, uropathy and other urinary tract abnormalities are risk factors for UTI in CKD stage III, IV and diabetes mellitus is a risk factor for UTI in CKD stage V.

**Keywords:** urinary tract infections, chronic kidney disease, diabetes mellitus, renal lithiasis, obstructive uropathy

## EVALUATION OF POSTOPERATIVE COGNITIVE DYSFUNCTION AFTER GENERAL ANESTHESIA

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**Background:** Postoperative neurocognitive dysfunction is a decrease in short-term cognitive function that can last from several days to several weeks after surgery. The objective of this study was to test if neurocognitive dysfunction occurs to certain neurocognitive domains in patients undergoing surgery. **Material and methods:** I studied 21 patients who undergone non cardiac surgery under general anesthesia and I tested neurocognitive function by applying Mini-Mental State Examination (MMSE) questionnaire preoperative and one hour after surgery and applying Syndrome Short Test (SST) questionnaire preoperatively, one hour and 3 hours postoperatively. I compared MMSE score preoperatively and at one hour postoperatively for: orientation, information recording, attention and numerical calculation, information reproducing, language and then I calculated the sum of these scores and scores for SST preoperatively, one hour and 3 hours postoperatively. The values obtained were compared. **Results:** For MMSE there were statistically significant differences between preoperative and postoperative scores for the fields of information and speech reproducing and final test scores. I didn't record statistically significant differences in orientation, information recording, attention and numerical calculation domains. Patient's sex influenced scores on attention and language. Thus women had a lower average scores for language test after surgery and male patients had a lower postoperative score for attention. There were no statistically significant differences at scoring in patients aged over the average of 53 years compared with those below this age. Anesthesia and surgery time did not affect pre and postoperative scores of the questionnaires. For SST test scores did not differ preoperative by one hour postoperative but there were statistically significant differences between preoperative and postoperative scores at 3 hours. **Conclusions:** Postoperative neurocognitive dysfunction was identified in the studied group but did not affect equally and negative all cognition areas.

**Keywords:** postoperative, neurocognitive, dysfunction, cognition fields

## SPHINCTER SAVING TECHNIQUES IN LOW RECTAL CANCER SURGICAL TREATMENT: RESULTS, PERSPECTIVES

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**Background:** Sphincter saving techniques in low rectal cancer represents a challenge for the surgeon, to preserve the sphincter function and also to respect the principles of oncological surgery, in order to improve the quality of the patient's life. The paper's aim is to compare different sphincter saving techniques as regarding the early postoperative results. **Material and methods:** An observational, retrospective study was made on 76 patients (N = 76) operated for low rectal cancer in Surgery I Department of the Targu Mures Emergency Clinical County Hospital, between January 2010 and October 2014, to whom the rectal resection was followed by a primary restorative technique which preserves the sphincter function. The immediate postoperative results after different types of sphincter saving procedures were analyzed and compared. The study was conducted under the framework of the research grant: "Sphincter saving procedures in female patients with low rectal cancer - a comparative study on the efficiency of LigaSure™ and mechanical sutures devices" (nr.:13136/23.09.2014), financed by: S.C. Three Pharm S.R.L. Targu-Mures and developed by Targu-Mures University of Medicine and Pharmacy and supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/133377. **Results:** From the studied patients, in 41 cases (53.94%) an anterior rectal resection with low colorectal anastomosis was done ("very low" Dixon procedure), for 29 patients (38.15%) was performed a sphincter saving technique with a peranal anastomosis and in 6 cases (7.89%) an intersphincteric rectal resection with coloanal anastomosis was made. **Conclusions:** Sphincter saving techniques, if oncological principles are respected, represents a viable option in the treatment of low rectal cancer and brings hope for improving the quality of the patients' life.

**Keywords:** low rectal cancer, tumor resection, anastomosis

## MONITORING PLASMA CONCENTRATION OF TACROLIMUS AT PATIENTS WITH KIDNEY TRANSPLANT

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**Background:** Patients with chronic kidney disease (CKD), subjected to renal function substitution by kidney transplant, represent a distinct population for which immunosuppressive therapy is mandatory so as to avoid renal allograft rejection. The aim of this study is therapeutic drug monitoring (TDM) with tacrolimus, administered to patients with kidney transplant in order to evaluate the efficiency of therapy, to identify side effects and possible drug interactions that could be avoided. **Material and methods:** A retrospective pharmacokinetic study was conducted over a period of 48 months, including 61 patients with kidney transplant from Mures area, monitored in the Department of Nephrology in the Clinical Institute of Urology and Kidney Transplant, Cluj-Napoca. Plasma concentration of tacrolimus was periodically determined to these patients, according to current guidelines, through liquid chromatography coupled with mass spectrometry method (LC-MS/MS), after 12 hours since the last oral administration of the drug and before the following dose (c0-ctrough). **Results:** The efficacy of immunosuppressive medication was measured using different parameters: clinical, paraclinical, pharmacokinetic and toxicological indicators. **Conclusions:** At patients with kidney transplant posology has to be closely monitored and changed to ensure highly efficient therapy, in order to provide long term preservation of the renal allograft. Also, avoiding therapeutic inefficiency and overdose must be considered taking into account the often associated medication for subsidiary pathology which can lead to adverse reactions and frequent medical interactions cytochrome P 450 3A4-dependant.

**Keywords:** CKD, tacrolimus, TDM, LC-MS/MS

## ASSOCIATION OF INTERNAL CAROTID ARTERY KINKING WITH ATHEROSCLEROTIC DISEASE

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**Background:** Anatomical variations of the extracranial part of the internal carotid arteries are important especially during surgical and radiological intervention in the neck region. These variations were reported and classified as kinking, coiling and tortuosity. Kinking of the internal carotid artery represents a condition that can reduce cerebral flow causing cerebral ischaemia. The aim of the study was to define the histological pattern of the carotid artery kinking associated with severe carotid stenosis. **Material and methods:** Our observations include 25 patients with carotid kinking, who were treated in Clinic of cardiovascular Surgery, Tîrgu Mures, Romania, over a period of six years, ending in 2014. Histological parameters of carotid fragment obtained after surgery, were analyzed and the coexistence of an atherosclerotic process causing a severe stenosis. **Results:** Histological examination of the internal carotid artery segment with anomaly showed a reduction of the elastic fibers and muscular cells. We found in 21 patients the concomitant presence of atheromatous plaque leading to severe stenosis. The calcification was extensive at the bifurcation of the carotid artery and in the first portion of the internal carotid artery. **Conclusions:** The coexistence of the internal carotid artery kinking with an atheromatous process is not a rare condition and it may not be possible to determine if the symptoms are caused by anomaly or by the disease. But even it couldn't be made a distinction, both lesion can be corrected easily at operation.

**Keywords:** carotid kinking, atheromatous disease, carotid stenosis

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## THE STUDY OF RISK FACTORS FOR CARDIOVASCULAR DISEASES IN PSORIATIC ARTHRITIS PATIENTS

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**Background:** Psoriatic arthritis is a chronic inflammatory disease which is frequently associated with a high incidence of cardiovascular disease due to an accelerated atherosclerosis process. In the progression of this process are involved the conventional cardiovascular risk factors and some nonconventional risk factors causing increasing of cardiovascular mortality and morbidity. The aim of the study is to evaluate the cardiovascular risk factors and the presence of the cardiovascular diseases. **Material and methods:** We have enrolled 57 patients with psoriatic arthritis, from the Rheumatology Clinic of Targu-Mures. We have evaluated the conventional cardiovascular risk factors defined by the presence of the high blood pressure, dyslipidemia, obesity, diabetes mellitus, smoking and also the non-conventional risk factors represented by the uric acid and some inflammatory markers such as PCR, VSH, fibrinogen. We have also evaluated the presence of cardiovascular illness. **Results:** The cardiovascular risk factors with the highest frequency were high blood pressure 68,42%, abdominal obesity 73,6%, dyslipidemia 64,9%. The smoking habit was encountered in 47,3% of the patient and diabetes mellitus in 23,91% cases. **Conclusions:** The cardiovascular risk factors have a high frequency at psoriatic arthritis patients. Chronic inflammation has an additional role in the growth of cardiovascular risk.

**Keywords:** Rheumatology, ..., psoriatic arthritis, cardiovascular risk factors

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## PAIN AND DISTRESS IN PATIENTS WITH CANCER

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**Background:** A significant number of patients with cancer suffer from anxiety and depressive disorder. Perceived emotional distress, anxiety and depressive symptoms are significantly more frequent in cancer patients with pain than in patients without pain. Despite their high prevalence cancer pain and distress are frequently undertreated. **Material and methods:** Thirty two oncology patients were included in the study who were receiving concurrent oncologic and pain treatment in the Oncology Clinic Tg Mures. Patient demographic and clinical information was obtained from medical records and patient report. Patients were screened for pain scores using the Visual Analog Scale and distress scores, using the Distress Thermometer. **Results:** The gender proportion of the sample is: 38% female, 62% male. More than 75% of the sample was over 50 years of age, and more than half of the patients (59.3%) had metastatic disease. Significant decreasing trend were seen for pain score difference before and after the pain treatment was reassessed (dosage increase or conversion) ( $p < 0.0001$ ), and decreasing trend was seen for distress score ( $p < 0.0001$ ) also. **Conclusions:** Pain and distress occurred concomitant in this population. An adequate pain management and pain reassessment contributes to improve the cancer patient emotional distress score, anxiety and depressive symptoms. An accurate screening instrument can facilitate the recognition of patients who needs further assessment and psychiatric treatment.

**Keywords:** cancer pain, distress, anxiety, depression

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## CLINICAL AND PSYCHOLOGICAL CORRELATIONS BETWEEN JOB LOSS AND DEPRESSIVE EXPERIENCE

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**Background:** Stressful life events have a negative effect on mental health. Job loss is an event with a psychotraumatic character.

Identification of the main sources of stress faced by the individual are essential in the management of depression. The aim of this study is to identify the main risk factors that play a role in the onset and maintenance of depression. **Material and methods:** Prospective study including 68 outpatients aged over 18, recently diagnosed with depressive affective disorder, without psychotic features, with initiated antidepressant treatment, being in evidence of First Clinic of Psychiatry Tirgu-Mures, between 01.01.2013-31.12.2013. To assess the severity of depression and measurement of antidepressant treatment efficacy we used Hamilton Depression Scale (HAM-D17) at study onset, respectively at endpoint. The parameters followed were: HAM-D17 score, response to treatment, the mean number of hospitalizations in a year. **Results:** The group included 82.35% men and 17.65% women, mostly from urban areas, aged between 35 and 68, with a HAM-D17 score between 24 and 27. The major stressful life events inventory shows that 20.58 % of the patients were unemployed. The observed effects were more extensive in men. **Conclusions:** How stressful life events exert their influence on mood is complex. The onset of depression often seems to coincide with a stressful event, although sometimes the event is only the revelator of an episod ready to trigger. The findings indicate the need of prevention politics for relapse of the disease, which is a disadvantage regarding the re-employment.

**Keywords:** depression, unemployment, stressful

## MEDICINĂ PRE-CLINICĂ (PRE-CLINICAL MEDICINE)

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### LINKS BETWEEN SURGICAL LANDMARKS OF THE TEMPORAL BONE AND COCHLEAR IMPLANT APPROACHES

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**Background:** Through our work we wanted to state the surgical importance of the distances between the landmarks of the temporal bone. This we have found important for quantifying the benefits and disadvantages of two different cochlear implant techniques **Material and methods:** We have gathered data from the Radiology Department in Emergency County Hospital in Tîrgu Mureş, namely computed tomography imagistic studies in order to perform the measurements. The time interval was 5 months and exclusion and inclusion criteria were used. **Results:** The comparison between the sets of data shows quite a match for the risk/benefit ratio for the two types of technique for cochlear implantation. **Conclusions:** The middle cerebral fossa approach for the electrode insertion into the cochlea is a viable and needed surgical technique as the classic approach has reached its boundaries and new challenges appear. As any good surgeon puts a great accent on the radiology data, our work is meant to give more power and confidence to the ones thinking about solving the borderline pathology, the extreme cases and helping improve the quality of life for every patient with cochlear implant indication

**Keywords:** cochlea, temporal bone, eminentia arcuata, computed tomography, cochlear implant

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### TREATMENT CHALLENGES IN A RARE CASE OF AN AGGRESSIVE PROLACTINOMA.

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**Background:** According to the WHO classification, pituitary carcinomas are considered only the tumors that present with systemic metastases. Recent publications have challenged this classification, showing that malignancy should be assumed before systemic manifestations, and that initial aggressive treatment can prolong the progression free status and survival of these patients. **Material and methods:** We present the case of a 59 years old man, presenting with headache, blurred vision and loss of libido. A CT scan was performed showing a midline tumor with extensive destruction of the skull base and of the temporal bone with no cerebral/CSF or systemic metastases. A transrhinoseptal biopsy was performed. **Results:** Histology showed a pituitary tumor with diffuse architecture, with neoplastic infiltration of the sphenoidal mucosa. On immunohistochemistry all the tumoral cells were positive for prolactin. The mitotic count was 4 mitoses for 10 HPF, MIB-1 index of 4% and a weak positive p53 immunostaining. Using the latest classification proposed by Trouillas et al this tumor was classified as grade 2b (infiltrative and proliferative). **Conclusions:** Treatment of such invasive-proliferative macroadenomas is always a challenge. Tumor resistance, and risks of producing CSF fistula often hamper treatment with dopamine agonists in an attempt to reduce the tumor volume. Skull base approaches for removing these tumors are difficult procedures that require a great level of expertise from the operating neurosurgeon and most of the times are capable of only limited resection. A recent paper has showed that resection coupled with postoperative radiosurgery can produce modifications in proliferative tumor cell clones and induce sensibility for dopamine agonists with progression free survival of 8 years. Additional treatment with Temozolamide seems also to improve survival. **Acknowledgement:** This paper was published under the frame of the European Social Found, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/136893.

**Keywords:** pituitary tumors, prolactinoma, aggressive, proliferation, invasion

## BISPHOSPHONATE-RELATED OSTEONECROSIS OF THE JAWS: A REAL CHALLENGE FOR DENTISTS

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**Background:** Osteonecrosis of the jaw is a serious complication associated with oral and intravenous bisphosphonate therapy. Its pathogenesis is not well understood and its management is difficult. The aim of our study was to evaluate the awareness of dentists in Târgu Mureş on the possibilities of treating patients who are treated with bisphosphonate in dental offices. **Material and methods:** We carried out a questionnaire-based study among dentists in Târgu Mureş reaching important issues such as: if the patient is asked if medical history follows / followed treatment with bisphosphonates, if they made surgical treatment in these patients, if they know under what conditions can they perform this treatment, if they deem it is necessary to contact the prescriber before surgical treatment. **Results:** 70 questionnaires were returned. During the medical history most clinicians (60%) asks if follow/ followed treatment with bisphosphonates, most of them (42.85%) did not perform treatments in these patients, 85.71% of respondents say they do contact the prescriber before performing surgical treatment, and 48,57% do not know under what conditions can they perform treatment. **Conclusions:** We believe that dentists are not well informed about this pathological entity known only since 2003 and that in the absence of appropriate protocols can not provide a quality treatment and in these circumstances they may do more harm than good.

**Keywords:** jaw, bisphosphonate, surgery, osteonecrosis, quality of life

## AGE-RELATED CLINICOPATHOLOGIC FEATURES OF GASTRIC CANCER

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**Background:** The aim of this study was to characterize the clinicopathological factors and the immunoprofile of the early-onset gastric cancer(GC) compared to the cases diagnosed in the elderly. **Material and methods:** In 191 consecutive cases that underwent gastrectomy from 2006 to 2013 at Tîrgu Mureş Emergency Clinical County Hospital, Romania, below 45 (n=37) and above 45 years old (n=154), the clinicopathological parameters (demographic data, tumor localization, stage and histologic type) were correlated with the immunoeexpression of E-cadherin, p53, Ki67, maspin and bax. **Results:** Compared to the GCs diagnosed above 45 years old, the early-onset GCs were more frequent (n=0.0009) diagnosed in the proximal stomach (45.9% vs. 22.7%) and showed more frequent (<0.0001) diffuse architecture (59.5% vs. 24.7%). The diffuse type E-cadherin/p53/Ki67/bax-negative cases that displayed nuclear maspin positivity were also more frequent in younger patients. **Conclusions:** Independently from p53 index and proliferative activity of tumor cells, loss of E-cadherin expression and nuclear pattern of maspin are indicators of early-onset diffuse gastric cancer. This work was partially supported by the team research project POS-UMFTGM-CC-13-01-V01, No 15/16189/2013 funded by the University of Medicine and Pharmacy Tîrgu-Mureş, Romania, and Studium foundation.

**Keywords:** gastric cancer, young, elderly, maspin, apoptosis

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## RISK MANAGEMENT IN A CLINICAL LABORATORY FROM THEORY TO PRACTICE

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**Background:** The SR ISO 31000:2010 defines the concepts:- The risk management: activities that are coordinated in order to direct and coordinate an organization concerning the risk- The risk:is the effect of uncertainty on the objectives achievementThe risk is a combination between danger, vulnerability abd exposure. **Material and methods:** The clinical laboratory must fix its quality indicators. Sigma metric is a quality indicator that can be applied in the pre-analytic, analytic and post-analytic processes.The pre-analytic phase usually contains the most risks which can affect the results of the examinations. the aim of the study is to follow the evolution in time of the quality indicators in the pre-analytical phase with a study population of analytical requests during 2013-2014. There were drawn up data collection forms for the budget risk in the biochemistry, hematology and coagulation departments. For instance: after the blood collection for the coagulation and hematology tests, were identified the hemolyzed, lipemic, coagulated samples and also the samples that were incorrectly identified or collected. For the biochemical parameters, were noted the blood tubes that exceeded two hours from the moment of the collection till the analysis itself. **Results:** Experts working with Six sigma defined DPMO - defects per one milion opportunities, facilitation in this way the measurement of any process that could have a defect. The result of Six Sigma concept is to reduce the number of defects to lee that 3,4 defects per one million opportunities. **Conclusions:** This study presents a rigorous analysis of the magnitude of pre-analytical errors, in accordance with the requirements of International Standard for medical laboratories accreditation. While processes that trigger errors , while not achieving the zero-error level, are well controlled; the rezults obtained for those regarding specimen collection are unacceptable (particularly for the indicator - haemolysed sample).

**Keywords:** risk management, quality indicators, Six Sigma concept

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## SPECIFIC CHARACTERISTICS OF HEAD-NECK MALIGNANT TUMORS IN MURES AREA

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**Background:** Although head and neck cancers have rising incidence, are less investigated because of their localisations and heterogeneity. The major and susceptible to influence risk factors are smoking, alcohol consumption and human papilloma virus infection. **Material and methods:** Using data from Mures County Emergency Hospital histopathology register we made a retrospective study of 190 cases from the past two years. Factors of interest included age, sex, localization, histopathological subtype and differentiation grade. **Results:** Median age at malignant diagnosis is 61,31 years with highest incidence in 51-60 age subgroup and a clear male predominance (5,75:1). The most frequent localization is lower lip (28%) and the dominant histopathological subtype is cheratinised squamous cell carcinoma (83,8%) and G2 differentiation grade (48,1%). **Conclusions:** This study supports the finding of increased incidence of cheratinised squamous cell carcinoma in this region. However the literature emphasizes rising incidence of head and neck cancer in younger, we observed that increase in Mures area occurred in 51-60 age group. Lower lip most frequent localization makes possible an early diagnosis.

**Keywords:** head - neck cancer, squamous cell carcinoma, Mures

## METHODS OF QUALITATIVE ASSESSMENT REGARDING THE PRESENCE OR ABSENCE OF GENETICALLY MODIFIED ORGANISMS IN FOOD PRODUCTS

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**Background:** In Europe and Asia, genetically modified foods require labeling if they contain more than 1% of genetically modified content. The objective of this study is to isolate, amplify and identify genetically modified organisms in common food products available on the market. **Material and methods:** The studied food products were soy bean and corn sold by different manufacturers for human consumption and as standard food for laboratory mice. The working method consisted of a standard protocol for deoxyribonucleic acid isolation, deoxyribonucleic acid amplification by classic polymerase chain reaction and highlighting of the amplification products by gel electrophoresis. A special kit was used called Genetically Modified Organism Investigator accompanied by positive and negative control. **Results:** Of the 13 samples analyzed, two presented very bright visible bands on the gel electrophoresis at the 500 base pair mark and visible bands at the 200 base pair mark. **Conclusions:** According to the protocol, visible bands at the 200 base pair mark indicate the presence of genetically modified deoxyribonucleic acid. The bands at the 500 base pair mark indicate that a successful deoxyribonucleic acid extraction was performed. Therefore two of the analyzed samples contained genetically modified organisms. To determine the exact amount of genetically modified organisms present in the positive samples, complex quantitative studies are needed. (Reverse Transcription-Polymerase Chain Reaction).

**Keywords:** genetically, modified, organisms, qualitative, assessment

## ASSESSING THE KNOWLEDGE, ATTITUDES AND EATING HABITS OF DIETARY FIBERS IN TIRGU-MURES POPULATION

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**Background:** The aim of the study was to assess the knowledge, attitudes and eating habits upon consumption of dietary fibers in a group of people from Tîrgu-Mureş area. **Material and methods:** We used a transversal descriptive study conducted on a group of 251 subjects from the urban area (76.4%), as well as from the rural area (23.6%), aged between 18 and 62 years, obtained using an online questionnaire consisting of 40 questions related to knowledge and attitude towards dietary fibers and estimated consumption of fiber from whole foods. **Results:** In the study group, we observed that 21.28% consume whole cereals once per week and 18% do not consume cereals at all; regarding fruit consumption 17.44% consume 6-8 pieces/week, and 9.3% consume over 18 pieces/week. Frequency of fast food -meals consuming: 67.68% do not consume fast-food meals, 25.25% eat fast food once/week, and 1.1% consume fast food between 8-10 times/week. Concerning the statement that fibers can prevent and/or treat colon cancer and obesity, 40% fully accept the statement, 40% agreed, 14.29% were indifferent and 4.7% were against. From the total group of subjects, approximately 37% knew the meaning and classification of dietary fiber, 27% knew the recommended amount of fiber to be consumed daily, and 16.83% did not check the fiber content of foods ever. **Conclusions:** The inclusion of cereals and whole foods in diet is recommended in all nutrition guidelines worldwide, because of their association with a high health status, and prevention of chronic diseases. Consumers need to understand the benefits of whole foods, also to recognize and read the information about it on food labels.

**Keywords:** dietary fiber, prevention, whole foods

## MONITORING ANTIPLATELET THERAPY USING MULTIPLE ELECTRODE AGGREGOMETRY

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**Background:** Aspirin and clopidogrel are commonly used for the prevention of platelet activation, thrombosis and ischemic disease. Individual responsiveness to clopidogrel and aspirin is not uniform and is subjected to inter- and intraindividual variability. Inadequate antiplatelet responsiveness is associated with increased risk of recurrent vascular ischemic events in patients with acute coronary syndrome and stroke. Platelet function tests are increasingly being used for monitoring the efficacy of antiplatelet drugs, with the aim of predicting the adverse events such as bleeding or thrombosis. The aim of this study was to evaluate response to clopidogrel and/or aspirin using multiple electrode aggregometry. **Material and methods:** 70 patients with ischemic diseases (acute ischemic stroke or acute coronary syndrome) who received antiplatelet therapy, clopidogrel/aspirin, were included in the study. Response to Clopidogrel and Aspirin was assessed by ADPtest HS and ASPItest using Multiplate<sup>®</sup> analyser. Multiplate<sup>®</sup> analyser uses the multiple electrode aggregometry method and detects changes in the electrical impedance of a whole blood sample anticoagulated with hirudin. **Results:** Multiple electrode aggregometry is a fast, simple and reproducible technique for monitoring the efficacy of antiplatelet drugs. The test is feasible to be performed in patients with chronic or recently introduced antiagregant therapy. Twenty-one of 70 clopidogrel users (28,5%) and two of 70 aspirin users (2,8%) in our group were identified as non-responders to therapy. The lowest value of the reference interval was used as the diagnostic cut-off value: patients who received antiplatelet therapy and had results within the reference ranges were considered non-responders to the therapy. **Conclusions:** Monitoring a patient's individual response to antiplatelet drugs can contribute to providing optimal treatment for patients at risk of arterial thrombosis. Multiplate<sup>®</sup> analyzer, a point-of-care instrument, can give information on platelet function and effectiveness of antiplatelet therapy. **Acknowledgement:** "This paper was published under the frame of European Social Found, Human Resources Development Operational Programme 2007-2013, project no.POSDRU/159/1.5/S/133377"

**Keywords:** antiplatelet drugs, aspirin, clopidogrel, ischemic disease, aggregometry

## RISK BEHAVIOR RELATED TO SECONDHAND SMOKING IN A GROUP OF PREGNANT WOMEN FROM MURES DISTRICT

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**Background:** To assess practices, knowledge and attitudes towards secondhand smoking risk exposure during pregnancy in a group of moms from Tîrgu-Mures area in 2013-2014. Also to estimate the places and situations with risk of exposure in order to intervene to reduce this risk. **Material and methods:** We used a cross-sectional study based on a questionnaire assessing smoking behavior and exposure to passive smoking during pregnancy, in a group of 1279 women from Mures county, after delivery in Tîrgu-Mures gynecology wards. **Results:** In our study group 29.22% were pre-pregnancy smokers, 12.41% had smoked during pregnancy and 9.13% were ex-smokers during pregnancy. 57.7% from smokers used filter cigarettes and 41.1% light cigarettes. Only half of the pregnant women said that they really want to quit smoking after delivery, 25% of them are exposed to passive smoking during this period (especially at home) and 12.4% to active smoking without trying cessation. For passive smokers the situations of risk exposure are related to close friends (88.7%), colleagues (73.2%) and spouse (for 57.5%) and even all three of those for 11.4%. **Conclusions:** Some behavioral risk factors in pregnancy have to be followed closely by the General practitioners and Midwives in order to avoid complications and to maintain the health of the mother and fetus. Its a real challenge for the individual, the family and the society also to find the best ways of community intervention in order to reduce active or passive smoking.

**Keywords:** pregnancy, secondhand smoking, risk factors, community intervention

## QUALITATIVE ASPECTS OF AN IVD FLOW CYTOMETRY METHOD FOR OXIDATIVE BURST QUANTIFICATION IN PERIPHERAL BLOOD MONONUCLEAR CELLS

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**Background:** The neutrophil has been recognised for a long time as the key effector in the infection caused either by bacteria or fungi. As first line of defense, these cells phagocytose and kill microorganisms through a combination of mechanisms that include the generation of oxygen reactive species. Reduced or missing neutrophil burst activity, is associated with a high susceptibility of developing systemic disease. Various techniques for neutrophil and monocyte burst activity assessment have been cited by scientific literature. Still, flow cytometric methods are a convenient alternative to the classical respiratory burst assessment methods. **Material and methods:** We verified the repeatability of Phagoburst TM (Glycotope Biotechnology) commercial kit in our own laboratory work conditions, as suggested by the producer. The kit contains unlabelled opsonized E.coli bacteria as particulate stimulus, phorbol 12-myristate 13-acetate (PMA) - a protein kinase C ligand as high stimulus, the chemotactic peptide N-formyl-MetLeuPhe (fMLP) as low physiological stimulus, dihydrorhodamine (DHR) 123 as a fluorogenic substrate and necessary reagents. The heparinized whole blood of a clinically healthy adult patient was incubated with various stimuli at 37°C, while an unstimulated sample served as a negative background control. In order to assess the repeatability of the test, each stimulated sample, as well as the control, were tested six times. Cells were analysed by flow cytometry using the 488 nm argon-ion laser (blue-green excitation light). The percentage of cells that have produced oxygen reactive species (recruited cells) were analyzed as well as their mean fluorescence intensity (MFI) (enzymatic activity). The mean fluorescence correlates with oxidation quantity per individual leucocyte (neutrophil or monocyte). **Results:** The recruited granulocyte population when stimulated with various stimuli had a MFI mean and coefficient of variance as follows: E.coli 387.64 (CV 10.91%), fMLP 106.52 (CV: 5.81%), PMA 632.03 (CV 5.85%). The assessment of recruited monocyte population showed a lower percentage of activated cells: 56.44 MFI and CV of 9.95% for E.coli stimulation, 31.15 mean MFI and CV of 5.77% for fMLP stimulation and 59.10 mean MFI and CV of 9.95% for PMA stimulation. Results showed a cell activation similar to the maximal one (by using PMA as stimulus) in the case of the monocyte population stimulated by E.coli, while the intensity of the MFI of the neutrophil population stimulated by E.coli reached only slightly more than 50% of the maximal activation obtained by using PMA. **Conclusions:** The results obtained in our own laboratory conditions are comparable to the intra-assay precision of the validated method and the expected results stated by the producers of the kit obtained by stimulation with E.coli for oxidizing granulocytes 94.55% vs. 97%, but lower for oxidizing monocytes 38.73% vs. 70%.

**Keywords:** oxidative burst, flow cytometry, repeatability, peripheral blood mononuclear cells

## ASSOCIATED BEHAVIORAL RISKS IN A GROUP OF PREGNANT WOMEN FROM MURES DISTRICT

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**Background:** It is known that the exposure risk factors of lifestyle during pregnancy can affect the health of mother and fetus. There are a lot of risk factors for pregnancy, like: smoking, alcohol, sedentary, irregular daily meal serving plan, lack of knowledge. **Material and methods:** We used a cross-sectional study based on a questionnaire assessing smoking behavior and lifestyle during pregnancy, on a group of 481 women from the urban area (58,84%), as well as from the rural area (41.16%) from Mures county. **Results:** In the study group, 143 women (29.8%) used to smoke before pregnancy, among which 43.3% continued to smoke even after they found out they were pregnant. In the group of pregnant women that continued to smoke during pregnancy, we have studied other behavioral factors related to lifestyle, identifying the following: 12,72% have been consuming alcohol weekly, 67,27% reduced greatly their physical activity, 3,63% have been consuming at least 3 cups of coffee a day. During pregnancy,

12.72% did not have a regular, daily meal serving plan, and the great majority of them (67.26%) were a little or not at all concerned about their eating habits. Only 30.9% from the smoking pregnant women group have received information from the family doctor regarding the risk factors of lifestyle, while 38.18% did not receive any information. **Conclusions:** Behavioral risk factors in pregnancy have to be followed closely by the Health Care System in order to avoid complications for the mother and the child. The best way is an efficient community intervention in order to reduce behavioral risks in pregnancy. **ACKNOWLEDGEMENT:** This paper is supported by the Sectorial Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/133377/

**Keywords:** Hygiene, pregnancy, smoking, lifestyle, intervention

## SMOKING HABITS OF CHILDREN INSTITUTIONALIZED IN FAMILY CARE HOMES IN MURES AND HARGHITA COUNTY

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**Background:** Smoking is a problem of the modern world and annually produces more victims, and due to ignorance and lack of health education in our country the disease diagnosis is made at an advanced stage. Many studies show that, young people aged between 10 and 18 are smokers and start smoking at an increasingly early age. The main objective is the purpose of this study was to assess the smoking habits of institutionalized children in family care homes from Harghita and Mures county. **Material and methods:** The method chosen was a sociological survey based on questionnaires. Our study included 242 children institutionalized in family care homes in Mures county and 256 children from Harghita county. Proportions and Chi2 statistics were calculated using GraphPad InStat. **Results:** A statistically significant difference ( $p < 0,0001$ ) was obtained analyzing the number of smokers from the group of children under 12 years in Mures compared to the Harghita county. More than half of children smoked their first cigarette after they entered in family care homes in both counties and the most common setting in which the children were smoking was when being together with their friends. **Conclusions:** In Mures county the number of smokers under the age of 12 was significantly higher than in Harghita county. Despite the educational classes and institutional regulations of smoking, more than half of children smoke. The decisive role in testing of smoking are the friends. Due to the very high number of underage smokers, the prevention and education hours have an unquestionable importance. **ACKNOWLEDGEMENTS:** "This paper was published under the frame of European Social Found, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/136893"

**Keywords:** smoking, children, institutionalized

## MAXIMIZING THE AMOUNT OF DEPOSITED PARTICLES DURING A SEVERE ASTHMA ATTACK USING THE STOCHASTIC LUNG MODEL

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**Background:** The aim of this study was to use a computerized lung model to simulate the deposition of inhaled particles in the human airways during a severe asthma attack, in order to find the combination of breathing- and particle-related parameters which leads to the highest deposited fractions in the target areas of the airways. **Material and methods:** A stochastic lung model was used to simulate the deposition of 1 nm - 100 μm particles during a severe asthma attack in bronchial generations 9-16. Breathing parameters were chosen to reflect the use of a therapeutic inhalation device, with a 10 s symmetrical breathing cycle and 2000 ml tidal volume. To maximize the deposited fraction in the target areas, further simulations were carried out changing the tidal volume (750-3000 ml), the length of the breathing cycle (2-20 s) and the length of breathing pause following inhalation (0-10 s). **Results:** The highest deposited fraction of 51.50% in bronchial generations 9-16 was obtained in the case of 0.01 μm particles, this value being almost 5 times higher compared to the highest deposition of 3-6 μm particles currently used in inhalation devices (11.81% in the case of 5 μm particles). Modifying breathing-related parameters did not lead to significant increases in the deposited fractions in

the investigated region. **Conclusions:** Deposition fractions in the therapeutically important areas of the airways may be up to 5 times higher in the case of 0.01  $\mu\text{m}$  particles, compared to particles currently used in the treatment of asthma bronchiale. **Acknowledgement** This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/133377.

**Keywords:** asthma, modelling, stochastic, inhalation, particles

## STOMATOLOGIE (DENTISTRY)

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### IMMUNOEXPRESION OF KI67 AND P53 IN THE DENTAL FOLLICLES OF IMPACTED TEETH

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**Background:** The purpose of this study is to evaluate the morphological aspects of dental follicles associated with impacted teeth and the immunoexpression of Ki 67 and p53, in the remaining epithelium from impacted third molars and canines. Another aspect is to identify the transformation of the remaining epithelium in to odontogenic lesions **Material and methods:** We included In this study a number of 100 dental follicles. From this number only 62 met the inclusion criteria. The immunohistochemical reactions were carried out in the Immunohistochemistry Lab from Department of Histology of the University of Medicine and Pharmacy Tg Mures. We counted 100 cells from the remaining epithelial islands from which we determined the percentage of labeled cells for each marker. After this all the date were subjected to statistical analysis **Results:** Of the 62 cases, 44 were from females and 28 from males. We obtained positive results for the two markers but not for all cases. We obtain a positive correlation in terms of the two markers immunolabeling (p-0,002 for the canins, p-0,0001 for the molars) . Median values for ki 67 are statistically significantly higher than the values for p53 for both types of dental follicles. **Conclusions:** Both markers were express in remaining epithelial islands. Stronger expression of Ki67 in the follicles of impacted molars can demonstrate the higher frequency of odontogenic cysts in this area.

**Keywords:** Dental follicles, impacted teeth, immunohistochemistry, Ki67, p53

### SALIVARY ALPHA-AMYLASE VARIATION IN RESPONSE TO DENTAL TREATMENT VIDEO VIEWING IN CHILDREN

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**Background:** Dental treatment represents a psychological stress factor in the majority of children. Salivary alpha-amylase is a biomarker of stress representing the sympatho-adrenomedullary (SAM) system. The aim of the present survey was to analyse the variation of salivary alpha-amylase concentration in children after a video viewing on dental treatments. **Material and methods:** 119 primary schoolchildren, 56 females and 63 males, between ages of 7 and 10 years were evaluated. Unstimulated whole saliva was collected before and after viewing a 15-minute video on dental treatments performed on children. Furthermore, changes in salivary alpha-amylase level have been assessed and t-test was used by SPSS/PC statistics v. 17.0 for statistical analysis. The study was approved by the Research Ethics Committee of the University of Medicine and Pharmacy Tîrgu Mureș. **Results:** Video viewing on dental procedures led to a significant increase of the alpha-amylase level throughout the complete sample. This was noticeable in terms of gender as well as age groups, ranging between the ages of 7 to 8, and 9 to 10 years. From the viewpoint of age and gender, girls displayed significantly higher levels of amylase in both age groups, while this could be perceptible only in the case of the younger boys. **Conclusions:** In conclusion, the observation of dental treatment represents a significant source of stress amongst children. Statistically significant differences were observed with regard to distinction in gender-age and a decremental tendency of stress levels was shown in the older age group in boys. **ACKNOWLEDGEMENT:** This paper was supported by the Sectoral Operational Programme Human Resources Development 2007-2013 (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/133377.

**Keywords:** salivary alpha-amylase, dental treatment, children

## COMPARATIVE STUDY REGARDING ACTIVITY OF EMERGENCY DENTAL OFFICES IN TÎRGU MUREŞ AND ORADEA

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**Background:** The aim of the study was to assess the activity of the Emergency Dental Office of UPU SMURD in Tîrgu Mureş since its establishment and to compare it with the similar unit from Oradea. **Material and methods:** This two-year retrospective and descriptive study was based on the analysis of patient dental records who were consulted and treated in the emergency dental offices of UPU SMURD in Tîrgu Mureş and in Oradea, respectively. Data collected in the same period, from 2012 to 2014, at both dental emergency offices were compared. The data were evaluated with respect to gender (male/female), age (adult/child) and origin (rural/urbane). T-test was used for statistical analysis and the significance level was set at  $p < 0.05$ . **Results:** Assessing the prevalence of patients attending for emergency dental treatment each month, it was observed that in Tîrgu Mureş the number of patients showed a linear increase in the first year and a relatively constant number in the second year. During the investigated period 12780 patients were treated in Tîrgu Mureş which was a significantly higher number compared to the activity of the similar unit in Oradea ( $n=4886$ ). **Conclusions:** Between the investigated emergency dental offices statistically significant differences were observed with regard to number of patients, distribution by gender and age. The increasing number of patients attending for treatment in the Emergency Dental Office of UPU SMURD Tîrgu Mureş revealed the high importance of this unit.

**Keywords:** UPU SMURD, emergency dental office, retrospective study

## CORRELATION BETWEEN BMI, DENTAL CARIES AND SALIVARY BUFFER CAPACITY IN A SAMPLE OF CHILDREN FROM MURES COUNTY, ROMANIA

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**Background:** Both dental caries and malnutrition in children are serious public health problems with diet as a common risk factor. The aim of this study is to investigate the relationship between dental caries, Body Mass Index (BMI) and salivary buffer capacity in children. **Material and methods:** The first part of the study was conducted on 71 children, aged between 6 and 12 years, in the Pediatric Dentistry Department of UMF Targu-Mures. Nutritional status was assessed using the BMI in accordance with the recommendations of the World Health Organisation. The study sample was divided in four groups according to the BMI: underweight, normal weight, overweight and obese for age. Dental caries were evaluated using the DMFT index for permanent dentition and dmft for deciduous dentition. Salivary buffer capacity was recorded with CRT Buffer Strips from Ivoclar Vivadent. **Results:** The mean age of the group was  $9.17 \pm 2.133$ , the mean dmft was  $2.58 \pm 3.098$  and mean DMFT  $1.76 \pm 2.406$ . The underweight group presented a significantly higher dmft/DMFT index compared to the other groups. There was no significant difference between the salivary buffer capacity of the groups. **Conclusions:** Because the results of this preliminary study show a higher caries incidence in underweight children, the relationship between dental caries and malnutrition should be further investigated. Dentists and physicians treating children should consider malnutrition as a risk factor for dental caries. **Acknowledgment:** This paper was published under the frame of European Social Found, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/136893"

**Keywords:** Dental caries, Body Mass Index, DMFT, dmft, children, salivary buffer capacity

## PREVALENCE OF RUBBER DAM USAGE AMONG DENTAL PRACTITIONERS AND FINAL YEAR STUDENTS IN TIRGU-MURES: A QUESTIONNAIRE SURVEY

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**Background:** Probably no other instrument used in dentistry is so universally accepted and advocated by specialists and so ignored by the practicing dentists in some countries as the rubber dam. Beside a few disadvantages, with its advantages,- as complete isolation of tooth from saliva, blood, gingival fluids; protection of the patient from swallowing or inhaling instruments,- the use of rubber dam should be considered compulsory in some stages of dental therapy. The purpose of this study was to determine the prevalence of rubber dam usage among endodontists, other specialized practitioners, general practitioners and undergraduate final year **Material and methods:** A questionnaire was distributed among 250 subjects. Final year students and dentists were surveyed in relation to their prevalence of rubber dam usage. **Results:** Overall response rate was 72,4 % . 84,07 % knew about the advantages, but only 49,72 % used it during their practice, mostly endodontist (90 %) and other specialized practitioners (53,84 %). The use of this system on pediatric patients was lower compared to adult patients. The frequency of the rubber dam usage during endodontic treatment was higher (71,11 %) compared to dental restorations (35,55 %). 84,49 % are willing to gain further knowledge about this system. **Conclusions:** The results are similar to other reports from Eastern-European countries. The low percentage of the rubber dam usage presents quality issues, safety and medico-legal concerns for both the patient and the dentist. Greater emphasis should be placed on the advantages of rubber dam. Perception of final year dental students needs to be improved and continuing dental education for practitioners should be necessary to update their knowledge.

**Keywords:** Odontology, Odontology, questionnaires, rubber dam, isolation

## EFFICACY OF FINE NEEDLE ASPIRATION CYTOLOGY IN DIAGNOSIS OF SALIVARY GLAND LESIONS

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**Background:** Fine needle aspiration cytology is considered to be a valuable diagnostic tool used for preoperative evaluation of various masses in the head and neck region. However, its role is quite controversial for salivary gland tumor evaluation. The diversity of salivary gland tumors as well as their rarity and varied morphological aspects often makes diagnosing such neoplasms difficult. This study was aimed to evaluate salivary gland fine-needle aspiration cytology for sensitivity, specificity and diagnostic accuracy in our medical center. **Material and methods:** Our study included 58 patients with different salivary gland lesions who underwent pre-operative fine-needle aspiration procedure followed by surgical procedure and histological examination. The cytological findings were compared with the final histological diagnosis and concordance assessed. The histological diagnosis was considered as the gold standard. **Results:** Of the 58 cases with salivary gland lesions studied, majority involved the parotid gland (72,8%), (51) 88% were neoplasms and 12% were non-neoplastic lesions. Of a total of 51 neoplasms, 37 were benign and 14 were malignant salivary gland tumors. Fine-needle aspiration cytology showed a sensitivity of 100% and a specificity of 97,73% for malignant lesions. **Conclusions:** Fine-needle aspiration cytology is a simple, quick and inexpensive technique for pre-operative evaluation of salivary gland tumors. Due to the minimally invasive nature of the procedure, fine-needle aspiration cytology offers valuable information for planning of subsequent therapeutic management.

**Keywords:** Oral and Maxillo-Facial Surgery, MD2, fine-needle aspiration cytology, salivary gland lesions

## BIOCOMPATIBLE SUBSTRATE USED IN AESTHETIC SURGERY DEFECTS AFTER SKIN TUMORS EXCISION IN MAXILLO FACIALE TERRITORY

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**Background:** The defects resulting after removing skin tumors, in maxillo facial field can generate significant aesthetic and functional disorders. Aesthetic reconstruction of those defects can be achieved by using autologous biological materials such as full thickness skin grafts. **Material and methods:** The purpose of this paper is to present a study on the possibility of solving defects after removing skin tumors, through full thickness grafts, in maxillo facial territory. A retrospective study was conducted over a four years (2009-2012), with selected clinical cases in Oral and Maxillo Facial Surgery Clinic of Tîrgu Mureş. In this study were enrolled a total of 345 patients with cutaneous carcinomas located in different facial territory. **Results:** Out of the total number of patients, full thickness skin grafts was performed to a number of 40 patients. The highest frequency, 11,29 %, were male, aged 60-70, and skin defects were covered with full thickness skin grafts. **Conclusions:** The decision of full thickness skin grafts depends on the location of the receiving area, the size and thickness of the defects after surgery and aesthetic consideration. Full thickness skin grafts are indicated to be used for facial defects (if you can not use near flaps); aesthetic results are reasonable.

**Keywords:** skin, graft, biological materials, thickness, patients

## BIOMECHANICAL ANALYSIS OF INSIDE THE FIXATING SUBSTRATE, GIVEN CERTAIN STAGES OF ITS DETERIORATION NEAR THE DENTAL IMPLANTS BY MEANS OF VIDEO IMAGE CORRELATION METHOD

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**Background:** Dental implants are useful tools and widely spread technique for oral rehabilitation. Their long standingness is highly influenced by the mechanical and geometrical properties of the surrounding osseous tissue in which they are placed. In some unsuccessful cases though, the dental implant being submitted to masticatory forces and other functional acts, osseous tissue may resorb near its vicinity, leading to the dental implants loss. We found it important to investigate the strain distribution inside the fixating substrate, given certain stages of its deterioration near the dental implants. **Material and methods:** For our investigations we used cilindro-conical screw-type dental which were submitted to vertical forces between 0-1000 N. The dental implants were fixed inside a plastic material generally used in photo-elastic measurements. For the evaluation of the strain distribution inside the fixing substrate, we used a non-contact, experimental investigation tool, namely: the Video Image Correlation (VIC-3D) optical system. The facilities of this system are allowing its implementation in the dental practice, more exactly in the dental implants optimisation from stress-strain state point of view. **Results:** The strain field distribution inside the fixating substrate was measured at three different levels of the dental implant, when it was loaded alone and in the case when there were loaded two dental implants simultaneously. **Conclusions:** The most stresses are concentrated in the neck-area of the dental implant. If there are loaded two or more dental implants simultaneously, the distance between them influences strain distribution. The measurements were conducted in vitro and do not represent the in vivo conditions, but serve further important facts regarding biomechanical properties of dental implants.

**Keywords:** dental implant, Video Image Correlation, strain-field, fixating substrate deterioration

## FARMACIE (PHARMACY)

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### METABOLIC EFFECTS OF TWO DIFFERENT DOSES OF VENLAFAXINE THERAPY ON RATS

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**Background:** Venlafaxine is an antidepressant, categorized as a serotonin-norepinephrine reuptake inhibitor (SNRI) with suspected metabolic side effects. The aim of our study was to assess these metabolic effects in rats, using two different doses of venlafaxine. **Material and methods:** Three groups of Wistar rats have been treated with venlafaxine during six weeks. The rats have received a daily dose of 10mg/kg (D1) and 40 mg/kg (D2) while the control group (Dc) has received no treatment. Rats were given "ad libitum" access to food and water. The rats were weighted at treatment day 0, 7, 14, 21, 28, 35, and 42. After completion of venlafaxine treatment, the rats were sacrificed, blood was harvested and the following biochemical parameters have been determined from the centrifuged plasma: triglycerides, glucose and total cholesterol levels. **Results:** Both the 10 mg/kg and the 40 mg/kg dose venlafaxine therapy resulted in a highly significant increase of rat weight. Compared with the control group the mean weight of D1 group has increased with 130.5±21.79 grams (pDc vs. D1<0.01) while the mean weight of the second group increased with 94±24.16 grams (pDc vs.D2<0.01). In addition weight gain of D1 group was significantly higher than that of D2 group (p<0.01). Venlafaxine therapy induced significant increase in serum triglyceride levels (140.04±55.46 pD1<0.01, 83.59±52.85 pD2=0.05). This metabolic effect has been shown to be more evident in case of 10mg/kg dose therapy (pD1vs.D2=0.03). Simultaneously, serum cholesterol levels have been reduced, however this decrease proved to be significant only in case of group D2 (p=0.03). Despite of increased triglyceride values, glucose levels were significantly decreased in both treated groups (133.33±36.18 pD1=0.05, 118.10±51.98 pD2=0.02). **Conclusions:** Our results suggest that venlafaxine administered to rats has unwished dose related metabolic effects such as significant increase in weight and hypertriglyceridemia, however total cholesterol and plasma glucose level appears to be decreased by this medication.

**Keywords:** venlafaxine, weight, metabolic effects

### EFFICACY OF TRICHLOROACETIC ACID PEEL VERSUS 15% TOPICAL AZELAIC ACID GEL IN THE TREATMENT OF ACNE VULGARIS - A COMPARATIVE STUDY

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**Background:** The aim of this study was to compare the efficacy and tolerability of 20% trichloroacetic acid (TCA) peel with 15% azelaic acid gel, a standard antiacne topical treatment. **Material and methods:** 51 patients aged between 16-40 years (27 male patients and 24 female patients), with mild and moderate acne, were randomized into two groups. Before the treatment were investigated the patients clinical features and hygienic habits, the previous antiacne treatments and feed-back to them. No cases under treatment with contraceptive pills or antiacne medication that could interfere with the results, were included. For a period of eight weeks, 27 patients were treated with 15% azelaic acid gel, twice daily, and 24 patients underwent four sessions of 20% TCA peels, at 14 days interval. The efficacy was evaluated by acne lesions (AL) counting, at baseline and at 8 weeks. Adverse effects incidence (erythema and local skin irritation), as well as the satisfaction degree of patients, were investigated. **Results:** 23 patients had mild acne (30 AL) and 28 patients moderate acne (31-50 AL). Was observed a mean reduction in the number of acne lesions of 32,36% for the patients treated with azelaic acid 15% gel and 69,36% for the patients treated with 20% TCA peels. There was no statistically significant difference between the average number of acne lesions before treatment between the two groups. The

mean number of acne lesions after the treatment was significantly different ( $p < 0,0001$ ), 20% TCA peels showed superior results than 15% azelaic acid gel. Additionally, 96% of patients who underwent TCA peels were very satisfied with the results obtained.

**Conclusions:** TCA peel is an efficient and well tolerated method for the treatment of acne vulgaris. **ACKNOWLEDGEMENT:** This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/137390/

**Keywords:** acne vulgaris, peel, topical treatment, trichloroacetic acid, azelaic acid





# ANESTHESIOLOGY AND INTENSIVE CARE MEDICINE

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## THE ROLE OF THE ANGIOPOIETINE 2 FOR SEPSIS DIAGNOSIS

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**Background:** This paper is supported by POSDRU/159/1.5/S/133377. The interest for reliable biomarkers for the diagnosis and the anticipation of the outcome of sepsis rise during the past years. Angiotensin II (ANG2) promotes vessel regression and signaling inflammatory processes. The main objective of this study is to determine the role of ANG2 for the diagnosis and prognosis of the septic patient. **Material and methods:** A prospective randomized study include a number of 74 patient from 1st Anesthesiology and Intensive Care Department of the Tîrgu Mureș Clinical County Emergency Hospital, during January-November 2014. The patients were divided in two groups: septic patients (group S, n=40, 54%) and non-septic patients (group C, n=34, 46%). Positive criteria for sepsis were: 2 positive criteria for SIRS (systemic inflammation syndrome) + PCT (procalcitonin) > 0,2 ng/ml + confirmed infection. APACHE II, SOFA and SAPS II score were also calculated and the serum level of PCT and ANG2 were determined using the ELISA technique. **Results:** The values of ANG 2 were between 1 and 43 ng/ml, with an average of 6 ng/ml for the group C and 10,38 ng/ml average for group S (p=0,021). Positive correlations were found between ANG2 and the following severity scores: SAPS II (p=0,003), SOFA (p=0,025) and APACHE II (p=0,044). A positive correlation between ANG2 and PCT was also found (p=0,001). ANG2 appeared to be specific and highly sensitive for the diagnosis of sepsis: specificity of 65,71 and sensibility of 74,36 (p=0,0003). The death rate in the subjects was high: 75,67% (n=56). ANG2 appeared to be highly specific (AUC: 88.89), but insensitive (AUC:35.71) (p=0,195). **Conclusions:** The critically ill septic patients in our study had high blood levels of ANG2. ANG2, PCT and severity scores correlated well. The specificity and sensibility of ANG2 for sepsis is high, therefore it can be used as a biomarker for the diagnosis and prognosis. This paper is supported by POSDRU/159/1.5/S/133377

**Keywords:** sepsis, angiotensin II, SAPS II, APACHE II, SOFA

## ASSESSING THE STUDENTS' DEGREE OF SATISFACTION REGARDING MEDICAL SIMULATION – THE FIRST STEP TOWARDS CURRICULAR INTEGRATION

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**Background:** Medical simulation is a relatively novel and unexplored area in Romanian medical education. However, its use gains traction in medical faculties around the world and a growing number of studies reveal that it can be a very useful method of medical education, if used properly. Our study aimed to reveal the degree of acceptance and satisfaction of the students regarding this method. **Material and methods:** We assessed the opinion of 706 third year medical students undergoing simulation training in Medical (376 students) and Surgical Semiology (330 students). The feedback forms included 5 fixed-form (with answers ranging from 1=dissatisfied to 5=totally satisfied) regarding simulation procedures and 2 open answer questions in which students were invited to actively provide suggestions for improvement. **Results:** In Medical Semiology students, most of the answers to the fixed questions (ranging from 76.32% to 93.88%) awarded the highest degree of satisfaction (5). The results were similar in Surgical Semiology students, ranging from 82.72% to 92.12%. Most of the lower degree answers and of the students' suggestions concerned technical aspects. **Conclusions:** After one year of activity, simulations are well perceived within the ranks of students and are starting to prove an useful aid in medical education. **Acknowledgement:** This paper was published under the frame of European Social Found, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/136893

**Keywords:** Medical simulation, General presentations, medical simulation, simulation, students

# BIOCHEMISTRY

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## STUDY ON URINARY STONES: COMPOSITION AND FAVORING FACTORS

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**Background:** Urinary stones formation depends on various factors: diet, liquid intake, genetic predisposition, urinary infections, and malformations. We studied data of urine analysis and dietary habits in patients with urolithiasis compared with controls.

**Material and methods:** In the interval from 2009 to 2014 we evaluated a number of 160 patients with urinary stones (study group) belonging to the Marmed and Procardia Medical Units and the Clinic of Urology in Tîrgu Mureș. The control group included 62 patients without urolithiasis. A special questionnaire was used to obtain data on lifestyle, diet and medical history. Macro- and microscopic examination of stones was followed by chemical analysis. The GraphPad InStat program was used for statistical data processing. **Results:** Average age of the study group is 51.48 years $\pm$ 12.86(SD), 54% of them are men, in the control group it is 54.89 years $\pm$ 15.81(SD) ( $p>0.05$ ). Regarding the chemical composition of urinary stones calcium oxalate could be found in 96% of the cases, phosphate in 66%, xanthine/uric acid 17%, cystine in 3%, carbonate in 1%, while the composition is mixed in 73% of the cases. Patients with urolithiasis consume significantly less liquids, under 2 liters per day ( $p=0.018$ ); incidence of urinary infection was significantly higher in the study group ( $p<0.0001$ ). Significantly more patients are taking medications in the study group ( $p=0.0004$ ), some products can favor lithiasis. Average pH of urine was 5.50 $\pm$ 0.75(SD) in the study group and 5.80 $\pm$ 1.00(SD) in the control group ( $p<0.05$ ). **Conclusions:** The highest incidence is in case of calcium oxalate stones, followed by phosphate, in most patients there is a mixed composition. Patients with urolithiasis present numerous factors favoring stones: ingestion of too low amounts of liquids, decreased pH of the urine, and high frequency of urinary infections. The occurrence of relapses could be prevented by elimination of favoring factors, having an appropriate diet, adequate fluid intake and treatment of urinary infections.

**Keywords:** urinary stones, chemical analysis, questionnaire

## ARSA DEFICIENCY IN DIFFERENT DISEASES: CHRONIC KIDNEY DISEASE AND DIABETES MELLITUS TYPE 2

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**Background:** Arylsulphatase A (ARSA) is a lysosomal enzyme that catalyses cerebroside sulphate degradation. The sulfatide is a glycosphingolipid of the myelin membrane, but also present in organs with high sodium transport (kidney, salivary glands) and in the islets of Langerhans. With the progression of chronic kidney disease (CKD) the level of ARSA is also reduced, resulting further progression of the disease and dementia. **Material and methods:** In this study were included 94 individuals. They were divided in four groups as follows: 58 patient with chronic kidney disease, 14 patient with diabetes mellitus (DM) type 2, respectively two groups of 10 and 14 healthy individuals as control group. We followed the variation of their serum ARSA level, as described in the CMCI-Utrecht protocol. **Results:** Based on the analyzed samples in case of CKD there is significant differences between the time spent in the renal replacement therapy ( $p<0.0001$ ) and there was also important difference between the patients and the control group. There wasn't any significant difference between the etiology and the efficacy of the treatment ( $p=0.2144>0.05$ ). We asked the patients to complete a Minimal state exam test (MMSE) and a clock drawing test in order to appreciate their mental status. In case of DM type 2 there was significant difference between the patients and the control group ( $p<0.05$ ). **Conclusions:** These acidic compounds can be found in high concentration in the kidneys, possibly playing role in the body's osmotic balance. Our

results suggest a partial deficit of ARSA at patients with CKD, so we can talk about ARSA deficiency as an aggravating factor. A slowly onset dementia appears at patients with CKD. We can talk about ARSA as an aggravating factor in CKD associated dementia too. Our findings in DM 2 seem to enclose a vicious cycle where diabetes mellitus type 2 decreases lysosomal enzyme activity including ARSA.

**Keywords:** Arylsulphatase A, ARSA deficiency, chronic kidney disease, diabetes mellitus type 2, Minimal state exam test

## CARDIOLOGY

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### ONE YEAR FOLLOW-UP OF ECHOCARDIOGRAPHIC PARAMETERS FOR DYSSINCHRONY IN PATIENTS WITH CARDIAC RESYNCHRONIZATION THERAPY

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**Background:** Cardiac resynchronization therapy has been shown to be effective in patients with drug-refractory heart failure and wide QRS complexes. Follow-up visits for these patients usually include quality-of-life questions, six-minutes-walk test, EKG, X-ray and echocardiographic analysis. The aim of our study is to analyze the one year evolution of conventional echocardiographic measurements along with dyssynchrony parameters in patients with cardiac resynchronization therapy. **Material and methods:** We conducted a prospective study on 42 patients with severe heart failure who underwent cardiac resynchronization therapy, provided they fulfilled the recommendations of the European Society of Cardiology. Eleven patients were excluded (seven due to poor acoustic window, two for failing to reach scheduled visits, while two others died). The remaining 31 patients were subjected to serial echocardiographic examinations: prior to device implantation, at 48-72 hours after implantation and at one, three, six and twelve months, respectively. **Results:** In all patients, echocardiographic parameters of atrio-ventricular, interventricular and intraventricular dyssynchrony improved significantly ( $p < 0.05$ ) after device implantation, irrespective of age, sex or underlying condition. Interventricular mechanical delay was maintained within normal values for the next 12 months, in some cases by adjustments of pacing protocols. Septal to posterior wall motion delay showed significant regression ( $p < 0.01$ ) at six and twelve months after implantation, as did the degree of mitral regurgitation. Left ventricular ejection fraction improved gradually and significantly beginning from the first month, mainly by progressive reduction of end-systolic left ventricular volumes. **Conclusions:** In patients with cardiac resynchronization therapy, improvement of echocardiographic dyssynchrony parameters is a process that begins immediately after device implantation, and continues in the next months, expressing the fact that reverse remodeling takes time and sometimes needs pacing protocol adjustments.

**Keywords:** heart failure, cardiac resynchronization therapy, ventricular dyssynchrony, echocardiography

### ROLE OF THE EPICARDIAL FAT TISSUE AS A NEW INFLAMMATORY MARKER IN ACUTE CORONARY SYNDROMES

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**Background:** The aim of the present study was to define the relationship between the epicardial fat tissue (EFT) and acute coronary syndromes, as marker of inflammation in these cases. **Material and methods:** A total of 43 patients (28 male, 15 female, mean age  $61 \pm 9.92$  years) with acute coronary syndrome were enrolled in the study. All patients underwent emergency coronary angioplasty and EFT was evaluated by conventional transthoracic echocardiography. Group 1 included 13 patients low-risk ACS defined based on  $EFT < 7\text{mm}$ , respectively group 2 - 30 patients with high risk ( $EFT > 7\text{mm}$ ). **Results:** Mean EFT volume was  $7.544 \pm 2.003$  mm for the whole study group. Mean EFT was  $8.54 \pm 1.34$  mm in group 1 versus  $5.30 \pm 1.16$  mm in group 2. Correlation analysis between EFT and severity of coronary artery disease, defined as the number of affected lesions did not show any association ( $p > 0.25$ ). Relativ risk factors analysis showed that dyslipidemia was independently associated with the group 2 ( $p = 0.045, RR = 2.07, (1.11, 3.87)$ ), contrary to hypertension ( $p = 0.16$ ), smoking status ( $p = 0.5$ ) and obesity ( $p = 0.26$ ). **Conclusions:** The present study demonstrated a significantly increased EFT in patients with ACS and dyslipidemia. Increased EFT is associated with AMI and it may prove beneficial for choosing patients who would need a more aggressive statin treatment approach in terms of risk reduction using echocardiography, which is a non-expensive and readily available tool as a follow-up parameter.

**Keywords:** Cardiology, cardiology, Epicardial fat, Echocardiography, Inflammation, Ac

## NO CORRELATION BETWEEN RESTING ECHOCARDIOGRAPHIC PARAMETERS AND EXTENT OF CORONARY ARTERY DISEASE

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**Background:** Resting echocardiography represents a mandatory and routine evaluation of patients with ischemic heart disease. However, is less known about the value of resting echo data in the estimation of the extent of coronary artery disease. **Material and methods:** We analyzed retrospectively the main echocardiographic characteristics of 108 consecutive patients (37 women, 71 men, mean age 65,1 years) with angina and/or a positive exercise stress test who had significant lesions on coronary angiography (diameter stenosis > 70%). The patients were divided into two groups: (1) patients with uni- or bivascular disease and (2) patients with trivascular and more diffuse disease. Using chi-square statistics (significant difference  $p < 0,05$ ) a series of echocardiographic parameters were compared in the two groups of patients. **Results:** There were no significant differences between the two groups regarding the prevalence of the followings: LVED diameter > 55 mm ( $p=0,22$ ), interventricular septum > 12 mm ( $p=1,00$ ), right ventricular diameter > 40 mm ( $p=1,00$ ), left atrial postero-anterior diameter > 40 mm ( $p=0,08$ ), left ventricular ejection fraction < 35% ( $p=0,07$ ), segmental wall motion abnormalities ( $p=0,11$ ), significant mitral regurgitation ( $p=0,81$ ), significant aortic stenosis ( $p=1,00$ ) or regurgitation ( $p=1,00$ ), gr. 3 diastolic dysfunction ( $p=0,11$ ), systolic pulmonary pressure > 45 mmHg ( $p=0,3$ ). **Conclusions:** Resting echocardiographic parameters do not reflect the extent of coronary artery disease in patients with ischemic heart disease. A normal resting examination should be interpreted cautiously regarding the severity of coronary lesions.

**Keywords:** coronary heart disease, echocardiography, left ventricle

## THE FUNCTIONAL SIGNIFICANCE OF MYOCARDIAL BRIDGES DETERMINATED WITH 3D POLAR MAPPING METHOD

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**Background:** The myocardial bridge is a coronary anomaly characterized by intramyocardial course of an epicardial coronary artery. The aim of our study was to asses the functional significance of myocardial bridges using the Cardio CT 3D polar mapping technology. **Material and methods:** We enrolled 30 patients with myocardial bridges, symptoms of angina and ECG modifications (at rest or during exercise). In all cases we performed Cardio CT angiography and we evaluated the end-systolic and and-diastolic phase of MSCT images, to study the systolic compression in the myocardial bridges. In all cases we performed a 3D polar mapping of wall motion to asses the functional significance of myocardial bridges. **Results:** Three-dimensional assessment of ventricular wall motion using Angio CT post-processing identified a good correlation between the degree of ischaemia, as expressed by the extent of the myocardial area with contraction abnormality, and the location of the myocardial bridge on LAD artery ( $p=0.0159$ ). The degree of myocardial ischemia expressed with amplitude of myocardial segments contraction increased proportionally with depth of intramyocardial segment,  $30.75\% \pm 12.703$  in profound myocardial bridge versus  $17.95\% \pm 8.318$  in superficial bridges ( $p=0.0032$ ). Segmental contraction amplitude was reduced significantly in antero-lateral segments irrigated by myocardial muscle bridges located on LAD  $23.75 \pm 11.140\%$  compared to the RCA or ACX  $11.83 \pm 1.169\%$  ( $p=0.0153$ ). The extension of myocardial ischemia was significantly higher for bridges localized on LAD  $18.625 \pm 4.412\%$  compared to bridges located on the ACX and RCA  $11.5 \pm 1.049\%$  ( $p=0.0006$ ). **Conclusions:** Three-dimensional polar mapping of ventricular contractility using Angio CT is useful for complex assessment of the functional significance of the myocardial bridges. The extent of myocardial ischaemia proved to be well correlated with the location of myocardial bridges and also with their severity.

**Keywords:** functional significance, 3D polar mapping, functional significance

## CARDIOVASCULAR RISK BIOMARKERS AS PREDICTORS OF VENTRICULAR REMODELING FOLLOWING ACUTE MYOCARDIAL INFARCTION

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**Background:** We aimed to assess the correlation between the grade of left ventricular remodeling at 6 months post myocardial infarction and the biomarkers associated with a high inflammatory status, such as the high level of reactive protein C determined at 7 +/- 2 days from the acute myocardial infarction, respectively with the epicardial adipose tissue thickness, measured with 2D echocardiography. **Material and methods:** We included a total number of 92 patients with acute myocardial infarction in the 7th +/- 2nd day postinfarction, who benefited from primary angioplasty revascularization within 12 hours from the onset of symptoms. In all patients we determined the hs-CRP was determined at 7 +/- 2 days from acute myocardial infarction and the epicardial fat thickness (EFT) on 2D echocardiography. The echocardiographic examination was performed on day 7 +/- 2 from the acute myocardial infarction and at 6 months postinfarction, to assess the degree of ventricular remodeling. **Results:** Our study demonstrated that epicardial adipose tissue and the persistence of the inflammation marker in acute myocardial infarction after 7 days post myocardial infarction was associated with a more severe alteration of ventricular function. Six month EF was well correlated with hsCRP circulating levels ( $r=-0.57$ ,  $p<0.0001$ ) and with the EFT ( $r=-0.61$ ,  $p<0.0001$ ). High hsCRP levels (Odds ratio [OR] 2.8,  $p=0.02$ ), and the thickness of the epicardial fat (OR: 6.3,  $p=0.001$ ) were the strongest predictors for ventricular remodeling following an AMI. **Conclusions:** Patients with pronounced epicardial fat and hs-CRP persistence after 7 days of acute myocardial infarction have a poor development: represented by low ejection fraction, ventricular cavity dilatation and the development of a ventricular remodeling at six months.

**Keywords:** biomarkers, ventricular remodeling, epicardial adipose tissue, acute myocardial infarction

## NON INVASIVE EVALUATION OF LEFT MAIN STENOSES USING CORONARY COMPUTED TOMOGRAPHIC ANGIOGRAPHY FOR RISK ASSESMENT IN INTERVENTIONAL REVASCULARIZATION PROCEDURE

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**Background:** The treatment of left main stenoses still represent a challenging area in interventional cardiology and a permanent subject of debates between interventional cardiologists and cardiothoracic surgeons. This location of atherosclerosis process often induce a large ischemical territory and imply a high risk for restenosis, early and late thrombosis. Angio Syntax score (SS) evaluated by classic angiography is an known independent risk predictor for left main angioplasty (PCI) complications and we propose to identify a non invasive equivalent score by coronary computer tomographic angiography (CCTA) to evaluate the complexity of these stenoses. **Material and methods:** This study analyzed 36 patients with left main stenosis, each patient evaluated by coronary-angioCT followed by coronarography and percutaneous angioplasty. Calcium score, the volume of atherosclerotic plaques and the SS derived by angio CT angiography versus classical Syntax score were assessed in all the patients. **Results:** The patient groups according to their Syntax score were - high risk (SS> 33), intermediate (SS 22-33) and low risk (SS<22). **Conclusions:** Preinterventional assesment of left main complex lesions by coronary angio CT could identify the subgroup of patients with high risk for revascularization procedure, and recommend this noninvasive evaluation in the left main revascularization algorithm.

**Keywords:** angioplasty, calcium, coronary computer tomography, syntax score

## CORRELATION BETWEEN OUT-OF-HOSPITAL CARDIAC ARREST AND MORTALITY IN STEMI PATIENTS

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**Background:** Patients presenting with out-of-hospital resuscitated cardiac arrest due to Acute Myocardial Infarction associate higher in-hospital and long term mortality. Revascularisation of culprit lesion, therapeutic hypothermia and optimal intensive care are the most important strategies in reducing the mortality rate. The aim of this retrospective study is to follow the in-hospital and long term mortality rate in STEMI patients presenting with out-of-hospital cardiac arrest. **Material and methods:** In the period of Jan 2013-June 2014 we followed 47 patients presenting out-of-hospital cardiac arrest and indication for emergency coronarography. Average age was 60.95 year, the FMC to needle time was 11.8 hours (708 min) and 14.89% of patients benefited from pre-hospital fibrinolysis. Thirty-four patients suffered the cardiac arrest at home, 6 during the transport and 14 in the emergency room. **Results:** The infarct related artery was LAD in 46.34% of cases, RCA in 29.26%, Cx in 7.31%, while left main or triconary lesions were found in 4.87% of cases. In 12.76% of cases we did not find any coronary lesion with indication of revascularization. Aortic contrapulsation balloon was required in 6.38% of cases for hemodynamic support. After revascularization, 65.71% of patients were transferred in the intensive care unit requiring respiratory support. Average hospitalization time in these patients was 9 days. The in-hospital mortality rate was 38.29% and the 6 month follow-up mortality 44.68%. **Conclusions:** STEMI patients with out-of-hospital resuscitated cardiac arrest present higher in-hospital and long term mortality rate, as well as longer hospitalization time. Prehospital network organization, introducing of therapeutic hypothermia and improving of intensive care treatment strategy is necessary in order to reduce in-hospital and long term mortality in these cases.

**Keywords:** STEMI, cardiac arrest, mortality, primary coronary angioplasty

## IN-STENT RESTENOSIS AFTER PRIMARY PERCUTANEOUS CORONARY INTERVENTION FOR ACUTE MYOCARDIAL INFARCTION

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**Background:** The aim of this study is to analyse the in-stent restenosis (IR), after stent angioplasty in acute myocardial infarction (AMI). **Material and methods:** We studied during January 2008 to October 2009, 184 patients, mean age 51,5, 74% males, 26% females, with AMI who underwent PTCA with stent. 33 patients from this group developed IR during consecutive 6 years (followed-up until December 2013). **Results:** The coronary vessels were opening in 100% of the patients, and the coronary flow was good: TIMI III in 89,67%. Followed up 6 years, IR. appeared in 33 (18%) of the patients with stents. IR is most common (31%) at the age of 61-70, and 3 times more frequent at females. Associated diseases with IR: 61% hypertension, 21% diabetes mellitus, 3% chronic kidney disease, 3% peripheral arterial disease. IR risk factors: 39% dyslipidemia, 31% smoking, 18% obesity. IR occurred in 52% of the cases in Anterior Descending Artery (ADA), in 36% in Right Coronary Artery (RCA), 8% in Circumflex Artery (CXA) and 4% in other coronary arteries. Focal restenosis occurred in 60% of stents and diffuse restenosis in 40%. 28 patients (85%) presented moderate (50-90%), and 5 patients (15%) severe (>90%) IR. Together with IR, took place other lesions in the native coronary arteries: 30% RCA, 27% ADA, 24% CXA and 19% in other coronary arteries. The risk of developing a stenotic lesion is 2 times higher in the free vessel than into the stent. Although all patients received treatment with Aspirin and Clopidogrel, early IR(1-30 days) occurred at 9%, late (30 days-1 year) at 15% , and very late (after 1 year) at 76% of the stents. **Conclusions:** Despite a 18% in stent restenosis, angioplasty with stent implantation in patients with acute myocardial infarction gives ideal conditions for myocardial recovery.

**Keywords:** in-stent restenosis, myocardial infarction, clinical trial

## CORRELATIONS BETWEEN CONTRAST DENSITY GRADIENT ALONG THE CORONARY STENTS AND FUNCTIONAL SIGNIFICANCE OF IN-STENT RESTENOSIS

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**Background:** Evaluating the hemodynamic significance of an in-stent restenosis is a challenging task. The aim of this study was to assess the utility of the attenuation gradient of contrast density along the in-stent restenosis using Coronary CT, as a new marker to evaluate the functional significance of a coronary in-stent restenosis. **Material and methods:** We enrolled 25 patients with in-stent restenosis who underwent 64-slice Coronary Computed Tomography Angiography and we determined the contrast density expressed in Hounsfield units at two levels, proximal and distal to the stent. **Results:** The average contrast density was 88.4 proximal to the stent and 57.4 distal to the stenosis. In those lesions with by >70% in-stent restenosis, the transluminal attenuation gradient was significantly higher as compared to those with <70% in-stent restenosis (5.14 +/-2.7, vs 14.5 +/- 5.4, p=0.02). We also found a good correlation between the contrast attenuation gradient and the degree of in-stent narrowing (r=0.6, p<0.001). **Conclusions:** Assessment of intraluminal contrast density by Coronary Computed Tomography Angiography could be used as a new technique to obtain relevant information about the clinical significance of an in-stent restenosis using a noninvasive approach.

**Keywords:** cardiology, medical imaging, in-stent restenosis, contrast density gradient, coronary computed tomography angiography

## CORRELATIONS BETWEEN ISCHEMIC TIMES AND MORTALITY IN A REGIONAL STEMI NETWORK

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**Background:** The aim of this study was to investigate the correlation between total ischemic times and STEMI mortality in a regional STEMI network in Central Romania. **Material and methods:** We compared total ischemic times and mortality in 416 patients with ST- segment elevation myocardial infarction who presented to a pPCI center (141 patients) or have been referred to a pPCI center from a territorial hospital. The network was divided into 3 regions: region 1 101 cases Results: Despite the different distance to the cathlab, the mortality rates were similar in all the regions in the network: 3.5% in pPCI center, 3.9% in region 1, 3.7% in region 2 and 3.2% in region 3. This was correlated to a quite similar total ischaemic time in all the regions: 340 min in the pPCI center, 344 min in region 1, 369 min in region 2, 366 min in region 3. **Conclusions:** Myocardial ischemic time is powerful determinant of mortality in STEMI patients, independent of the network times. Therefore, reduction of total ischemic time should be the main goal of network organization in STEMI network.

**Keywords:** STEMI, primary PCI, network, ischaemic time, mortality

## NANOPARTICLE-BASED TREATMENT OF CORONARY IN-STENT RESTENOSIS

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**Background:** Nanoparticle-based treatment using balloons coated with antiproliferative substances has been recently proposed for treatment of in-stent restenosis. The aim of this study was to assess evaluate the role of drug-eluting as a new therapeutic strategy for treatment of in-stent restenosis. **Material and methods:** Fifty-one patients with in-stent restenosis were divided in two groups: group 1 -19 patients treated with nanoparticle-coated balloons, group B 32 patients treated with drug eluting stents or classical balloon angioplasty. We followed the MACE rates and the restenosis rates at 6 months and 1 year as assessed by angio CT 64 multislice. **Results:** No MACE was recorded in group 1, while 5 MACE were recorded in group 2. In group 1 Angio CT Multislice analysis did not identify any significant in stent restenosis in group 1, while the in-stent restenosis rate at 6 months was

15,6% in group 2. **Conclusions:** Nanoparticle-based treatment of coronary in stent restenosis using special ballons coated with antiproliferative substances is a new therapy with superior results as compared with traditional methods of treatment in cases with in stent restenosis

**Keywords:** drug eluting ballons, in-stent restenosis, drug eluting stent, plain old ballon angioplasty, Nanoparticle

## ISCHEMIC ALTERNATION BETWEEN LEFT ANTERIOR AND LEFT POSTERIOR FASCICULAR BLOCK

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**Background:** Alternating bundle-branch block is a sign of advanced conduction disturbance in His-Purkinje system, and is considered class 1 indication for permanent pacing. Has, similarly, the alternation between left anterior and left posterior fascicular block a worse significance ? **Material and methods:** We studied a patient who presented at a few minutes interval alternation between Left Anterior Fascicular Block (LAFB) and Left Posterior Fascicular Block (LPFB), and the correlation between these conduction disturbance and his mitral and ischemic disease. **Results:** A 67 years old patient was admitted into the First Clinic of Cardiology for angina pain and cardiac failure. The Echo-Doppler examination showed a severe mitral insufficiency (III degree) by ischemic chordae tendineae of the both anterior and posterior leaflets rupture. Left ventricle was dilated, with depressed contractility (EF 50%), and inferior septum akinetic. Coronarography revealed: severe (75%) Anterior Descending Artery (ADA) stenosis, and subocclusion (99%) of Obtuse Marginal branche (OM) of Circumflex Artery (CXA). ECG at rest revealed: sinus rhythm 75/min, left anterior fascicular block (LAFB), ischemic features (negative T wave) in lateral leads. Spontaneous, and during resting angina, appeared during sinus rhythm, left posterior fascicular block (LPFB) with ischemic features (ST descending and negative T wave) in posterior leads. The patient was operated 5 days after. Mitral valve with Saint Jude prosthesis and ADA and OM CABG were performed. Postoperatively, the patient was hemodynamically stable, and ECG showed sinus rhythm and LAFB without ischemic signs. **Conclusions:** Our case is a rare situation of alternation between LAFB and LPFB in severe myocardial ischemia due to chronic severe coronary stenosis of ADA (responsive for LAFB), and OM (responsive for LPFB). It is an example that fascicular left branch disturbances are often not exactly inoffensive, but also reflect severe myocardial ischemia.

**Keywords:** \*\*\*, \*\*\*, \*\*\*

## INTERVENTIONAL TREATMENT IN A CASE OF INFERIOR MYOCARDIAL INFARCTION SECONDARY OF ACUTE AORTIC DISSECTION TYPE DEBAKEY I

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**Background:** Direct extension of a dissecting flap into the coronary arteries and subsequent coronary malperfusion are one of the mechanisms of acute myocardial infarction (AMI) associated with proximal aortic dissection (AD). Dissection affects the right coronary artery (RCA) more often than the left coronary artery (LCA). Cardiac catheterization is not always a straightforward procedure in patients with AD, due to the presence of intimal flaps. In these conditions, the true lumen may be missed and iatrogenic complications may occur. **Material and methods:** A 56-year-old female was admitted after the diagnosis of acute aortic dissection type DeBakey I at another hospital for emergency surgical intervention. Before surgery a coronary angiogram was performed without clarifying the morphology of coronary arteries. After surgical replacement of ascending aorta with a Dacron prosthesis her hemodynamic and electric state was unstable; EKG recording showed signs of acute inferior infarction. An emergency coronary angiogram using left radial approach was performed and an intermittent occlusion of RCA was observed. **Results:** Primary PCI was successful, with a "direct stenting" of initial segment of RCA with a Cobalt-Chrome bare metal stent 3.5x15 mm, restoring the flow in RCA and remission the ST-T elevation in inferior EKG leads. **Conclusions:** Aortic dissection complicated by AMI is an extremely serious condition. A correct diagnosis is very important before starting any therapy. Emergency imaging techniques help to guide the correct diagnosis. Transthoracic echocardiography is useful as a first imaging test, and may be followed by other tests. AMI due to direct extension of a proximal AD flap is a fatal condition that can be promptly

diagnosed by coronary angiogram or IVUS (where available) Surgical management (local repair or CABG) of dissected coronary arteries during AD is controversial. Direct stenting of the coronary dissecting flap may be an optional bridge approach for critical unstable patients before definitive surgery.

**Keywords:** acute aortic dissection, inferior myocardial infarction, imaging techniques, primary percutaneous coronary intervention

## CARDIOVASCULAR SURGERY

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### A XENOGRAFT HEART VALVULAR CONDUIT - INTRAOPERATORY HEMODYNAMIC PARAMETERS MEASUREMENT

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**Background:** Achieving a pulmonary valve xenograft with no hemodynamic impact. **Material and methods:** In the Tissue Engineering and Regenerative Medicine Laboratory at UMF Targu Mures, acellular scaffolds were created from decellularized porcine pulmonary valves using mechanical, chemical and enzymatic methods. Those were included in a decellularized bovine pericardium conduct and placed in extra-anatomic position between the right ventricle outflow tract and the pulmonary trunk. 7 juvenile sheep about 4-5 months (22-25 kg) were selected as animal model. Right ventricle and pulmonary artery invasive pressures were measured, intraoperatory, before and after the ligation of the native pulmonary trunk. Systemic blood pressure, heart rate and oxygen saturation were also considered. **Results:** The physiologic average of the right ventricle mean pressure was 20.14 mmHg (interval between 17 and 22) and in the pulmonary artery was 23,42 mmHg (interval between 21 and 26). Redirecting the blood flow through the valvular conduit, by ligating the pulmonary trunk origin, did produced similar means: 21,42 mmHg (19 to 23) in the right ventricle and 23,14 mmHg (21 to 26) into the pulmonary artery. The new means are not significantly different from the native values, as shown by the two-tailed p values of the paired t-test (p = 0.06, respectively 0,77, at a 95% confidence level). Arterial blood pressure have maintained between 110-130/70-80 mmHg, heart rate below 100/min and oxygen saturation above 94%. **Conclusions:** Our pulmonary valve xenograft implantation did not modified intraventricular and pulmonary pressures intraoperatory. Systemic blood pressure, heart rate and oxygen saturation were also stable. Long term follow up is necessary to evaluate the xenograft performance.

**Keywords:** Tissue Engineering, sheep, pulmonary, xenograft, invasive pressure

### TRUNCUS ARTERIOSUS – SURGICAL APPROACH

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**Background:** Truncus arteriosus is an uncommon congenital cardiovascular anomaly, characterized by a single arterial trunk arising from the heart by means of a single semilunar valve. Pulmonary arteries originate from the common arterial trunk distal to the coronary arteries and proximal to the first brachiocephalic branch of the aortic arch. Truncus arteriosus typically overrides a large outlet ventricular septal defect. Prevalence ranges from 0.03 to 0.056 per 1000 live births. No striking sex difference in frequency is observed although most series contain more males than females. Neonates with truncus arteriosus present clinical features of congestive heart failure depending on the high volume of pulmonary blood flow and the presence or absence of truncal valve insufficiency. **Material and methods:** This retrospective study describes our experience in truncus arteriosus based on 14 patients, aged between 6 weeks and 32 months, who underwent surgical treatment between 2005- 2014. 58.33% of the patients were presenting truncus arteriosus type I, 33.33% type II and 1 case (8.33%) type IV. **Results:** Currently surgical management consists of complete repair with closure of the ventricular septal defect, committing the common arterial trunk to the left ventricle outflow tract. In 83.33% of the cases, right outflow tract reconstruction was obtained by placing a cryo-preserved valved conduit. The REV procedure was used in 1 case (8.33%) and aortic arch reconstruction with pericardial patch aortoplasty was performed in 1 case (8.33%). **Conclusions:** In the last years there have been clinically significant improvements in treatment with early repair and now truncus arteriosus is ideally repaired in the neonatal period with low mortality.

**Keywords:** pediatric cardiac surgery, pediatric cardiac surgery, common arterial trunk ,cardiovascular anomaly, con, common arterial trunk ,cardiovascular anomaly, con

## INTERVENTIONAL THERAPY OF AORTIC COARCTATION DURING PREGNANCY

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**Background:** Aortic coarctation is a congenital malformation, characterized by the narrowing of the vessel lumen diameter, right after the origin of the left subclavian artery. The clinical aspect is focused on the high blood pressure in the superior territory, comparatively to the inferior territory of the body. The treatment options are the following: the pharmacological control of the blood pressure, the surgical approach, or the interventional approach. **Material and methods:** This case report presents a 28 years old female patient, pregnant at the present moment, at 25 weeks of gestational age, with a previous miscarried pregnancy and with a systolic blood pressure exceeding 150 mmHg, that could not be efficiently controlled. The echocardiography and angioCT disclosed a severe coarctation of the thoracic aorta. In this clinical context, we opt in favor of the interventional procedure. The patient underwent a percutaneous transluminal angioplasty, a stent being implanted at the level of the descending aorta. **Results:** The result of the procedure is encouraging, without any further complications, with the normalization of the vessel lumen diameters and with a noticeable decrease of the blood pressure in the superior territory arteries ( 120 mmHg). **Conclusions:** The previous data shows that stent angioplasty is a not only an option, but a suitable choice for pregnant women, diagnosed with coarctation of the aorta.

**Keywords:** Cardiovascular surgery, Interventional cardiology, aortic coarctation, interventional therapy, pregnancy

## SURGICAL TREATMENT OF TRASPOSITION OF GREAT VESSELS

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**Background:** Transposition of great vessels is a frequent disease, representing 5-8% of all cardiac malformation, and causing approximatively 25% of the deaths in the first year of life, with cardiac congenital etiology. It is encountered 4 times more often in men than in women. It is characterized by a dual, parallel circulation, which is incompatible with life in the absence of a patent communication between the pulmonary and systemic circulation. As a consequence, a severe and rapidly evolving heart failure develops, mostly because of the unrestricted pulmonary blood flow, but also because the coronary arteries receive unoxygenated blood, resulting in myocardial hypoxia. The pharmacological treatment has a supportive role, until the moment of the surgical procedure. In the first days of life, after the TGV is diagnosed, we will start iv treatment with PGE1, which will maintain a patent ductus arteriosus, and therefore will increase the mixing between the two parallel circulations blood. The arterial switch intervention is considered the gold-standard in the treatment of TGV. **Material and methods:** The present paper aims to outline the surgical experience in treating this disease, in the Cardiovascular Surgery Department of IuBCVT Targu-Mures. Between October 2005 and September 2013 a number of 134 patients diagnosed with transposition of the great vessels were admitted in our service. In 86% of the cases we performed a "arterial switch operation", with a 4,4% mortality rate (4 patients). **Results:** Because this pathology requires surgical intervention during the first 21 days of life, prenatal diagnosis is essential. **Conclusions:** The progress of surgical therapy, improved the life quality of the patients, making it possible for them to have a high degree of social integration.

**Keywords:** Cardiovascular surgery, Surgery, great vessels transposition, arterial switch, congenital heart malformation

## DENTAL MEDICINE

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### PREVALENCE OF DENTAL EROSION AMONG YOUNG SWIMMERS: A PILOT STUDY

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**Background:** Objectives: To assess the prevalence of dental erosion among young competitive polo players and recreational swimmers of a local swimming club in Tîrgu Mureş, Romania. **Material and methods:** Material and methods: A cross-sectional study on dental erosion was conducted including a group of very young competitive polo swimmers aged 9 to 14 years, being trained for an average of 5 years (group 1; n=30), a group of young competitive polo swimmers aged 15 to 20 years, who had been training for an average of 10 years (group 2; n=64) and a group of recreational swimmers aged 10 to 20 years (group3; n=40). Subjects completed a questionnaire focused on the common erosion risk factors and a clinical examination was performed. The Lussi index was used for the assessment of erosive tooth wear. Statistical analysis was performed using Chi-square test. Relative risk (RR) was calculated. The level of significance was set at  $p<0.05$ . **Results:** Results: Dental erosion was found among the polo swimmers in 23.3% of the 9-14 year-olds, in 50% of 15-20 years-olds and in 10% of the recreational swimmers, respectively. All eroded dental surfaces in the 1st and 3rd group were evaluated as grade 1, but in the 2nd group also grade 2 was observed. Significantly more polo players presented erosive lesions compared to recreational swimmers (group1,  $p=0.04$ ; group 2,  $p<0.0001$ ). **Conclusions:** Conclusions: The prevalence of dental erosion was high among the regular swimmers in Tîrgu Mureş and was significantly related to water polo players training period. The results suggests the necessity of preventive measures regarding dental erosion in swimmers.

**Keywords:** Epidemiology, Pilot studies, dental erosion, prevalence, swimming

### PAROTID GLANDS TUMORS - A RETROSPECTIVE CLINICAL AND HISTOPATHOLOGICAL STUDY

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**Background:** Parotid glands tumors (PGTs) are relatively rare. They display a wide variety of histopathological subtypes and different pathophysiological behavior. Salivary glands neoplasms accounts for less than 3% of human cancers, and about 6% of head and neck neoplasms. The purpose of this paper is to present a retrospective study on multiple features regarding PGTs, such as: incidence, age, sex ratio, histopathological and immunohistochemical type, in order to provide further insights on this pathology. **Material and methods:** The retrospective study comprises 89 cases of parotid glands tumors, and was performed in Oral and Maxillo-Facial Surgery Clinic and Histopathology Department of Emergency County Hospital Targu Mures, during 4 years, between January 2010 and December 2013. Twenty-four cases were excluded from the study, those weren't arising in salivary glands tissue. In 65 cases, data regarding the above mentioned features concerning PGT, were collected, analyzed using descriptive statistics and compared with the literature. **Results:** PGTs are most common in: 50-60 years, males (53.3%); on the right side (55.38%). Their occurrence is higher in urban areas (61.53%); but no relation can be found between area of origin and PGT ( $p=0.8041$ ). Pleomorphic adenoma is the most frequent benign PGT, affecting mostly female, 40-59 years old, followed by Warthin tumor, more frequent in male, 50-69 years old. Mucoepidermoid carcinoma prevails among malignant PGTs, followed by squamous cell carcinoma, adenoid cystic carcinoma and acinar cell carcinoma; other histopatological types are less common in parotid glands. Malignant PGTs are found usually in males, over 50 years, with a peak incidence between 60-69 years. Immunohistochemical studies are still in progress and in order to obtain conclusive results, an increased number of cases will be necessary. **Conclusions:** Our results are in accordance with the literature: PGT is a rare pathology; adult males are most affected by; pleomorphic adenoma is the commonest tumor.

**Keywords:** parotid glands tumors, histopathology, immunohistochemistry, retrospective study

## HISTOLOGICAL EVALUATION OF THE EFFICIENCY OF LOW-LEVEL LASER THERAPY ON BONE REGENERATION IN EXTRACTION SOCKETS GRAFTED WITH ALLOGRAFT MATERIAL COVERED WITH RESORBABLE COLLAGEN DRESSING

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**Background:** Our objective was to determine if low level laser therapy (LLLT) can decrease the time between extraction/socket graft and implant placement, by evaluating histological changes in sockets grafted with an allograft material and treated with LLLT. **Material and methods:** Thirty patients had a socket grafted with a particulate allograft material (MinerOss) covered with a resorbable collagen wound dressing. The patients were then randomly divided in two equal groups (n=15), one receiving postoperative LLLT treatment, and the other without postoperative laser treatment served as control. The assessment of bone formation was done in both groups at several time intervals after surgery by histomorphometric analysis. **Results:** The histological results of the side treated with LLLT for 21 days, harvested at 60 days after the grafting showed abundant new bone formation without any sign of inflammation. The same results were obtained in control group no sooner than 120 days post-surgery. **Conclusions:** In conclusion, LLLT and LED photobiomodulation has the ability to speed up the healing time after the grafting in the extraction sockets. Histological evidence suggests that in about 60 days there is new bone formation in the sockets compared to a minimum of 120 days from the non LLLT treated sites. **Acknowledgment.** This paper was published under the frame of European Social Fund, Human Resources Development Operational Program 2007-2013, project no. POSDRU/159/1.5/S/136893.

**Keywords:** laser therapy, bone regeneration, low level laser therapy, bone regeneration, socket

## ORTHODONTIC TREATMENT NEED IN A GROUP OF CHILDREN AND YOUNG ADULTS FROM MURES REGION.

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**Background:** Introduction: Orthodontic treatment depends on the perception of facial and dental aesthetics of both the patient and the orthodontist. **Objectives:** The aim of this study was to evaluate the necessity of orthodontic treatment and dental aesthetic of a group of children and young adults from Mures Region using Aesthetic Component, Dental Health Component of IOTN and Angle's classifications of malocclusion, and to find if there is a correlation between these methods. **Material and methods:** Material and Methods: We selected 140 patients aged between 12 and 25 years who ask for orthodontic treatment. One examiner analyzed intraoral photos and dental casts of the patient in order to determine the AC, DHC and the Angle's class of malocclusion. The results were statistically analyzed. **Results:** Results: For AC we have 38,57% patients with no need for treatment, slight need for treatment have 31,42% of the subjects, 16,43% have severe need for orthodontic treatment and only 13,57% with moderate need for orthodontic treatment. For DHC we have 45,71% patients with moderate need of treatment, 30% with slight need, 12,86% with great need and 11,43% with no need for treatment. For Angle's classification we find 57,97% subjects having Class I; 21,01% having Class II division 1 and 21,01% Class II division 2. The values obtained for this component were analyzed and compared using Chi square test. **Conclusions:** Conclusions: Orthodontic treatment need for the children and young adults from Mures Region is low according to AC component of IOTN, and Angle's classification, and is low to moderate according to DHC component of IOTN. We found a connection statistically significant between AC and DHC, AC and Angle's classification, DHC and Angle's classification.

**Keywords:** index of orthodontic treatment need (IOTN), aesthetic component (AC), dental health component (DHC), Angle's classification, ACKNOWLEDGEMENT: This paper is partly supported by

## SALIVARY FLUORIDE LEVELS AFTER THE USE OF DIFFERENT TOOTHPASTES

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**Background:** Intraoral fluoride (F) retention is of great relevance when evaluating the efficacy of preventive measures for dental caries control. The study was aimed to analyze salivary fluoride as indicator of intraoral F levels after the use of conventional and high-fluoride toothpastes. **Material and methods:** Twenty 20-35-year-old volunteers were included in this double-blind crossover study. Subjects were instructed and randomly assigned to brush their teeth twice daily, during 10 days, with three toothpastes containing: 0 µg F/g (placebo), 1.000 µg F/g (conventional) and 5.000 (high-fluoride) µg F/g. Samples of stimulated saliva were collected at 1 and 12 h after the last use of each dentifrice. The protocol was repeated twice, using the toothpaste not previously used. All samples were analysed in triplicate after buffering with TISAB III (Total Ionic Strength Adjustment Buffer). The fluoride concentrations were determined through millivolt (mV) readings using the direct method by ion-specific electrode (Orion 9609) coupled to an ion-analyser (Orion 720A). For statistical analysis the Mann-Whitney U test and Kruskal-Wallis post-hoc Dunn test were used ( $p \leq 0.05$ ). **Results:** The salivary F concentrations (mean value  $\pm$  SD, µg/ml) measured one hour after toothbrushing were  $0.064 \pm 0.025$  when placebo,  $0.286 \pm 0.253$  when conventional and  $1.118 \pm 1.449$  when high-fluoride toothpaste were used, respectively. Salivary F levels were significantly increased at both 1 and 12 h after brushing with the conventional and high-fluoride toothpastes, when compared to placebo. **Conclusions:** A dose-response relationship was observed regarding F content of toothpastes and those found in saliva. The results suggest that the use of high-fluoride toothpaste is able to significantly increase salivary F levels throughout 12 hours providing cariostatic effect. **Acknowledgement:** The study was supported by "The Borrow Foundation" (UK) through the research grant no 5274/25.06.2010.

**Keywords:** fluoride analysis, fluoridated toothpaste, salivary fluoride

## STUDENTS' PERCEPTION ON THE E-LEARNING PLATFORM – EVIDENCE FROM THE FACULTY OF DENTISTRY, UMF TÎRGU MUREȘ

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**Background:** UMF TgMureș promotes a complex e-learning platform. Through this study we evaluated the Faculty of Dentistry from UMF Tîrgu Mureș students' feedback on this, if they perceive the use of computer educational resources as efficient and if the educational process is supported by the platform. **Material and methods:** We elaborated a 20-item questionnaire that targeted major topics related to the e-learning platform. This questionnaire was filled in by students from the DFUMF throughout the period 1-15 November 2014. Except for the questionnaires, having a large number of questions unanswered, that were eliminated, the rest of them was processed with Microsoft Excel and interpreted. We registered and evaluated the impact of the e-learning platform over the Dentistry Medicine students, as well as the students' feedback on the quality of the learning process. **Results:** The results cannot be inferred on the entire UMF TgMureș platform, but we consider them to be quite relevant tendencies for the targeted segment: Dentistry Medicine students. The analysis of the results has demonstrated that dentistry medicine students interact in different manners with the e-learning platform. They have little experience in working with e-learning platforms and they prefer constant guidance during their studies. 86% of the students signalled that they are not satisfied with the security the platform provides for each user (student/professors). The study evaluates only the students' personal feedback in relation to the quality and efficiency of the platform, and not its efficacy. **Conclusions:** Students' opinions pinpoint to both positive contributions and negative aspects with respect to the e-learning platform. We see an opportunity in taking into consideration some specific items in the questionnaire for they may indicate potentially problematic situations that require solutions for improvement. The delivery of educational resources that better integrate the learning preferences of each student should carefully be taken into account

consideration.

**Keywords:** students, dentistry medicine, feedback, e-learning

## THE "MODIFIED NEW ZEALAND" DESIGN FOR IMPLANT RETAINED OVERDENTURES CASE REPORTS

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**Background:** According to the evidence currently available, the implant-retained over denture is a reliable treatment option for the mandibular complete edentation. The aim of this short presentation is to promote the "modified New Zealand" concept from a neuromuscular point of view. **Material and methods:** We fabricated conventional mandibular prostheses for three edentulous patients. We consequently placed for each of them, four implants in the symphyseal region. Ball attachment abutments retained the supra-implant mandibular prosthesis. We performed the occlusal analysis and equilibration of the implant retained over denture by means of the T-Scan III system. **Results:** We obtained high favorable responses concerning the patient general satisfaction for this treatment approach, about the stability, retention and comfort. **Conclusions:** (a) This prosthetic design has a noticeable impact on the patient's quality of life. Both the "New Zealand" (two implants) and the "modified New Zealand" concepts (four implants) can significantly improve the mandibular complete denture functionality; (b) The neuromuscular approach used for the occlusal analysis gives to the prosthetic rehabilitation an evidence-based feature.

**Keywords:** Prosthodontics, Implantology, Implant-retained overdenture, New Zealand concept,

## STUDY UPON ORAL AND MAXILLO-FACIAL TRAUMAS

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**Background:** Traumas of Oral and Maxillo-Facial region (T-OMF) are one of the main pathology of this region, since the head is very exposed to different traumatic agents (car accidents, aggressions, work, play and sport accidents, even accidents during surgical procedures, etc). Traumatic lesions may interest soft tissues, teeth, jaws, isolated or in various combinations among them, associated or not with other region traumas, some of them can be very severe, rising surgical procedures difficulties and being followed by secondary deformities. **Material and methods:** Study was conducted on admitted patients in Oral and Maxillo-Facial Surgical Clinic Tg. Mures. Different features concerning OMF traumas, such as sex ratio, age, type of traumatic agents, patient's area of origin, association of alcohol consumption, type of traumatic lesions, etc, were considered. Collected data were analyzed by descriptive statistics and compared with the literature. **Results:** Generally, male, 20-40 years old, often association of alcohol consumption, car accidents and humane aggressions, poor economic status, were the resulted highlights features, being concordant with the literature. **Conclusions:** Increased number of traumatic lesions of Oral and Maxillo-Facial region, can be related very often to a poor educational level and economic status, and may represent a social problem, morally, but also regarding health insurance system

**Keywords:** Oral and Maxillofacial Surgery, trauma of oral and maxillo-facial region, statistic

## ASSESSMENT OF DENTAL STUDENT'S KNOWLEDGE REGARDING THE DESIGN OF CONVENTIONAL OVERDENTURES. CRITICAL ISSUES

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**Background:** Conventional overdenture is a complete denture who transmit masticatory forces to the prosthetic mandibular field by a mesostructured represented by natural tooth or dental root. The issue of aesthetics overdentures on natural teeth is extremely important, even more so as this type of restoration is aimed at people with severe edentation, that shows obvious esthetic changes,

sometimes associated with psychical changes, especially if it occurs in young people. Making conventional overdenture requires minimal knowledge of dental students that ensures the treatment success. **Material and methods:** Our aim was to evaluate the students' knowledge level, from both theoretical and practical about how is made classic overdenture. In this regard we have achieved a first questionnaire consists of three simple questions to dental students in three universities of Romania. To the questionnaire have responded 108 students. The final year students of one university were asked to perform practically this type of prosthetic restoration, in a clinical case suitable for this treatment. **Results:** Results showed that the most students (79%) know the basics about overdenture, but they don't have spatial and technological perspective about realisation itself. Of those surveyed, 50% of students do not know the role of the general factors that can ensure success of overdenture or composite dentures. They didn't consider important factors like abutment topography, mounting teeth or the free way space. **Conclusions:** In conclusion, despite the high frequency in practice, this kind of treatment is not available to everyone. Some of the produced errors doesn't influence the wearing of this prosthesis. To improve the student's performance, is recommended the use of educational films.

**Keywords:** dental student's knowledge, dental aesthetic, overdentures design, dental curriculum

## NEW CONCEPTS ON STRESS AND PERIODONTAL DISEASE

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**Background:** The international literature describes several aspects related to this subject but without a main overview and also without a direct application on diagnose and treatment of periodontal disease. However, stress is an important factor involved and confirmed in etiology and physiology of several inflammatory diseases including periodontal disease. The current definition, the new concepts and the empiric scientific models prove how the mechanisms of action leads to emergence, exacerbation, sustaining of periodontal disease, and paradoxically to prevention and amelioration of it. Project is that the stress influences CNC through psychosomatic, physiologic, and endocrine mechanisms, and then through immunologic mechanism leads to significant changes. Our paper presents a review about the present level of knowledge regarding mechanisms of stress and the currently known theoretical aspects. **Material and methods:** A review of the national and international literature was conducted. Study of references from the specialized literature to prove etiology yet not confirmed of periodontal disease. The relationship between stress and periodontal disease do to our hypothesis as function of stress management by the patient can be a positive or a negative factor in the physiology of the vital organs. **Results:** There is a lack of studies and debates regarding the link between stress and periodontal disease. The international literature describes several aspects related to the subject, but without direct application on diagnose and treatment of periodontal disease. Within studies regarding illness and several disease has a dynamic definition being involved in the etiology and maintenance of several inflammatory diseases including periodontal disease. The current theory about the stress mechanism is CATS. **Conclusions:** After a good analysis about the present level of knowledge our paper confirms the latest theory and brings new concepts on the link between stress and periodontal disease. Stress is an important etiological factor for the periodontal disease.

**Keywords:** stress, periodontal disease, CATS

## DEPARTMENT OF COMMUNITY NUTRITION

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### DIETARY SOURCES OF FIBER INTAKE AND ITS ASSOCIATION WITH SOCIO-ECONOMIC FACTORS AMONG ADULTS

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**Background:** The research regarding on the potential health benefits of dietary fiber has received considerable attention in the last several decades. Generally speaking, dietary fiber is the edible parts of plants, or similar carbohydrates, that are resistant to digestion and absorption in the small intestine. The mechanisms of dietary fiber on metabolic health is the changes in intestinal viscosity, nutrient absorption, production of short chain fatty acids and production of gut hormones. **Material and methods:** The objectives were to assess total dietary fiber intake, the consumption habits, the knowledge about food fibres, also to identify the major sources of dietary fiber and to examine its association with socio-economic factors among adults who are working in food industry (namely sugar factory in the little town Ludus, Romania). **Results:** Seven-day estimated dietary records were collected from an employees 27-55 years old (n = 180; 124 men, 56 women). The mean dietary fiber intake (11.6 g/day) was lower than the intake level recommended by the Romanian Dietary Guidelines (25 g per day for women and 38 g per day for men), and the frequency by gender was 64% men and 85% women with fiber intake below the level. The most important fiber sources were bread and cereals (51.5%), followed by potatoes and grains (24.0%), fruits (7.8%), energy-dense and low-nutritious foods (8.4%), and also vegetables (8.3%). Multiple linear regression analyses showed that total fiber intake was associated positively with their education. Engineers and medium education employees did not differ in their knowledge scores about food fibres and the identification of the major sources of dietary fibers, (p<0.0001). Overall, fiber intakes from rich-nutritious foods (vegetables and fruits) were higher in the group of employees with the highest education level. **Conclusions:** These findings suggest that dietary fiber should be promoted to general population and also in programs dedicated to food industry personnel.

**Keywords:** Romanian Dietary Guidelines, fiber sources, dietary fiber, consumption habits, food industry

## ENT (OTORHINOLARYNGOLOGY)

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### THE ROLE OF UPPERAIRWAY RESISTANCE INDEX IN CLINICAL EVALUATION OF PATIENTS WITH OBSTRUCTIVE SLEEP APNEA SYNDROME

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**Background:** The gold standard for diagnosing the patients with obstructive sleep apnea syndrome is nocturnal polysomnography. Evaluation of the severity of the apnea is performed by apnea hypopnea index-AHI value. The Upper Airway Resistance index-UARI was an essential element in assessing the degree of upper airway obstruction. The aim of this study was to analyse the importance of using the upper airway resistance index in the evaluation of patients with Obstructive Sleep Apnea Syndrome.

**Material and methods:** In study were included 151 patients with Obstructive Sleep Apnea Syndrome. Patients were evaluated according to the value of the apnea-hipopnee- and upper airway resistance indexes. **Results:** Between values of UARI and AHI in patients with mild and several Obstructive Sleep Apnea Syndrome was a significant statistically correlation,  $p < 0.05$ . In patients with moderate Obstructive Sleep Apnea Syndrome was no significant correlation between this two parameters,  $p = 0.08$ .

**Conclusions:** Upper airway resistance index with apnea-hypopnea index. represents an essential role in the diagnosis of the severity of Sleep Apnea.

**Keywords:** ..., ..., Obstructive Sleep Apnea Syndrome, Upper Airway Resistance Index, Apnea-Hypopnea Index

# ENDOCRINOLOGY

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## PROPHYLACTIC TOTAL THYROIDECTOMY <sup>?</sup> DISCUSSION IN RELATION TO A CASE WITH MEN-2A SYNDROME (CASE REPORT)

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**Background:** Multiplex endocrine neoplasia type 2A (MEN2A), characterised by medullary thyroid carcinoma (MTC), pheochromocytoma and primary hyperparathyroidism, is caused by germline mutations in the RET proto-oncogene. The age of onset, clinical features, and aggressiveness depend upon the specific germline mutation, so usually a good genotype-phenotype correlation and strong penetrance of MTC is observed. Current guidelines recommend prophylactic near-total thyroidectomy at early age. Objectives. We propose to present a case with MEN2A, whose therapeutic management was difficult, regarding the reluctance and low compliance shown by the patient and his entourage. Our second aim is to review the current literature about prophylactic total thyroidectomy, and highlight its benefit. **Material and methods: Results:** Case report. In 2008 the 22-years-old male patient was labelled with essential arterial hypertension, combined antihypertensive medication being initiated. In January 2010 the abdominal CT-scan detected a nodule in each adrenal gland (left: 65x76mm, right: 12mm), and left adrenalectomy was performed, histological diagnosis being pheochromocytoma. In March 2012 the CT-scan showed the right adrenal nodule increased to 50x22mm, and right adrenalectomy was realized, histology showing also pheochromocytoma. The patient did not receive hormonal replacement, and Addisonian crisis, coma, with severe multiorgan failure developed. Substitution with 12.5mg/day prednisone and 0.1 mg/day fludrocortison was initiated, besides other intensive care therapies, the evolution being slowly favourable. In December 2013 diabetes mellitus was diagnosed, as well as a 8 mm hypoechoic left thyroid nodule (superior pole), with calcitoninaemia of 38ng/ml (normal<18.2), and a right inferior parathyroid adenoma on scintigraphy with high PTH and serum calcium level. RET-gene analysis demonstrated mutation on codon 634 (TGC634CGC - Cys634Arg). **Conclusions:** Conclusions. A prophylactic total thyroidectomy is firmly indicated, given that it is recommended before the age of 5-years in case of mutation on codon 634, but the patient refused surgery yet. Family screening for MEN syndrome is also recommended, it was initiated.

**Keywords:** medullary thyroid carcinoma, total bilateral adrenalectomy, Addisonian crisis, primary hyperparathyroidism, RET gene mutation

## EPIDEMIOLOGY

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### HUMAN PAPILLOMAVIRUS VACCINE, KNOWLEDGE AND ATTITUDE AMONG PARENTS OF PUPILS V-VIII, TG.MUREȘ, 2014

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**Background:** Romania is first in Europe in terms of mortality from cervical cancer, 6.3 times more than the average European Union countries. Vaccine against infection with human papillomavirus (HPV) is effective strains 6, 11, 16, and 18 of HPV, which are responsible for 70% of all cervical cancers. HPV vaccination and Babes Pap test reduce the risk of cervical cancer by up to 94%. For a successful vaccination program, it requires a high rate of absorption, accurate information for healthcare professionals and parents. **Purpose:** Evaluation of parents' knowledge about HPV infection and HPV vaccination, the level of information by health professionals and identify barriers in implementing a vaccination strategy. **Material and methods:** It conducted a cross-sectional study using a self-administered questionnaire to parents pupils V-VIII, two randomly selected schools in Tg. Mures. The questionnaire included questions about parents' knowledge regarding HPV infection, attitudes towards prevention of serious diseases, awareness about cervical cancer, awareness of HPV vaccine and intention to benefit from immunization program vaccination against HPV. **Results:** They surveyed about 800 parents. The majority of reported a low level of knowledge about HPV infection or HPV vaccination. For those with knowledge, two main sources of information occurred from friends and books, magazines, brochures specialty. Too few people have received information from the doctor. According to most parents surveyed, the main reasons for not wanting to vaccinate children are afraid of side effects, or do not know details about the vaccine, are poorly informed. **Conclusions:** The level of parental knowledge about HPV infection and HPV vaccination is low, and to implement an effective program to increase the absorption rate of HPV vaccination required educational strategies aimed at involving pupils and parents and family doctor in trouble health education. This paper was published under the frame of European Social Found, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/136893

**Keywords:** HPV infection, Cervical cancer, HPV vaccination, Questionnaire, Parents.

### SAMPLING IN SURVIVAL STUDY - A HISTORICAL CONTROL APPROACH

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**Background:** In malignant diseases the big pharmaceutical companies develop new active principles in order to improve the quality of life and length of survival of patients. Testing these drugs involves a specific approach and requirements for sampling. The calculation of sample size for such studies is challenging. **Material and methods:** The first step in the testing of a new drug is a pilot study regulated by Pharmacopoeia as regards the phases I and II. Based on the results of these studies we have calculated the necessary sample for phase III survival study. Historical control data are used: number of deaths observed (n), number of patients still at risk (YC), median survival (month, MS), hazard rates and statistical parameters imposed (significance level  $\alpha$ , accrual rate, length of the study, hazard rate ratios). We used the method proposed by Dixon & Simon (1988). **Results:** We applied the proposed method for patients with metastatic malignant melanoma. Values considered in the pilot study: observed number of deaths: 137 (n), number of patients still at risk: 0 (YC), median survival (month): 10.1 (MS), hazard rate: 0.66 ( $\lambda$ C). Statistical parameters in the study were: significance level:  $\alpha = 0.05$ , accrual rate:  $r = 3$  (/ month) (inclusion rate), length of the study:  $T = 60$  months (time tracking), hazard rate ratios:  $\lambda = 0.66 / 0.66 = 1$ . The sample size by applying this method varies depending on the time of follow-up: with 60 months follow-up the value is 180 patients, respectively 198 patients taking into account a 10% loss of tracking. With 36 months follow-up the sample size drops to 107, respectively 120 patients. The power of the study between the two approaches, however, is comparable: 0.76 versus 0.73. **Conclusions:** Sampling using historical control is correctly applied in survival studies.

**Keywords:** Epidemiology, Public health, sample size, survival study, historical control

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## SMOKING BEHAVIOR, ATTITUDES, AND SMOKING CESSATION COUNSELING TO PREGNANT SMOKERS AMONG FAMILY PHYSICIANS

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**Background:** Smoking during pregnancy is a major challenge to public health. An understanding of the attitudes of family physician on pregnant smokers before and during pregnancy is essential for the development of effective interventions for smoking cessation. Knowledge of family physicians attitudes towards health education activity, namely the awareness of pregnant smokers about the risks of smoking during pregnancy. **Material and methods:** We used a cross-sectional study based on a self-administered questionnaire to family physicians in Mures County. The questionnaire followed the training of family physicians, their smoking status, awareness of pregnant women about the risks of smoking, the reasons why pregnant women do not wish/wish to quit smoking. **Results:** We interviewed 65 physicians family, 61.5% in urban areas, 72.3% of primary physicians, with a proportion of 67.7% experience in the profession. About 88% consult a week 1-5 women pregnant. Among physicians, 60% had smoked a cigarette at least once, but 20% are smokers constant. The level of knowledge of patients about the risks of smoking during pregnancy is weak (30.8%) to satisfactory (35.4%). According to physicians, the reasons why pregnant women do not want to quit smoking are: 24.6% lack of knowledge about the risks of smoking on pregnancy, 32.3% - low education level, 29.2% - nicotine dependence, 26.1% entourage. On the other hand the reasons why pregnant women want to quit smoking are: 60% - maternal and child health, 18.4% - higher costs for cigarettes or family support, 20% ambition. **Conclusions:** The study allowed us a more complete understanding of the relationship family physician-pregnant smokers with important practical implications for smoking interventions in order to help stop smoking and provide health benefits for mothers and their children. Research reported in this publication was supported by the Fogarty International Center and the National Cancer Institute of the National Institutes of Health under Award Number R01TW009280-01.

**Keywords:** smoking, pregnant women, questionnaire, family physician

## GASTROENTEROLOGY

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### EPIDEMIOLOGICAL ASPECTS OF THE PRENEOPLASTIC AND NEOPLASTIC LESIONS OF THE ESOPHAGUS

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**Background:** The incidence of adenocarcinoma of the esophagus has dramatically increased during the last 2 decades. A major risk factor for adenocarcinoma of the esophagus is gastro-oesophageal reflux disease. In this study we studied preneoplastic and neoplastic esophageal lesions epidemiology with emphasis on esophageal adenocarcinoma. **Material and methods:** We conducted a retrospective study in patients with endoscopically and histologically confirmed diagnosis of esophageal cancer or Barrett's esophagus from January 1, 2006- December 31, 2010. **Results:** The data of our study showed an increased incidence of both esophageal adenocarcinoma and Barrett's esophagus in the studied period of time, but epidermoid carcinoma remains the prevalent histology in our area. Epidermoid carcinoma/adenocarcinoma ratio decreased from 3.33/1 in 2006 to 1.33/1 in 2010. Regarding gender distribution, we observed a high predominance of males with a male/female ratio of 7.45/1. The median age at diagnosis in esophageal cancer was  $61.69 \pm .9.57$  years, and was higher for esophageal adenocarcinoma,  $65.75 \pm 9.60$  years. Young age (<50 years) was statistically significantly correlated with the development of epidermoid carcinoma ( $p < 0.05$ ), while advanced ages (> 70 years) were significantly associated with the development of esophageal adenocarcinoma. (Odds Ratio: 3.714, 95% CI: 1.328 to 10.387). Lesions in the lower third of the esophagus was statistically significantly associated with esophageal adenocarcinoma ( $p < 0.0001$ ) (Odds Ratio: 33.44, 95% CI: 7.241 to 154.51). Barrett's esophagus also shows an increasing incidence, the application of new diagnostic methods (chromoendoscopy with methylene blue) raising its rate of histological confirmation. **Conclusions:** Esophageal adenocarcinoma incidence has increased, but the most common histological form in our area remains epidermoid carcinoma.

**Keywords:** esophageal adenocarcinoma, Barrett's esophagus, epidermoid carcinoma

## GENETICS

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### RS13181, RS238406 AND THE RISK OF ACUTE MYELOID LEUKEMIA

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**Background:** DNA repair mechanisms preserve the genome integrity by avoiding mutations in key cell cycle regulatory genes, which in turn are responsible for a variety of cancers. Variants of the xeroderma pigmentosum group D (XPD) gene are known to be associated with a lowered DNA repair capacity and a higher susceptibility for malignancies, such as acute and chronic leukemias.

**Material and methods:** We used a case-control study to test the association between rs13181 and rs238406 polymorphisms in the XPD DNA repair gene and the risk of acute myeloid leukemia in a Romanian population. For this purpose, 102 patients previously diagnosed with acute myeloid leukemia and 153 healthy volunteers with no history of malignancy were enrolled. Genotypes were determined by polymerase chain reaction - restriction fragment length polymorphism (PCR-RFLP) technique. **Results:** In case of the rs13181 polymorphism, the frequency of the heterozygous A/C in the patients group was found statistically significant compared to the healthy controls ( $p=0.005$ ,  $OR=2.211$ ,  $95\%CI=1.273-3.839$ ). By comparative analysis of the patients and control groups, we observed that although the mutant genotype C/C was not associated with the risk of acute myeloid leukemia ( $p=0.217$ ), the coupling of heterozygous and mutant homozygous was statistically significant ( $p=0.006$ ,  $OR=2.08$ ,  $95\%CI=1.237-3.498$ ). The rs238406 polymorphism was found not to be statistically associated to acute myeloid leukemia, neither by comparing the heterozygous C/A nor the mutant A/A homozygous in the two groups ( $p=0.330$ ,  $p=0.17$  respectively). **Conclusions:** The results of our study show a very probable association between the rs13181 XPD DNA repair gene polymorphisms and the risk of acute myeloid leukemia development. **Acknowledgment:** This work was supported by Internal Research Grants of the University of Medicine and Pharmacy Tîrgu-Mures, Romania, Project no. 19/11.12.2013.

**Keywords:** XPD rs13181, XPD rs238406, acute myeloid leukemia

### GST GENE POLYMORPHISM AND THE RISK OF AML IN ROMANIAN PATIENTS

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**Background:** Glutathione S-transferases (GSTs) are metabolic isozymes involved in the detoxification of xenobiotic substrates. They are encoded by GST genes and have a major role in protecting tissue against reactive oxygen species. GSTM1, GSTT1 have been reported to be implicated in a number of cancers, as a result of an increased vulnerability to carcinogens and environmental toxins. **Material and methods:** The purpose of the study was to investigate the relationships between GSTM1 and GSTT1 gene polymorphisms and the risk of AML. Genotyping of GSTs was based on a multiplex-polymerase-chain-reactions assay in 100 AML patients and 321 controls. **Results:** AML patients carrying null GSTM1 genotype had a 2.308 fold risk of acute myeloid leukemia relative to those with a non-null genotype ( $p<0.0001$ ). Furthermore, the presence of GSTT1 null genotype was also significantly associated with the risk of AML development ( $p<0.0001$ ). **Conclusions:** Our findings suggest that GSTM1 gene polymorphisms have an important role in the development of acute myeloid leukemia. **Acknowledgment** This work was supported by Internal Research Grants of the University of Medicine and Pharmacy Tîrgu Mures, Romania, Project no. 19/11.12.2013.

**Keywords:** GST gene polymorphisms, Acute Myeloid Leukemia, risk

## POLYMORPHISMS OF DNA REPAIR GENE XRCC1 IN MALIGNANT LYMPHOMA PATIENTS

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**Background:** DNA repair genes, such as XRCC1 rs1799782 and rs25487 are a very effective defense mechanism against DNA damage, caused by endogenous and environmental agents. Variants of these genes and differences in repair capacity between individuals are associated with a number of malignancies. The XRCC1 gene is implicated in both single-strand and base-excision of damaged bases, caused by endogenous and exogenous oxidants. The objective of the present case-control study was to investigate the association between the genetic polymorphisms of the XRCC1 gene and the risk for malignant lymphoma in a population from central Romania. **Material and methods:** The study population comprised of 101 patients with malignant lymphoma, 49 (48.51%) subjects diagnosed with Hodgkin's lymphoma and 52 (51.49%) cases presenting non-Hodgkin's lymphoma, and 202 healthy controls with no malignancy history. Multiplex polymerase chain reaction-restriction fragment length polymorphism (multiplex-PCR-RFLP) was used for genotype identification. **Results:** The XRCC1 rs1799782 Trp/Trp variant genotype had a higher frequency in the patients group, compared to the control population ( $\chi^2=22.679$ ,  $p=0.001$ , OR=0.133, CI=0.053-0.335). With regard to the XRCC1 rs25487 Gln/Gln mutant gene, a higher incidence was also observed in the study population, compared to the healthy individuals ( $\chi^2=22.679$ ,  $p=0.001$ , OR=7.535, CI=2.984-19.030). By comparing the wild type rs1799782 Arg/Arg and rs25487 Arg/Arg genotype frequencies in both patients and control group, no statistical significant difference was found. **Conclusions:** Our study incriminates XRCC1 rs1799782 and XRCC1 rs25487 variant genotypes as plausible risk factors for malignant lymphoma.

**Keywords:** XRCC1 rs1799782, XRCC1 rs25487, malignant lymphoma, Hodgkin's lymphoma, non-Hodgkin's lymphoma

## GYNECOLOGY

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### THE SENTINEL NODE BIOPSY BY LAPAROSCOPIC APPROACH IN GYNECOLOGICAL MALIGNANCIES. INITIAL EXPERIENCE.

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**Background:** In the last three decades the surgical management of cancer experienced significant changes, the tendency being to perform operations as less extensive and less invasive. In this respect the concept of sentinel lymph node biopsy has gained more ground being successfully applied in breast cancer, malignant melanoma and other cancers. Sentinel node biopsy avoids the unnecessary ablation of regional lymph nodes, it can be performed by minimally invasive approach thus preventing associated extensive lymphadenectomy morbidity, but also allows a more accurate diagnosis and not adversely affects the survival rate. Pelvic sentinel node dissection has proven to be a viable method in gynecologic cancers. Thus in early vulvar cancers, negative predictive value approaches 100% and in endometrial and cervical cancers it is about 90%. Based on results of recent studies, pelvic sentinel lymph node dissection has been proposed as a method of diagnosis optimization and detection of lymphatic metastases and micrometastases in early stages of genital cancers. **Material and methods:** The authors present a video clip with their initial experience in laparoscopic approach in the detection and sentinel node dissection in a case of cervical cancer in a young patient. First, two cc of blue dye have been injected in the both sides of cervix and then the patient was prepared for laparoscopic approach in Trendelenburg position. Four trocars have been used. Highlighted by the blue coloration, the external iliac and obturator sentinel lymph nodes were easily detected, dissected and removed. **Results:** The procedure lasted about 35 minutes and there were no intraoperative incidents recorded. Postoperative evolution was uneventful. Histopathological result was negative. **Conclusions:** Sentinel node dissection by laparoscopic approach using blue dye is a simple, easy and reliable procedure. It should be applied more widely because it can relieve many patients from complications of unnecessary lymphadenectomy and contributes to a better staging of uterine cancer.

**Keywords:** sentinel lymph node, laparoscopy, uterine cancer

### LAPAROSCOPIC OVARIAN TRANSPOSITION BEFORE PELVIC IRRADIATION. CASE PRESENTATION

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**Background:** It is well-known that pelvic radiation therapy for various malignant diseases (cancers of the uterus, rectum, lymphomas and others) can affect the ovaries leading to loss of ovarian function. Usually used doses of 42-58 Gy are much higher than those that can induce loss of ovarian function (4-20 Gy). Removing the ovaries outside of irradiation field may offer the chance of preserving reproductive function in young women and reduce the rate of early hormonal insufficiency. Transposition of the ovaries to 3 cm above the pelvic inlet reduces the absorbed dose by the ovaries at 1-10%. The first transposition technique of the ovaries into the paracolic gutters was described in 1958. Ovarian transposition by laparoscopic approach is a procedure commonly applied in abroad hospitals but rarely from us. **Material and methods:** It is presented a case of a young patient with cervical cancer who underwent laparoscopic ovarian transposition. A video clip about the surgical technique is presented. Although there are several different surgical techniques, the transposition in the paracolic gutters, method with the widest acceptance, was applied in our case. **Results:** Although the patient was operated in history for pelvic sentinel node biopsy and lumbo-aortic lymphadenectomy, laparoscopic approach was very easy due to lack of postoperative adhesions. The duration of surgery was 35 minutes without special intraoperative incidents. The patient was discharged the day after surgery. **Conclusions:** Maintaining quality of life by preserving ovarian function in premenopausal women who have to undergo pelvic radiotherapy treatment is a very

important aspect but unfortunately rarely offered to these patients. Ovarian transposition in paracolic gutters by laparoscopic approach is a relatively easy procedure. The greatest concern should be the preservation of ovarian vascularization. This procedure should be applied more widely and further investigations are necessary to assess the ovarian function after this type of procedure.

**Keywords:** Ovary, Transposition, Cancer, Pelvic, Radiotherapy

# HEMATOLOGY

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## MAINTENANCE TREATMENT WITH RITUXIMAB IN PATIENTS WITH INDOLENT LYMPHOMAS

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**Background:** Rituximab plus chemotherapy induction followed by rituximab maintenance is the standard of treatment in follicular and other indolent lymphomas. A significant number of patients have increased progression free survival compared to no maintenance therapy patients. **Material and methods:** A retrospective study was performed, analyzing the patients treated in the Hematology Department of the Internal Medicine Clinic 1 since the introduction of maintenance treatment with rituximab every 8 weeks in 2012. A number of 27 patients were identified, 15 with follicular lymphoma, 3 with ganglionic marginal zone lymphoma, 4 with lymphocytic lymphoma and 5 with splenic marginal zone lymphoma. **Results:** Follicular lymphoma were grade III in 2 patients, grade II in 4 patients and grade I in 9 patients. 19 patients (70.3%) were in complete remission after the induction chemoimmunotherapy. A median of 9 maintenance cycles (3-12) were administered at the time of analysis. No conversion to complete remission were observed during maintenance in the 8 patients with partial response at the end of induction. Two patients had a diagnosis of a second neoplasia during treatment with rituximab. The incidence of herpes zoster reactivation was 29.6%. **Conclusions:** All patients that completed the maintenance therapy are free of treatment and all are alive. 70.3% are maintaining complete remission. A long survival is expected in these patients.

**Keywords:** rituximab maintenance, indolent lymphomas, retrospective study

## HYGIENE

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### TOBACCO CONSUMPTION AT THE HIGH SCHOOL PUPILS FROM THE REPUBLIC OF MOLDOVA

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**Background:** Determination of the incidence of smoking among high school pupils from rural localities. **Material and methods:** The study included 10 high schools from the Republic of Moldova, which included interviews with 732 pupils from IXth to XIIth form. From the total number of pupils 419 are girls and 313 boys. The investigation was conducted anonymously and it included items related to tobacco consumption by pupils. **Results:** Our study indicates that 12,2% (51) of the girls and 61,1% (191) of boys who was questioned smoked during their life at least one cigarette entirely. From the total number of pupils who smoked a whole cigarette for the first time 23,7% (78) did this at the age of 15-16 years-old. There smoked regularly at least one cigarette every day for 30 days 2,1% (9) girls and 19,8% (62) boys. The largest share of age at which pupils regular smoke at least one cigarette per day is the age of 15-16 years-old 24,8% (28) pupils, age 17-18 years-old - 17,7 % (20), at the age of 9 years-old - 8,8% (10). It was found that from all pupils who smoke, 22,9% (22) pupils are smoking 2-5 cigarettes per day, 16,7 % (16) smoke less than one cigarette / day and 3,1% (3) pupils smoke more than 20 cigarettes/day for the last 30 days. **Conclusions:** In the Republic of Moldova, the largest share of the earliest age at which high school pupils begin to smoke and smoke regularly is the age of 15-18 years-old. The most frequently smoke boys than girls.

**Keywords:** pupils, high school classes, cigarettes, smoking

### THE KNOWLEDGE OF PUPILS FROM VIITH - XIITH FORM ON HEALTHY NUTRITION

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**Background:** WHO Regional Office for Europe recently declared that 300 million of people worldwide are obese. About 20-25% of children and 40-45% of adolescents are affected on a global scale. **Material and methods:** In a sample of 1237 pupils of VIIth-XIIth form from 10 high schools from rural localities of the Republic of Moldova, were assessed the sanitary-hygienic knowledge about their diet, using the questionnaire method. **Results:** A frequency of 90.9% of surveyed pupils knows that they have to eat 3-4 times/day. 68.7% of pupils consider that for being healthy they have to limit the salt in the food. They have declared that the following foodstuffs are unhealthy like coca-cola - 71.4%, chips/snacks - 72.2%, hamburgers/donuts/hotdogs - 68.1%, pizza - 43% of the pupils. Academic disciplines that inform them about healthy eating are biology - 57.4%, civic education - 54.9% and class hour - 39.5%. As sources of information on healthy eating they mentioned: parents and grandparents for 73.7% of pupils, teachers - 52.2% and nurses 50.3%. **Conclusions:** Pupils knowledge related to daily diet are at a high level, but their knowledge about healthy and unhealthy foods have some gaps. The main source of information and food education is the family.

**Keywords:** pupils, nutrition, hygiene, eating habits

### FOOD CONSUMPTION BY PUPILS FROM RURAL LOCALITIES FROM THE REPUBLIC OF MOLDOVA

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**Background:** Food quality is dependent on the diversification of foodstuffs included in the individual's daily ration. The failure of

this principle can cause various pathologies. **Material and methods:** We studied in 2014 the daily frequency of consumption of the main food groups, in a sample of 1233 pupils of IXth-XIIth class from rural localities of the Republic of Moldova, using the questionnaire method. **Results:** The teenagers had consumed on the day preceding the questioning cereals and bakery products - 99.2% pupils, fruits - 86.7%, cooked vegetables - 72.6%, meat dishes - 72.1%, potatoes - 50.3%, dairy products - 46.9%, raw vegetables - 44.7%, eggs - 25.3%, fish - 19.4%, raw fruits juice - 14.8%, legumes - 12.5%. From those investigated 52.6% have consumed food with high fat content. Regarding the food groups present in the menu we registered a satisfactory level of consumption by the pupils for cereals and bakery products, fruits, cooked vegetables and meat dishes; relatively satisfactory - the consumption of dairy products, raw vegetables and potatoes; unsatisfactory level for the consumption of eggs, fish and legumes. **Conclusions:** We sustain the idea that it is important to constantly evaluate the risk factors related to the inadequate diet at teenagers and to implement efficient community intervention in order to prevent nutrition related diseases that can occur.

**Keywords:** pupils, foodstuffs, nutrition

## ADAPTATION OF ASPIRA ONLINE PROGRAM AND ITS PILOT STUDY

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**Background:** Given the large number of teens who smoke and considering that educational institutions offer the most promising framework for the introduction of measures to prevent and stop smoking in this age group, the University of Medicine and Pharmacy of Tîrgu Mureș initiated and developed the ASPIRA project to be implemented in the high schools of Tîrgu Mureș. The project was conducted by our team in both Romanian and Hungarian, based on an intervention developed by specialists at MD Anderson Cancer Center in Houston, USA. This is the first time that such a software was implemented in our country. The methodology of the program was to provide a computer-aided intervention with attractive content targeting students who familiar with information and communication technology. **Material and methods:** Prior to carrying out the research and completing the five modules that include tests, videos and interactive games, the ASPIRA online program was tested on a group of schoolchildren and students (N=120). Questionnaires were completed considering the opinions of young people and the functionality of the software. **Results:** The vast majority of participants (90.8%) reported a good or very good impression about the ASPIRA program. Every fourth person found that it included some parts which were too long; two-thirds believed that the information presented was suitable for ninth grade students, aroused their attention and interest. Technical errors or problems regarding the functionality of the software were reported by 12.5% of participants, while the majority (56.6%) believed that the granting of raffle prizes would motivate students to participate more seriously and on a larger scale. **Conclusions:** As a note, we state that high school students and boys were more critical, expressing their opinions about the software more freely. The findings and suggestions were considered by the researchers to improve the online ASPIRA program.

**Keywords:** tobacco research, smoking prevention, ASPIRA online program, youth opinions

## USERS' PERCEPTION OF LANGUAGE AND CULTURAL BARRIERS IN A TRANSLATED COMPUTER ASSISTED SMOKING PREVENTION PROGRAM

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**Background:** Computer assisted smoking prevention programs are increasingly popular for multiple reasons but developing such applications require an interdisciplinary team. A possible solution for extending globally the use of such programs could be the translation of existing applications in the native language of the target group. The aim of this study was to assess the perceptions regarding language and cultural barriers among students involved in the "ASPIRĂ" smoking prevention program. **Material and methods:** "ASPIRĂ" is the Romanian/Hungarian version of a smoking prevention program created at MD Anderson Cancer

Center, Houston. A total of 120 school and university students accessed individually a section of the program in the IT laboratory and completed subsequently a questionnaire. Proportions were calculated using Open Office Calc v. 4.1.1. **Results:** 76.67% of the participants had little or very little difficulty in understanding the messages presented by the English speaking characters; for 50.83% of the participants the translated subtitles were helpful or very helpful, while 25.83% of them did not need the subtitles at all. As far as the speed at which the subtitles were displayed, 82.91% of the respondents said that it was suitable and could read the translation without difficulty, 11.97% said the succession was too rapid to follow easily and 5.13% could not read the subtitles in their entirety. One third of the participants believed that the program would be easier to understand if the foreign language speaking characters would be replaced by indigenous characters. Only 7.50% of the participants thought that the program included content that was not appropriate for the local culture. **Conclusions:** Language and cultural barriers did not have the potential to reduce in a significant manner the effectiveness of the tested program.

**Keywords:** smoking prevention, program translation, language/cultural barriers

## ASPECTS OF PREGNANT WOMEN TRYING TO QUIT SMOKING

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**Background:** Smoking is a major problem worldwide and in Romania, and when smokers are pregnant the implications upon their health and the unborn child are major. To streamline our actions on pregnant women, with the intention of convincing them to quit smoking, it is very important to identify their causes and knowledge about the ways that could lead to cessation. Assessment of the characteristics of smoking pregnant women and their relation to and knowledge about the methods that could lead to stop smoking in order to provide the necessary support on smoking cessation. **Material and methods:** We used a cross-sectional survey in 2013 based on a questionnaire consisting of 109 questions, applied to newborn mothers from Gynecology I and II in Tg.Mures city. **Results:** Of the 1278 women surveyed, 29.8% smoked regularly before pregnancy, 43.3% of these continued to smoke during pregnancy, 52.8% reduced the number of cigarettes during pregnancy, and 42.3% had tried to quit smoking but didn't succeed. In those who have tried to quit smoking methods used were: abrupt 11.5% and 15.3% ambition or upon willpower. The most common reasons why women have failed to quit smoking were related to entourage 12.8%, 10.2% lack ambition, or even by lack of desire to 11.5%. Of women smoking in pregnancy, the most worrying aspect is that only 1.8% asked for professional help to quit smoking. **Conclusions:** Frequency of women who have tried to quit smoking during pregnancy is important but not enough and their knowledge has to be improved also. We must achieve an efficient community intervention on women who are smoking during pregnancy, to reduce this risk, thus avoiding future health problems for both the mother and the fetus. Research reported in this publication was supported by the Fogarty International Center and the National Cancer Institute of the National Institutes of Health under Award Number R01TW009280-01.

**Keywords:** smoking cessation, pregnancy, intervention

## THE EFFECT OF DIETARY OMEGA-3 FATTY ACIDS ON SERUM TRIGLYCERIDES

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**Background:** Hypertriglyceridemia (with the serum triglyceride levels above 150 mg/dl or 1.69 mmol/l), associated with obesity, with or without hypercholesterolemia and a risk for type 2 diabetes is considered an epidemic risk factor. Omega 3 fatty acids lower serum levels of triglycerides; eicosapentaenoic and docosahexaenoic acid may be used as monotherapy or associated in therapy with fibrates or nicotinic acid in patients with hypertriglyceridemia. In young patients with moderate hypertriglyceridemia an association between dietary measures and the use in therapy of omega-3 fatty acids is preferred. **Material and methods:** An observational study was conducted in three general practice offices on 24 young patients aged 35-45 years with an age mean of 42.81 ± 6.32 years who presented serum triglyceride levels of 252.30 ± 33.14 mg / dl, but the total cholesterol levels were below 220 mg / dl (value considered normal, but at the limit). Patients were prescribed a mixture of eicosapentaenoic and docosahexaenoic acid ethyl esters,

in doses of 3g / day, with a moderate calorie restricted diet (normo protein diet, high glucidic diet and moderately hypolipidic diet). **Results:** Analysis of serum triglycerides was repeated after 3 months from the starting of the treatment. Patients' serum triglycerides values decreased to  $152.65 \pm 24.38$  mg / dl. This decrease is statistically significant ( $p < 0.005$ ) and they were switched to therapy with fibrates. **Conclusions:** In young patients with hypertriglyceridemia associated with hyper cholesterol sometimes the use of omega 3 in therapy has advantages. It is an alternative to treatment with statins and fibrates, their side effects have additive risk especially in combination. This paper was published under the frame of European Social Fund, Human Resources Development Operational Program 2007-2013, project no. POSDRU/159/1.5/S/136893.

**Keywords:** oral presentation, oral presentation, triglyceride, hypertriglyceridemia , eicosapentae

## COMPERATIV SECONDHAND SMOKE EXPOSURE AMONG 1 YEAR IN TARGU MURES UNIVERSITIES

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**Background:** The pollutants generated by the cigarette come from the chemical process of burning organic matter or combustion of tobacco and paper. Combustion processes generates thousands of pollutants, some of which are in the gas phase and others in the form of small particles named particulate matter. Particle pollution - especially fine particles - can get deep into the lungs and cause serious health problems. Numerous scientific studies have linked particle pollution exposure to a variety of health problems.

**Material and methods:** The study was carried out as a longitudinal study, in 2013 and 2014, at two Universities in Targu Mures, using a PM2.5 measurer. Locations were chosen, where students and staff study, work and breathe. The study was timed in didactical period, measuring an average of 2 hours. At the medical University(A) at the end of 2013 and early 2014 was made a smoke workshop, informative course and two student science conference, where was presented tobacco-free researches, but non-medical university(B) did not. **Results:** Results In 2013 at medical University(A) we found two points in both measuring time and one point in single period, that had average normal exposure concentration overpassed(eg.staircase  $10,513\mu\text{g}/\text{m}^3$ , SD 0,189, ground floor  $0.768\mu\text{g}/\text{m}^3$ ,SD0,232).The university made rules against tobacco, after a year we repeated the measurements only 3 points had overpassed and with lower average(eg.ground floor  $0,30\mu\text{g}/\text{m}^3$ , SD ,004). At same time we made measurements at non-medical University(B), where also have overpassing average and it did not reduced after a year. **Conclusions:** Conclusions Anti-tobacco policy made progresses against second hand exposure smoking, this way also Pm2.5 average is lower. Students smoke awareness led to better non-smoking policy.

**Keywords:** smoke, tobacco, pm

## INFECTIOUS DISEASES

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### ERYTHEMA CHRONICUM MIGRANS. NOT ALWAYS AN EASY DIAGNOSIS!

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**Background:** Erythema chronicum migrans is a common early manifestation of Lyme disease. The aspect is a typically circular, outwardly expanding erythema. It does not represent an allergic reaction like the majority of skin lesions caused by insect bites, the lesion being due to local spread of the spirochaete. The lesion appears in 1-36 (average 9) days after the bite. About 90% of the patients develop ECM at the site of inoculation. Of patients ultimately diagnosed as having Lyme disease, about 50% recall a tick bite. Untreated lesions clear, usually within a few weeks, but the duration may vary between 1 day and 14 months. **Material and methods:** We will present a case series of patients who presented different clinical aspects of ECM. The diagnosis was sustained by the presence of an erythematous patch, history of tick bite, positive Ig M antibodies for *Borrelia burgdorferi* and remission of the lesions after antibacterial treatment. **Results:** We observed a quite polymorphous clinical aspect of ECM. A correlation between these clinical appearances and the time that passed from the tick bite to the manifestation of the skin lesion was noticed. **Conclusions:** Erythema chronicum migrans has different clinical aspects.

**Keywords:** Lyme disease, *Borrelia burgdorferi*, chronic migratory erythema, clinical aspects, tick bite

### FIXED DRUG ERUPTION: CLINICAL, HISTOPATOLOGICAL AND DERMATOSCOPIC FEATURES

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**Background:** Fixed drug eruption is characterized by round, oval erythematous plaque (plaques) with discrete margins, even bullae in severe cases, that recurs at the same site, as the result of systemic exposure to a causative drug; it can resolve with or without hyperpigmentation. The lesions most often develop within 30 minutes to 8 hours after the ingestion. Coloration varies from red, scarlet, dusky brown to a greyish hue, as the lesion heals. **Material and methods:** We report a case series of patients with fixed drug eruptions. The diagnosis was sustained, in each of the cases, by the appearance of an erythematous patch or plaque, that recurs at the same site, every time after ingesting the causative drug. We also relied on histopathology and made use of dermoscopy to elucidate the diagnosis and to better observe the changes. **Results:** Fixed drug eruption is a type of allergic reaction involving both the skin or the mucous membrane. Most fixed drug eruptions are due to NSAIDs including ibuprofen, sedatives including barbiturates, benzodiazepines, and some antibiotics; many other drugs can cause fixed drug eruptions. It can develop on any part of the body, but the most common sites involved are the limbs, trunk, palms, soles, or the penis. The most important prevention method of a new occurrence is the avoidance of the causative drug. In order to avoid it, one must first identify it. Patch tests would be useful in these cases. **Conclusions:** Efforts should be done in identifying the causative drugs when dealing with fixed drug eruptions.

**Keywords:** histopathology, dermoscopy, fixed drug eruption, coloration, features

## HAND-FOOT-MOUTH DISEASE IN AN ADULT -CASE REPORT-

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**Background:** Hand-foot-mouth disease is an acute infectious disease affecting mostly the children, being characterized by papules, herpetic lesions, even blisters on the hands, feet or oral mucosa, fever and sore throat. Children under 5 years of age are generally susceptible to the disease, this being uncommon in adults. It is caused by enteroviruses, among which Enterovirus 71 and Coxsackie virus A16 are the most frequent causative agents, transmitted through the fecal-oral route or via respiratory droplets. **Material and methods:** We present the case of a 40 year-old immunocompetent male who presented in our Clinic with multiple papules and vesicles on his palms, feet and mouth, the rash being preceded by fever a couple of days before. He also states having a child that presented a similar rash on his palms and soles, with fever, without odynophagia, 5-6 days before. We therefore sustain the diagnosis of hand-foot-mouth disease clinically, due to characteristic lesions in typical sites, lacking the possibility of isolating the virus from swab of vesicles. Under symptomatic treatment, antiviral and local antibiotic therapy the lesions resolve. **Results:** Hand-foot-mouth disease, a common mild, short-lasting viral infection is quite frequent among children under 5 years old, but rare in adults. Stress, fatigue, close contact with a hand-foot-mouth disease patient seem to contribute to the illness. After an incubation period of 3-5 days, the signs of infection appear. **Conclusions:** Although easily to diagnose on its clinical appearance, sometimes it may pose problems, raising questions over the diagnosis: ~~XXXX~~it hand-foot-mouth disease or just a herpes simplex infection; or even a polymorphous erythema? ~~XXX~~In these cases, isolating the virus form swab of vesicles would be of great help. Usually a mild illness, sometimes can cause more serious infection.

**Keywords:** hand-foot-mouth disease, Enterovirus 71, Coxsackie virus A16, children, adults

## HIV AND CEREBRAL TOXOPLASMOSIS – A DEADLY COMBINATION?

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**Background:** Cerebral toxoplasmosis is a severe disease characterized by focal neurologic signs, seizures, headache, confusion, fever, with guarded prognosis, which appears in HIV positive patients with severe immunodeficiency. The prognosis can be improved by using appropriate etiologic therapy and HAART (highly active antiretroviral therapy). The aim of this study is to compare the cases of cerebral toxoplasmosis in HIV positive patients, which evolved favorably, with the fatal ones. **Material and methods:** A retrospective chart review was performed during a 10 year's period (2003-2013) using the data of HIV positive patients with cerebral toxoplasmosis admitted in the 1st Infectious Diseases Clinic of Tg. Mureş. Demographic data, symptoms, neuroimagic changes, laboratory analyses, therapy and outcome were noted. 21 patients were found, 52.38% of which had favorable outcome, and 47.61% died. **Results:** No statistically significant differences were found between the patients with good outcome and those with fatal outcome regarding the gender (although fatal cases were more frequent in men), age, T CD4+ lymphocyte count, presence of specific antibodies, symptoms, adherence to HAART (although the patients who survived were more adherent), the presence of single or multiple cerebral mass lesions, and the specific therapy of toxoplasmosis, although patients receiving trimethoprim-sulfamethoxazole (TMP-SMX) associated with clindamycin had a better survival rate than those receiving TMP-SMX monotherapy or pyrimethamine monotherapy. ( $p > 0.05$ ) **Conclusions:** Despite being a severe disease, cerebral toxoplasmosis in HIV positive patients can be treated effectively using a combination therapy, and associating HAART. The adherence of the patients to therapy is mandatory in order to obtain favorable response. The limitations of this study are related to the low number of subjects, since cerebral toxoplasmosis in HIV positive patients has become a rare disease in the HAART era.

**Keywords:** cerebral toxoplasmosis, HIV, survival, HAART, adherence

## MORTALITY AND HELICOBACTER PYLORI INFECTION AMONG HIV-POSITIVE PATIENTS WITH DYSPEPTIC SYMPTOMS

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**Background:** Helicobacter pylori infection is frequently associated with dyspepsia in the general population. Objectives. To assess the relationship between the presence of Helicobacter pylori and mortality among human immunodeficiency virus (HIV)-infected patients with dyspeptic symptoms and to establish the main causes of death in this category of persons. **Material and methods:** We performed a retrospective, analytical, case-control study, on a 5-year period (2009 - 2013), upon two groups of HIV-infected patients with dyspeptic complaints: group A, composed of 21 deceased patients, group B - 70 survivors. All patients were tested for Helicobacter pylori infection. Statistical analysis was performed using GraphPad Prism 6 program - Chi2 and t student tests. **Results:** Death rate among HIV-infected dyspeptic patients was 23.07%. The main causes of death in this category were pulmonary and extra-pulmonary tuberculosis, intestinal cryptosporidiasis, central nervous system lymphoma, Pneumocystis jirovecii pneumonia and liver cirrhosis. We did not find statistically significant association between Helicobacter pylori infection and patients' outcome ( $p = 0.3204$ ). Poor outcome was associated with low CD4+ T-cells count ( $p < 0.0001$ ), absence of antiretroviral treatment ( $p = 0.0002$ ) or poor adherence to therapy ( $p < 0.0001$ ) and hepatitis B or C virus coinfection ( $p = 0.0316$ ). **Conclusions:** The main causes of death among HIV-infected patients with dyspeptic complaints were extra-digestive opportunistic infections. Helicobacter pylori infection did not significantly influence mortality in this category of persons.

**Keywords:** Helicobacter pylori, human immunodeficiency virus, mortality

## SCREENING FOR DETECTION OF HUMAN IMMUNODEFICIENCY VIRUS INFECTION - WHY IS IT SO IMPORTANT ?

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**Background:** The UNAIDS has settled a target to reduce to zero the number of new HIV infections, AIDS related deaths, to stop the discrimination of HIV positive patients. In order to achieve this target it is important to discover the infected persons as early as possible. The aim of this study is to evaluate the newly discovered HIV positive patients monitored in the 1st Infectious Diseases Clinic of Tg. Mures. **Material and methods:** A retrospective cross sectional study was performed using the data of newly discovered HIV patients during the last 36 months. 58 patients were found. Demographic data, route of transmission, reasons for testing, clinical-immunologic stage, HIV viral load, T CD4 lymphocyte count were noted. HIV viral load and T CD4 lymphocyte count of the patients discovered HIV positive by screening was compared with the values of symptomatic patients. Mann Whitney test was used for statistical analysis. **Results:** The mean age of the patients was 27 years, 33 were male and 25 female. The route of transmission was sexual in 41 cases, unknown in 16 cases, perinatal in one case. 33 patients were discovered HIV positive by screening, 25 were symptomatic. The clinical-immunologic stage of the patients in the screening group was A1-2: 24, B1-2:5, C1-3: 4, of the symptomatic patients was A2: 1, B1-3: 9, C2-3: 15. There was a significant difference regarding the T CD4 lymphocyte count (screened patients: 519 cells/mm<sup>3</sup>, symptomatic patients: 310 cells/mm<sup>3</sup>,  $p = 0.0008$ ) and the HIV viral load (screened patients: 50280 copies/ml, symptomatic patients: 462000 copies/ml,  $p = 0.0002$ ) between the two groups. **Conclusions:** Our results underline the importance of screening in order to diagnose early the HIV positive patients, with high T CD4 lymphocyte count and low level of viral load. These patients have a better response to antiretroviral therapy, fewer associated illnesses, better quality of life and prognosis.

**Keywords:** screening, HIV, diagnosis

## AIDS/NON AIDS COMORBIDITIES - CHALLENGES IN THE MANAGEMENT OF THE HIV-SEROPOSITIVE PATIENT

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**Background:** Progresses achieved in the management of the HIV-seropositive patient have shown remarkable results, they have increased the hope of life and life quality. Nevertheless, the patient infected with HIV is still vulnerable to multiple health problems, non-AIDS comorbidities: diabetes mellitus, dyslipidemia, lipoatrophy/lipodystrophy, bone affection, kidney affection, neurocognitive disorders. **Material and methods:** We present the case of a patient diagnosed with HIV infection more than 10 years ago, with an evolution of the HIV infection controlled by complex antiretroviral therapy (ARV), who has accumulated multiple comorbidities generated by the chronic HIV infection and/or by the antiretroviral therapy (TARV). **Results:** The patient of 25 years old has been diagnosed with HIV infection in 2002, clinical and immunologic stage C3. She has been through several ARV patterns and although since 2006 she has shown immune restoration and undetected ARN-HIV viremy, develops aseptic necrosis of the femoral head (ANFH), osteopenia, extensively-drug resistant pulmonary tuberculosis caused by *Mycobacterium tuberculosis* (XDR) resistant to antituberculosis antibiotics, major depression. The patient's management who has been diagnosed with HIV infection in an advanced stage (TCD4 =4 cells/mm<sup>3</sup>, viremy ARN-HIV:11200 copies/ml) during the evolution needed complex clinical and paraclinical investigations imposed by the her multiple subjective and objective complaints, assisted by a multidisciplinary team: endocrinologist, orthopedist, pneumologist, psychologist/neuropsychiatrist, infectious disease specialist. The therapy of the multiple comorbidities has also arisen the issue of drug interactions with ARV therapy. We notice the control of the HIV infection through combined ARV therapy, lymphocytes TCD4>500/mm<sup>3</sup>, undetectable ARN-HIV, and the association of multiple comorbidities: osteopenia, documented by osteodensitometry in the annual dynamics, dosage of vitamin D, aseptic necrosis of the femoral head with double prosthesis, XDR pulmonary tuberculosis, neurocognitive affection in intermediate degree and major depression confirmed by the psychometric tests Beck Depression Inventory: (12 points), HIV dementia scale (9 points). **Conclusions:** The management of the HIV-seropositive patient imposes, currently, a multidisciplinary team. AIDS-Associated comorbidities emphasizes the importance of early detection of HIV infection and the instauration of a personalized ARV therapy.

**Keywords:** AIDS, comorbidities, bone disease, tuberculosis

## ETIOLOGICAL AND THERAPEUTIC FEATURES OF ACUTE ENDOCARDITIS

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**Background:** Endocarditis is an endovascular disease cardiovascular structures, disease can be challenging both diagnostic and therapeutic. In Romania, the incidence of acute endocarditis remains high, with an average of 3.4 cases per 100,000 persons/year in the last decade. The study objectives were to assess the clinical, paraclinical, etiologic, therapeutic, identifying risk factors and establish a protocol for diagnosis and treatment respecting Duke diagnostic criteria. **Material and methods:** We conducted a prospective study that included 20 patients hospitalized for a period of one year. The etiology was based on positive blood cultures and acute phase reactants. Identification of vegetation localization was performed using transthoracic and transesophageal echocardiography. **Results:** The most affected age group was between 58-68 years, male gender predominated in 60% of cases; 55% of patients were from urban; definite endocarditis was established in 70% of cases. The etiologic agent most frequently involved was *Staphylococcus aureus*, location endocarditis occurred in 18 patients (90%) of the native valve, 12 patients (60%) lesions were present in the aortic valve. Surgery was required in 85% of cases and deaths were recorded in 15% of cases. **Conclusions:** Gram-positive cocci were the most frequent etiologic agents involved in the etiology of acute endocarditis. Undiagnosed and untreated endocarditis properly in time remains a disease with high lethality.

**Keywords:** endocarditis, etiologic agents, diagnosis, treatment

## INTERNAL MEDICINE

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### ROUTINE PSA SCREENING-FRIEND OR ENEMY?

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**Background:** Prostate cancer screening through checking of the PSA level has been a controversial topic. At first it was recommended for men aged 50 and over, evidence showing a decrease in mortality after implementing this test. But more recent studies have shown small or no reduction in mortality through this screening and harms related to subsequent evaluation and treatments, some of which may be unnecessary. **Material and methods:** We present the case of a 64 year old male patient, with a history of 2nd type diabetes mellitus on oral antidiabetic drugs, 3rd grade mitral regurgitation, secondary valvular cardiomyopathy and pulmonary hypertension, who is admitted to the cardiology department for palpitations and possible angina. He also accused important weight loss (approx 20 kg in 6 months), fatigue, loss of appetite, decrease of muscle strength and pain of the scapulo-humeral and hip joints. He was transferred to our department for further investigations, due to elevated ESR, LDH and alkaline phosphatase. **Results:** We considered **autoimmune conditions** (lupus, rheumatoid arthritis, polymyositis), which were infirmed by negative antibodies, **multiple mieloma** (which was also infirmed by total protein result and immunogram) and **solid tumor** (which was later confirmed by CT scan: end-stage prostate cancer with bone metastases). **Conclusions:** The patient had never had a PSA check before, and when we finally became the result, it was astounding: 4020 ng/ml. Although the PSA screening is currently controversial and no longer recommended (in the U.S. and Canada), we believe the patient would have had better chances, had he been screened earlier.

**Keywords:** prostate cancer, screening, PSA

### LEFT INTERNAL JUGULAR AND SUBCLAVIAN VEIN THROMBOSIS - RARE CAUSE MANIFESTATION

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**Background:** Objective: To present the case of a 36 year old woman with a history of chronic autoimmune Hashimoto's thyroiditis (since 2012), on substitutive medication with 200 µg of L-Thyroxin daily. She had an episode of polyserositis (pleural effusion, pericarditis, ascites) in her recent history, along with elevated ds anti-DNA antibodies, which led to a suspicion of SLE. She was admitted to our clinic with an ultrasound confirmed thrombosis of the left internal jugular and subclavian vein, to clarify the etiology. **Material and methods:** We started the investigations in order to rule out an autoimmune cause with secondary antiphospholipid syndrome or a paraneoplastic cause. **Results:** We couldn't confirm with repeated antibody assays an autoimmune disease with or without secondary antiphospholipid syndrome, or a paraneoplastic cause. **Conclusions:** We interpreted the thrombosis in the context of the autoimmune thyroiditis. The particularity of the case lies in the unusual association of autoimmune thyroiditis and DVT. The patient had a favorable evolution under oral anticoagulation and substitutive medication with L-Thyroxin (which we could reduce to 150 µg daily), achieving total recanalisation of the left subclavian vein and partial recanalisation (>80%) of the left internal jugular vein in the course of one year.

**Keywords:** left internal jugular and subclavian vein thrombosis, Hashimoto's thyroiditis, autoimmune disease, antiphospholipid syndrome

## 5 MHZ CW DOPPLER TECHNIQUE AND THE VENOUS PHOTOPLETHYSMOGRAPHY IN THE SCREENING OF PATIENTS WITH CHRONIC VENOUS DISORDERS

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**Background:** The aim of this study was to provide an account of 2 tests, with an outline of their usefulness and limitations and indications of which patients should be subjected to the tests and when of what clinical decisions can be made. **Material and methods:** PPG is a non invasive technique that can detect local changes in the blood content of tissues. The principal application is to study blood flow and blood volume changes in the skin. A probe that consists of a light source and a light-sensitive diode is positioned on the skin. The backscatter of light detected with the light-sensitive diode is affected by changes in the number of red blood cells in the dermis. Red blood cells absorb maximum light in the sitting or standing position when the pressure is high and the veins are full. Continuous-wave Doppler ultrasound is a useful method of detecting reflux at the saphenofemoral and saphenopopliteal junctions. It has become routine in outpatient clinics for screening because it is quick, inexpensive, and noninvasive. Expectations that it would be useful for detecting and localizing incompetent thigh and calf perforating veins were proved false by several studies in the 1970s. The Duplex Doppler is considered the golden standard of the diagnosis. The prospective study 30 patients: 20 venous diseases: gravamens with clinical symptoms 10 control persons: without gravamens, with minimal clinical symptoms. The average of age: 69.45 ± 8.15 age-experimental group 31.8 ± 16.6 age-control group **Results:** There were significant differences between the control group and the patient suffering of venous pathology, about the subcutaneous refill time Left foot 15,2±10.2 sec versus; 23,9±7.9 sec Right foot 11,7±8.6 sec versus; 27,7 ±11.1 sec **Conclusions:** The Photoplethysmography in combination with CW Doppler 5 MHZ is a new modern technique, easy to use it makes possible the usage of preclinical diagnosis in venous insufficiency.

**Keywords:** cardiology, internal medicine, medicina interna, Clinica Medicala IV, anul V med. gen

## PROGNOSTIC AND SURVIVAL ANALYSIS IN PATIENTS WITH CHRONIC MYELOID LEUKEMIA, IN THE TKI ERA - SINGLE INSTITUTION REPORT

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**Background:** Since the introduction of tyrosine-kinase inhibitors (TKI) a significant improvement of survival for patients with chronic myeloid leukemia (CML) patients has been noted, Different prognostic scores for the best available therapy choice are used. **Material and methods:** A cohort of 39 CML cases (26 men) newly diagnosed and treated between 2004-2014 (observation time 120 months) was retrospectively analysed. Chronic, accelerated and blastic phase were diagnosed for 34(87.18%), 2(5.13%) and 3(7.69%) patients respectively. First-line TKI were imatinib for 33(84.62%) and nilotinib for 3(7.69%) patients. The patients were diagnosed, followed and evaluated according to European Leukemia Net criteria. Prognostic parameters and scores at diagnostic were evaluated. Survival analysis (overall survival OS, events-free survival EFS and progression-free survival PFS) using Kaplan Meyer method was performed. **Results:** Median age at diagnosis was 59 years, 29(51.28%) >50 years. Median values for spleen size-cm maxim distance from costal margin, platelets count, blood basophils%, eosinophils% and myeloblasts% were 7cm, 445000/mm<sup>3</sup>, 6% (82.05% >3%), 2% and 2% respectively. Sokal and Hasford prognostic scores were superposable for 79.49% cases. OS of patients in chronic phase was 79.5% at 5 years. OS for patients treated with second-line TKI was 57.2% at 2 years. EFS of patients with imatinib and dasatinib therapy at 5 years was 67.29%. PFS in patients with imatinib therapy was 45.79% at 5 years, median 46 months. TKI were well tolerated with very few grade III/IV side reactions. Problems concerning patients adherence at therapy was noted. T315I mutation was documented for 1 patient only. **Conclusions:** TKI therapy added a dramatic shift in the management, survival and quality of life of CML patients. To achieve these goals it is critical to properly monitor and optimally manage patients.

**Keywords:** chronic myeloid leukemia, prognostic, survival

## ENDOSCOPIC TREATMENT OF UPPER DIGESTIVE VARICEAL BLEEDING – CONSIDERATION ON 50 CONSECUTIVE CASES

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**Background:** Upper digestive variceal bleeding is one of the most common complication of advanced liver cirrhosis and endoscopic hemostasis is the method of choice. **Material and methods:** We have studied 50 patients with upper digestive variceal bleeding who performed endoscopic hemostasis between 01.01.2013 and 01.11.2014. The method of hemostasis was esophageal variceal ligation (EVL) or sclerotherapy. Were taken in count demographic data, cirrhosis etiology, grading of esophageal varices, usage of Blackmore balloon, the method of endoscopic hemostasis, the number of ligation rings, early rebleedings, need for surgery, adherence and need for endoscopic follow-up. **Results:** Mean age was 57,36±2,61 years, gender 84% men and 16% women, 96% grade 3 and 4% grade 2 varices. Bleeding from varices were noticed in 6%. Temporary Blackmore balloon hemostasis was performed in 54%. EVL was performed in all patients, success rate was 76%; number of rings used was 6,1±1,83. EVL and concomitant sclerotherapy was necessary in 10%. Early endoscopic reintervention due to rebleeding was performed in 24%. One patient was referred to surgery. Mortality was 22%. Adherence to follow-up sessions was 34% and late rebleeding was 20%. **Conclusions:** Endoscopic treatment is effective in a large number of patients; high rate of temporary hemostasis is an indicator of lack of resources; the mortality remains high; despite this fact, adherence of follow up program is low.

**Keywords:** esophageal, variceal, bleeding, endoscopic, therapy

## GLUTEN SENSITIVE ENTEROPATHY AND IRON DEFICIENCY ANAEMIA

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**Background:** In adults, gluten sensitive enteropathy frequently is oligosymptomatic, in some cases the only clinical symptom is iron deficiency anaemia, difficult or impossible to treat by oral iron substitution therapy. Chronic diarrhea often is missing. If diagnosis is not made properly, unnecessary, in some cases expensive and stressful investigation are made for years. The impact of missing diagnosis and of the long series of investigations upon the quality of life of these patients is considerable. **Material and methods:** We studied cases of iron deficiency anaemia admitted to our Clinic or referred to our Ambulatory. Confirmed gluten sensitive enteropathy cases were noted. We also focused on those cases where the cause of iron deficiency was not found, but celiac disease was not excluded. **Results:** Between 2011- 2013, we had 72 cases of iron deficient anaemia. Cases with chronic diarrhea were excluded. Etiology of anaemia was found in 59 cases, 6 patients were diagnosed with gluten sensitive enteropathy. We had 13 cases where the cause of iron deficiency was not found, but these cases did not finish the complete investigation panel, for different reasons. We don't know how many of them suffered of subclinical gluten sensitivity. **Conclusions:** Gluten sensitive enteropathy is a frequent, and easy to miss cause of iron deficient anaemia in adults, iron absorption test can be a simple, useful test, which has to be part of our initial investigation panel in these patients.

**Keywords:** iron deficient anaemia, chronic diarrhea, gluten sensitive enteropathy

## MAXIMIZING THE AMOUNT OF DEPOSITED PARTICLES DURING A SEVERE ASTHMA ATTACK USING THE STOCHASTIC LUNG MODEL

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**Background:** The aim of this study was to use a computerized lung model to simulate the deposition of inhaled particles in the human airways during a severe asthma attack, in order to find the combination of breathing- and particle-related parameters which

leads to the highest deposited fractions in the target areas of the airways. **Material and methods:** A stochastic lung model was used to simulate the deposition of 1 nm - 100 µm particles during a severe asthma attack in bronchial generations 9-16. Breathing parameters were chosen to reflect the use of a therapeutic inhalation device, with a 10 s symmetrical breathing cycle and 2000 ml tidal volume. To maximize the deposited fraction in the target areas, further simulations were carried out changing the tidal volume (750-3000 ml), the length of the breathing cycle (2-20 s) and the length of breathing pause following inhalation (0-10 s). **Results:** The highest deposited fraction of 51.50% in bronchial generations 9-16 was obtained in the case of 0.01 µm particles, this value being almost 5 times higher compared to the highest deposition of 3-6 µm particles currently used in inhalation devices (11.81% in the case of 5 µm particles). Modifying breathing-related parameters did not lead to significant increases in the deposited fractions in the investigated region. **Conclusions:** Deposition fractions in the therapeutically important areas of the airways may be up to 5 times higher in the case of 0.01 µm particles, compared to particles currently used in the treatment of asthma bronchiale. **Acknowledgement** This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/133377.

**Keywords:** asthma, modelling, stochastic, inhalation, particles

## PREDICTIVE FACTORS FOR THE MALIGNANCY OF GASTRIC ULCERS

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**Background:** The gastric neoplasm, when examined by means of conventional endoscopy, may present itself under ulcerative form, similar to the endoscopic aspect of gastric ulcer. The difference between them can only be established by histopathologic exam. It is a known fact that, as a rule, large gastric ulcers are malignant, but there are few studies regarding gastric ulcers of reduced dimensions. **Material and methods:** The purpose of the study: is to identify the presence of certain predictive factors for the malignancy of gastric ulcers, which could allow a faster detection of gastric neoplasia. We have effected a retrospective, descriptive study, using the endoscopic data of patients investigated in the Gastroenterology Clinic in the period 01.09.2011 - 31.10.2014, with whom we have detected gastric ulcers with dimensions of no more than 1 cm. **Results:** We detected 73 gastric ulcers, out of which 17(23%) were malignant 13(76,45%) identified at the first endoscopy accompanied by biopsy sampling, and 4(23,55%) identified at the control endoscopy and the repetition of biopsy sampling. As for the location of the gastric ulcers, we obtained statistically significant correlations between the antral position and the presence of gastric ulcer (  $p=0,0001$ ,  $RR=10,321$ ,  $IC=1,523-69$ ), between the gastric cancer and the location in the corpus in the lesser curve ( $p=0,001$ ,  $RR=7,247$ ,  $IC=2,952-17,957$ ). The presence of gastric neoplasia is significantly correlated to smoking ( $p=0,0072$ ,  $RR=1,579$ ,  $IC=1,245-2,049$ ), and the usage of NSAID is correlated to the presence of gastric ulcer ( $p=0,003$ ). Regarding the symptoms, we detected the association between dyspepsia ( $p=0,005$ ,  $RR=1,346$ ,  $IC=1,086-1,668$ ), anemia ( $p=0,0139$ ,  $IC=0,4882-0,8093$ ) and gastric cancer. **Conclusions:** Patients who smoke, with dyspepsia and anemia, diagnosed by endoscopic means with gastric ulcer located in the corpus in the area of the lesser curve, present a higher risk of developing a malignant condition.

**Keywords:** gastric ulcer, malignant, endoscopy

## PREDICTIVE FACTORS OF ANTIVIRAL TREATMENT RESPONSE IN CHRONIC VIRAL HEPATITIS B AND C

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**Background:** Viral hepatitis B and C is one of the great problems of infectious pathology due to the high incidence of acute infections, the risk of chronicity, severity of chronic infections and the costs of these diseases. The aim of this study was to evaluate the rates of biological and virologic response and identify predictive factors for favorable response to antiviral therapy in patients with chronic hepatitis B and C. **Material and methods:** Presented study is a combined prospective and retrospective study conducted in the Gastroenterology Clinic of the Mures County Hospital from 01 March 2012 - 30 July 2014 on a group of 40 patients: 31 patients with HCV and 9 patients with HBV, each following specific antiviral treatment. In the studied groups was

pursued to identify the predictive factors of a favorable response to antiviral treatment. At the end of treatment and 24 weeks post-treatment were followed biological response (BR), virologic response, sustained biological response (SBR) and sustained virologic response (SVR). **Results:** In our group of patients VR rate was 64.5%; RVR rate was 17%, the breakthrough rate was 13% and nonresponder rate was 37%. At the end of follow-up SVR was obtained in 41.9% of cases, and the relapse rate was in 9.7% of cases. The study group without steatosis and body weight **Conclusions:** Predictive factors of a favorable response to antiviral therapy in patients with HBV are represented by higher serum levels of ALT and HBV-DNA, and older age. In patients with HCV, the absence of liver steatosis and weighing less than 75 kg are predictive factors for obtaining an SVR.

**Keywords:** Hepatitis C, hepatitis B, predictive factors, sustained virologic response

# MICROBIOLOGY

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## RECOMBINANT AAV2 PRODUCTION – A GLANCE IN LABORATORY TECHNIQUES AND APPLICATIONS

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**Background:** Adeno-associated virus 2 (AAV2) is a ubiquitous and non-pathogenic human parvovirus with a lifecycle consisting of two stages. In the absence of a helper virus such as Herpes-simplex virus type 1, Adeno- or Papillomavirus, AAV2 enters a latent infection, preferentially integrating its genome in chromosome 19. Productive AAV2 replication requires the presence of a helper virus. AAV2 has become one of the most promising vector for gene therapy applications. Here we describe a highly efficient purification procedure for recombinant AAV2 production using non-ionic Iodixanol gradients. **Material and methods:** 293T human embryonic kidney cells were co-transfected with a recombinant (r)AAV vector plasmid and a packaging plasmid that provides the AAV rep and cap genes as well as the adenovirus helper genes (pDG). At 48-72h after co-transfection and incubation at 37°C in a 5% CO<sub>2</sub>-95% air atmosphere, the cells were harvested, and rAAV particles were isolated by Iodixanol density step gradient followed by filtration. The viral titer was assessed by real-time PCR. Three different rAAV vector stocks were produced: rAAV-GFP-Rep, rAAV-GFP-Neo and self-complementary (sc)AAV-GFP. **Results:** Reporter gene (EGFP) expression upon was confirmed at 24 h after transfection by using an inverted fluorescence microscope. Vector titers were in the range of 10<sup>10</sup> genome containing particles (gcp)/ml for rAAV-GFP-Rep and rAAV-GFP-Neo, and 10<sup>11</sup> gcp/ml for scAAV-GFP. **Conclusions:** The titers obtained for different rAAVs using this method were high. rAAV preparation was successfully implemented in a biosafety level 2 laboratory. The vector stocks produced will be used for gene delivery and expression and for basic research, in particular to study the interactions between AAV, its helperviruses and the coinfecting cell.

**Keywords:** Adeno-associated virus 2, Virus isolation, Viral vectors

## EVALUATION OF FLUCONAZOLE AND VORICONAZOLE SUSCEPTIBILITY OF CANDIDA SPP. ISOLATED FROM THE ORAL FLUID OF HEALTHY ADULTS

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**Background:** Evaluation of species distribution and antifungal susceptibility profile of *Candida* spp. isolated from the oral fluid of healthy adults. **Material and methods:** During March-April 2014, samples of oral fluid were collected from 100 healthy adults, by oral rinsing with 10 ml sterile saline in the morning, before the oral hygiene. After the samples were centrifuged, 10 µl from the sediment were inoculated on Sabouraud agar, and incubated for 48h at 37°C. Each colony suggestive for *Candida* was identified to the genus and species by conventional methods of diagnosis (chromogenic media, API ID32C). Susceptibility to voriconazole and fluconazole was assessed by antifungal disk diffusion method, according to CLSI M44-A2 standard. **Results:** *Candida* spp. was identified in the oral cavity in 57% of the tested subjects. Only one type of *Candida* spp. was identified in each sample. Of the 57 isolates, 52 (91.22%) were *C. albicans* and 5 (8.77%) *Candida* non-*albicans*. Twelve strains (21.05%) presented sensitivity towards both of the tested antifungals; one strain (1.75%) presented sensitivity to voriconazole and intermediate sensitivity to fluconazole. The rest of 44 strains (77.19%) were resistant both to fluconazole and voriconazole. **Conclusions:** *Candida albicans* was the most common species of *Candida* isolated from the oral liquid of healthy adults; a significant proportion of isolates were resistant both to fluconazole and voriconazole.

**Keywords:** *Candida* spp., oral fluid, antifungal susceptibility

## NEONATOLOGY

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### RETROSPECTIVE ANALYSIS OF ANTIBIOTIC RESISTANCE IN ELBW PRETERMS HOSPITALIZED AT THE NEONATAL INTENSIVE CARE UNIT (NICU) OF THE EMERGENCY COUNTY HOSPITAL OF TG-MURES

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**Background:** Infections are an important source of morbidity and mortality among ELBW preterms. The authors were interested to determine the incidence of bacterial infections/colonization and evaluate the antibiotic resistance pattern in our neonatal intensive care unit. **Material and methods:** This retrospective study was carried out on 190 ELBW premature newborns, born at or transferred to the Neonatology I Clinic of Emergency County Hospital Tg-Mures, between 01.01.2009 and 31.12.2013. We examined blood culture, throat culture, gastric aspirate culture, coproculture results, which were analyzed according to Gram stain, biochemical properties, and antimicrobial sensitivity testing using Gram positive and Gram negative antibiotic discs, based on the isolated species, than the results were reported as sensitive (S), intermediate (I) or resistant (R). **Results:** The most common organism to be isolated were as follows: *Serratia marcescens*(42.35%), *Acinetobacter baumannii*(38.52%), *Pseudomonas aeruginosa*(30.34%), coagulase negative *Staphylococcus* (23.21%), *Klebsiella pneumoniae* (18.32%), *Enterobacter* spp. (12.22%), *E. coli* (14.61%). Other organisms isolated included: *Candida albicans*, *Alcaligenes faecalis* spp., *Streptococcus agalactiae*, *Enterococcus faecium*, and *Staphylococcus haemolyticus*. Treatment was administered according to the clinical symptoms and antibiotic susceptibility. **Conclusions:** Nosocomial colonization and/or infection are facts in the NICU. Clinical manifestation and outcome did not follow exactly the type of species detected. There is an urgent need of developing guidelines for antibiotic use and prevention measures especially for the high risk population in the NICU, in order to stop the spread of multidrug resistance strains.

**Keywords:** preterm, infection, antibiotic testing

# NEPHROLOGY

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## THE ROLE OF ULTRASOUND IN THE EVALUATION OF INCIDENTAL RENAL LESIONS

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**Background:** The purpose of this study was to investigate the frequency and clinical relevance of incidental renal findings at abdominal ultrasound in a healthy population exposed to chemical agents. **Material and methods:** We performed an abdominal ultrasound in 300 healthy subjects working in the chemical industry. The examination was performed using a Philips HD11 machine, with 3,5 Mhz convex array transducer, in grey scale, color Doppler and Power Doppler mode. Concerning the kidney we evaluated the morphology and measured kidney dimensions and parenchymal index. **Results:** Subjects had ages between 26 and 60 years old, with a mean age of 42,6 years old and a female/male ratio of 3/1. Abnormalities were found in 73,33% of the patients, 19,09% being renal changes. The most common finding was urolithiasis in 12 patents, followed by 10 cystic lesions. Other lesions found include congenital malformations, pielocaliceal stasis, Bertin column hypertrophy, angiomyolipoma and hydronephrosis. **Conclusions:** Patient acceptance was high because ultrasound is a non-invasive, non-irradiating method. The examination lead to abnormal findings in the majority of the subjects but most of the changes had no clinical relevance and didn't need any treatment. The large number of changes can lead to unnecessary costs for follow-up tests that is why only selected patients should be further evaluated.

**Keywords:** Occupational Medicine, Radiology, ultrasound, kidney, incidental lesions

## OCCUPATIONAL HEALTH

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### A MODEL FOR SCHOOL HEALTH-EDUCATION

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**Background:** Background: Health education, a tool for health promotion within the primordial and primary prevention aims to give information and ensure knowledge and understanding of health issues. **Material and methods:** Material and methods: Within the Public Health and Health Management discipline from the Unniversity of Medicine and Pharmacy from Tîrgu Mures: VI. class medical students, IV. class nurse-students and II and III. class nutrition-students gave each -according to their curriculum- one hour health-education lesson in secondary school. These activities were done in different Romanian districts, according to the students' provenience. There were presented a variety of topics, choosed by the students. **Results:** Results: Since 2006 our students gave 2700 hours of health-education lectures, reaching hereby 81.000 pupils. Based on the feedbacks from teachers and scholars, this activity fulfilled a need and deficiency in pre-university education. **Conclusions:** Conclusions: We consider, this program has to continue as these lessons have a gap-filling role, enabling pupils to explore their values and attitudes and therefore to make well-informed decisions regarding their health.

**Keywords:** health education, primary prevention, medical stud

### COLOUR BLINDNESS INDUCED BY OCCUPATIONAL EXPOSURE TO A MIXTURE OF ORGANIC SOLVENTS

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**Background:** Colour vision is very sensitive to many different agents. Recent research shows that occupational exposure to several solvents, metals, and other industrial chemicals can impair colour vision. They usually results in blue-yellow colour discrimination loss, or a combination of blue-yellow and red-green loss. Screening of colour vision loss induced by occupational exposure to organic solvents is realized by means of hue discrimination tests. I applied the Farnsworth D-15 test, what consists of 15 moveable coloured caps. The task involved arranging the caps in a continuous rainbow sequence starting at a fixed reference cap **Material and methods:** we compared the colour discrimination impairment of a group of 8 patients, 6 females, and 2 males, the mean age 36 year, admitted with acute intoxication to organic solvents, in our clinic in 2014.with a control group, form by 8 nonexposed workers. The colour discrimination was tested with the Farnsworth D-15 test. We performed also a visual acuity test. **Results:** Our results shown that 2 persons presents blue-yellow colour discrimination loss, females, and 1 person presents red-green colour discrimination loss among the exposed group. In a control group, we found only 1 person who presents only a red -green discrimination loss-male. We performed a statistical analysis between the two groups, what shows a higher mean value and standard deviation of the Confusion Index in the exposed group, were the mean value was 1,561,and the standard deviation 0,604 versus 1,381 mean value, and 0,563 standard deviation on the control group. **Conclusions:** Results shows that occupational exposure to organic solvents impair colour vision, therefore colour vision testing should be included in the evaluation of early neurotoxicity of chemicals in exposed workers.

**Keywords:** Tîrgu-Mures, UMF, organic solvents,, colour vision, Farnsworth test

### PM 2.5 CONCENTRATION IN ENTERTAINMENT VENUES

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**Background:** Airborne particulates are the deadliest form of air pollution as they are able to penetrate deep into the lungs and

blood stream. They are designated as group 1 carcinogens since they can lead to permanent DNA mutations. There is no safe level of particulates and recent studies had shown that with every increase of 10  $\mu\text{g}/\text{m}^3$  in  $\text{PM}_{2.5}$ , the lung cancer rate rose by 36%. (Ole Raaschou-Nielsen et al. "Air pollution and lung cancer incidence in 17 European cohorts: prospective analyses from the European Study of Cohorts for Air Pollution Effects (ESCAPE)". The Lancet Oncology 14 (9): 813-22) Combustion processes are the main source of  $\text{PM}_{2.5}$  particulates. While outdoor pollution comes mostly from burning fossil fuels, indoor pollution is greatly affected by tobacco smoke. In order to gain insight into locally specific conditions in this study we assessed the  $\text{PM}_{2.5}$  pollution levels in various entertainment venues from Târgu Mureş. **Material and methods:** For the determination of  $\text{PM}_{2.5}$  pollution levels we used the handheld TSI SidePak personal aerosol monitor AM510. We made three almost consecutive one hour sampling in three different locations. The sampling frequency was at least 120 measurements per hour. After aggregating the measurements on a per hour basis we analyzed the temporal changes within the same locations. **Results:** In the European Union the health based standards and objectives for  $\text{PM}_{2.5}$  is set to 25  $\mu\text{g}/\text{m}^3$ . Comparatively, our measurements revealed a 3-5 times higher pollution levels. The temporal trend is the same in all three locations, with pollution levels decreasing in later hours, probably as the number of clients decreases in the venues. **Conclusions:**  $\text{PM}_{2.5}$  concentrations in local entertainment venues are very high. Exposure to indoor smoking represents a health hazard that requires further active monitoring, development and implementation of preventive measures that can reduce risks.

**Keywords:** PM 2.5, air pollution, smoke

## PARTICULARITIES OF CHRONIC INTOXICATION WITH ISOPROPYL ALCOHOL

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**Background:** During the technological process, the employees may be at increased risk of isopropyl alcohol intoxication due to its psychical and chemical properties. The aim of this study was to highlight the temporal effects of a isopropyl alcohol collective intoxication. **Material and methods:** The aim of the research was to highlight the health status of the employees of a factory that deals with the manufacturing of covers for cars and the existing symptoms. We recorded data regarding gender, profession, type and time of exposure, existing symptoms, compliance and protection means both individual and collective. **Results:** All patients had gastrointestinal manifestations due to inhalation of high concentration of isopropyl alcohol found in poorly ventilated room. One of the cases revealed cardiac rhythm disorders. **Conclusions:** If prompt action is not taken in diagnosing and treating people with isopropyl alcohol intoxication there may be fatal consequences.

**Keywords:** isopropyl alcohol, intoxication, alcohol

## BODY-PLETHYSMOGRAPHY ROLE IN EARLY DIAGNOSIS OF RESPIRATORY DISEASES

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**Background:** Investigation of ventilatory lung function using full body plethysmography provides important data regarding the status of patients. To assess the possibility for early diagnosis of respiratory diseases. **Material and methods:** We performed a retrospective study on a group of 300 patients who were admitted to the Occupational Medicine Department for performing full body plethysmography. We recorded data regarding gender, age, height, weight, respiratory symptoms, treatment used and exposure to respiratory hazards. **Results:** 90% of the 300 cases were early and correct diagnosed with a respiratory diseases by measuring DLCO (diffusing capacity of the lungs for carbon monoxide), TLCO (transfer factor of the lung for carbon monoxide), residual volume and also Raw (airway flow resistance), which wouldn't have been possible by spirometry. **Conclusions:** In comparison with spirometry, full body plethysmography has proven more effective in early diagnosis of respiratory diseases by initiating an adequate treatment at an early stage.

**Keywords:** spirometry, body plethysmography, residual volume

## THE DETERMINANTS OF OCCUPATIONAL DISEASES AND MEDICAL / VOCATIONAL REHABILITATION

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**Background:** The aim of this work was the analysis of the determinants at normative-legal and community-family levels regarding the rehabilitation of persons with diseases from occupational environment. The patient with occupational diseases and disability is the person whose prospects of securing, retaining and advancing in suitable employment are reduced at the same time the space and work process is flexible and adapted to the individual. **Material and methods:** There was organized a complex research with quantitative and qualitative multistep. The objects of research were official data of the National Bureau of Statistics, Republican Committee of Occupational Diseases during 1998-2013 years; the National Council of Disability and Work Capacity Determination, Questionnaires of patients with disability (no. 100). **Results:** We have noticed the change of the ratio of employees in branches of the national economy. The rate of persons employed with conditions not corresponding to the sanitary-hygienic norms, has increased three times (from 1.48% to 4.98%). There was a significant decrease in the incidence of occupational disease of 12-15 times. Among the patients predominated: male sex, rural residence, specialized secondary education level, employment seniority 23.51 (SD = 9.135; p <0.001). There was elaborated a scale of the determinants, which can influence the reinstatement in employment: 1st place were "employees of public institutions"; 2nd - patients aged under 45; 3rd and 4th "support at work - present" and "family support - present". **Conclusions:** The research the legal basis for 1) development of a national program on labor employment of disabled people, with occupational diseases; 2) creation of complex service system of medical, vocational, social rehabilitation.

**Keywords:** medical / vocational rehabilitation, diseases of the occupational environment, employees

## ASSESSMENT OF THE MUSCULOSKELETAL DISORDERS RISK OF THE OFFICE EMPLOYEES USING RULA METHOD

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**Background:** Musculoskeletal disorders (MSDs) are an increasing healthcare issue globally and the most frequent health complaint by workers, also the second leading cause of disability. Computer workstation usage leads to health risks, one of them are MSDs. RULA is a screening method developed to detect work postures or risk factors that deserve further attention, based on RULA employee assessment worksheet. Aim: Correlation between poor ergonomic conditions and the development of MSDs at the healthcare system office workers. **Material and methods:** Bibliographical-feasible, analytical-comparative and experimental methods. **Results:** At the study participated 33 workers, 10 workplaces need further investigation and may require changes; 18 require changes and investigations soon; 5 - immediately. The most frequent problems are the static position, 32 examined persons are spending 4-6 hr on the computer every day. 5 people are spending more than 2 hours on the computer without getting up. Another problem is the unsuitable chairs or working tables for the anthropometric characteristics of the workers. Because of that 12 employees have a high risk score for the wrists and 18 for the lower arms. 4 people catch a high score for the trunk and neck position. From the oral interviewing of the workers, 23 of them accuse upper back pain, 16 said that are tired after 4 hr of work at the computer, 11 want to change office furniture. **Conclusions:** RULA is fast, easy and cost-efficient screening tool that assesses biomechanical and postural loading on the body. The method has a strong focus on posture, but a weak one on force, repetition and duration.

**Keywords:** ergonomics, musculoskeletal disorders, ergonomic method RULA

# OPHTHALMOLOGY

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## CHOROIDAL MELANOMA IN ADULT PATIENTS – INCIDENCE, TREATMENT AND EVOLUTION

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**Background:** Choroidal melanoma is the most common intraocular tumor in adults. **Purpose:** To assess the incidence, treatment and outcome of patients with choroidal melanoma. **Material and methods:** We conducted a retrospective, observational study over a period of five years, in which we included patients diagnosed with melanoma in TgMures Ophthalmology Clinic. Evolution was revealed by imaging techniques. **Results:** of all diagnosed melanomas, 3 patients received brachytherapy at the Ophthalmology Clinic of Debrecen; some refused radical surgery, especially elderly patients; in cases with extensive tumors, over 10 mm diameter, eyeball enucleation was mandatory. **Conclusions:** Due to the late stage of choroidal melanoma, modern brachytherapy treatment is suitable in a small number of cases. In elderly patients there was a very low tendency of increase without local and regional metastasis.

**Keywords:** Ophthalmology, Ophthalmology, brachytherapy, choroidal melanoma

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## STUDY FOR EVALUATING THE EFFICACY OF INFERIOR LACHRYMAL PATHWAY OCCLUSION IN PATIENTS WITH DRY EYE SYNDROME

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**Background:** Dry eye syndrome is a condition with serious problems of diagnosis and treatment. **Aim:** to evaluate the efficacy of inferior lachrymal pathway occlusion in patients with dry eye syndrome. **Material and methods:** We conducted an experimental study on two groups of patients with ocular sicca syndrome and rheumatoid arthritis (group I - group II). Each group consisted of 10 patients with ocular surface damages: 2 patients with conjunctivitis sicca, 3 patients with superficial punctate keratitis, 3 patients with filamentous keratitis, 2 patients with corneal ulcer. Group I received medical treatment. Patients in group II have associated medical treatment with collagen implant temporary plugs in the lower lachrymal punctum. We followed the subjective complaints and changes in the tear film before intervention and 2 weeks after insertion. **Results:** After 2 weeks, subjectively, in group II, patients reported a significant decrease in ocular sicca symptoms intensity and the need to instill tear replacement therapy. We recorded statistically significant differences between the two groups of modified Schirmer test values ( $p=0.0125$ ) and no statistically significant differences ( $p=0.1088$ ) in the tear film break time. **Conclusions:** Implantation of collagen temporary plugs in the lower lachrymal punctum, in combination with other methods of treatment is particularly useful in the management of ocular sicca syndrome. Visual acuity depends on the presence of tear film integrity on the ocular surface and by blocking the excretion pathway result in delayed clearance of the tear and increase the amount of tears on the corneo-conjunctival surface.

**Keywords:** Ophthalmology, Ophthalmology, dry eye, punctum plugs, ocular surface

## ORTHOPEDICS

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### ANTERIOR KNEE PAIN AFTER HAMSTRING TENDON ANTERIOR CRUCIATE LIGAMENT SURGERY

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**Background:** To observe the incidence of anterior knee pain in patients who undergone hamstring reconstruction for ACL surgery.

**Material and methods:** Seventy-two consecutive patients who had undergone arthroscopically assisted hamstring ACL reconstruction were reviewed at minimum follow-up of 2 years. The intensity, frequency and severity of the anterior knee pain experience during activities of daily living, sports stair-climbing and kneeling was recorded with the VAS, IKDC scale. The location of pain and any sensory changes was recorded. **Results:** Three percent of the patients experienced spasm that cause limitation with daily activities, 6 % during sport or work, 4 % with kneeling and 5 % with prolonged sitting and stairs. The pain was not specifically related to the incision for tendon harvest and drilling of the tibial tunnel. Areas of sensory changes were identifiable over the front of the knee in 50 % of the patients, and of these, 75% demonstrated sensory change in the distribution of the infragenicular branch of the saphenous nerve. **Conclusions:** Anterior knee pain after hamstring surgery for ACL reconstruction is rarely a cause for limitation of the daily and sport activities and the patients should be counselled properly.

**Keywords:** Section, Oral presentation, ACL-SMT-PAIN

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### FINITE ELEMENT ANALYSIS AFTER L5/S1 INTERVERTEBRAL FUSION

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**Background:** The L5/S1 intervertebral fusion it changes the statics and the movement of the whole vertebral column. Because this part occupies the middle part of the body, in standing position it defines the statics of the whole body, from the point of support to the trunk-shoulders-heads position. **Material and methods:** After preliminary investigations (comparison of healthy patients with patients suffering of L5/S1 spondylolisthesis) we followed the fusion of this part how influences the statics of the whole body. Using different angled intervertebral cages we followed the biomechanical changes, the position of the shoulder in proportion to the point of support. **Results:** Based on the measurements, in this part of the vertebral column, every degree of the cage makes a change of 1 cm in the position of the shoulders. With different type of materials we get different results. Restoring the correct statics reduces the shearing stresses and restoring the center of gravity of the body reduces the load of the articulations. **Conclusions:** Using the adequate intervertebral cages, a correct position can be achieved, correcting the static problems.

**Keywords:** spondylolisthesis, intervertebral fusion, intervertebral cage, vertebral column

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### KNEE ARTHROPLASTY: WITH OR WITHOUT PATELLAR COMPONENT?

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**Background:** Knee arthroplasty is used when there is irreversible damage to the articular cartilage of the knee. It involves implanting a bicompartmental (femoral and tibial components) or a tricompartmental (femoral, tibial and patellar components) prosthesis. It is a very invasive and costly operation, so our objective was to evaluate the necessity of the patellar component. **Material and methods:** During this study the authors included 39 patients: in 27 cases we used tricompartmental prosthesis, while the other 12 received only the bicompartmental components, using patellar resurfacing technique. Patients were evaluated

preoperatively and postoperatively using the IKDC Score and the KOOS. Also the authors evaluate the radiological outcomes postoperatively. **Results:** The authors found that there is little to no difference between the two groups regarding mobility and complication, however patients with bicompartimental arthroplasty complained of less pain in the first 3 months postoperatively and also the radiological signs were the same in the two groups. **Conclusions:** We found that arthroplasty without patellar component - being a less invasive procedure - is better not only in terms of pain management, but there is also less hemorrhaging, shorter intraoperative time is considered, revision is easier and also it is better financially, both for the patient and for the medical facility too.

**Keywords:** knee arthroplasty, patellar component, pain, radiological

## CLINICAL STUDY OF ACL RECONSTRUCTION USING HAMSTRING TENDON GRAFT FIXED WITH BUTTON AND BIOABSORBABLE INTERFERENCE SCREW

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**Background:** One of the most frequent sports-related injuries is the anterior cruciate ligament (ACL) tear, and is usually treated with one of the well known ACL reconstruction surgery techniques. Two main types of autograft are used for ACL reconstruction - the autologous bone-patellar tendon-bone graft (BPTB) and the hamstring tendon graft - and for the fixation of the graft many surgeons use bioabsorbable aperture interference screws and/or button. **Material and methods:** We retrospectively reviewed the records of the 170 patients on which the same team of 2 surgeons have performed arthroscopically ACL reconstructions with semitendinosus and gracilis graft at our clinic during 2011-2014. The fixation was with button in the femur and with bioabsorbable interference screw in the tibia. After the surgery the patients were clinically and MRI evaluated. The clinical evaluation was performed at 2 weeks, 1,3 and 6 months and on this time they were performing a specific recovery program. **Results:** This article illustrates the clinical results after our reconstructive technique and some complications caused by the biomaterials. A small number of patients suffered inflammatory reactions in the neighboring soft tissues and in the bone structure. **Conclusions:** Bioabsorbable interference screws are a common choice among surgeons. However some of their disadvantages, such as undesirable biological response of the neighboring tissues, even though rarely appear, when this happens the patients' recovery might be compromised. This paper is supported by the CRONEX-CD contract nr. POSDRU/159/1.5/S/133377, proiect cofinanțat din Fondul Social European prin Programul Operațional Sectorial Dezvoltarea Resurselor Umane 2007-2013

**Keywords:** Clinical anatomy, Biomaterials, ACL, HAMSTRING MUSCLES, BIOABSORBABLE SCREW

## EFFECTS OF TOURNIQUET ON EARLY REHABILITATION OUTCOMES IN PATIENTS UNDERGOING PRIMARY TOTAL KNEE ARTHROPLASTY

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**Background:** Pneumatic tourniquet application is still a common practice in total knee arthroplasty (TKA) surgery despite being associated with several adverse effects. The primary aim of this study was to evaluate the effects of tourniquet inflation pressures application on clinical and functional outcome, knee range of motion (ROM) and to investigate whether tourniquet time influences the risk of postoperative complications after TKA. **Material and methods:** We evaluated prospectively sixty patients with unilateral primary TKA. They were randomized into a tourniquet group (n = 30) and a non-tourniquet group (n = 30). All operations were performed by the same surgeon, with a follow-up period of one year. The primary outcomes were functional and clinical outcomes, as evaluated by Knee Society Score (KSS), Knee Injury and Osteoarthritis Outcome Score (KOOS) and Visual Analog Scale (VAS). The following postoperative complications were recorded: hematomas, skin necrosis, superficial and deep wound infections, vein thrombosis, nerve injuries, cuff pressure injuries. **Results:** Patients in the non-tourniquet group had a better functional and clinical outcome from surgery to week 12, according KSS and KOOS. No difference between groups was detected at the 6-, 9- and 12-month follow-ups. Postoperative pain and analgesic consumption were less when a tourniquet was not used. In the non-tourniquet group intraoperative blood loss was greater, but no transfusions were required after surgery. Complications after

TKA surgery were higher in the tourniquet group. **Conclusions:** We conclude that primary TKA without the use of a tourniquet results in faster recovery in terms of better functional outcome and improved knee ROM in the early period of rehabilitation. Furthermore, reduced pain and analgesic use were registered and no intraoperative difficulties were encountered. Tourniquet application at lower inflation pressures might minimize the complications of tourniquet use and the patients can gain more rapidly early functional mobility. Tourniquet time over 100 minutes increases the risk of complications.

**Keywords:** Knee, Arthroplasty, Tourniquet

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## HYALURONANS AND CORTICOSTEROIDS IN THE LOCAL TREATMENT OF EARLY STAGES OF KNEE ARTHROSIS – SHORT TERM RESULTS

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**Background:** The intra-articular administration of hyaluronic acid and corticosteroids are both widely used in the treatment of knee osteoarthritis. The aim of our study was to compare the efficacy of hyaluronic acid intra-articular injections (single dose administration or three weekly administrations) alone, or with additionally administered corticosteroids for the treatment of knee cartilage degenerative lesions and osteoarthritis. **Material and methods:** The study involved 60 patients affected by cartilage degenerative lesions or early knee osteoarthritis. The patients were divided into 3 treatment groups of 20 each. The first group was treated by three intra-articular injections of high-molecular weight hyaluronic acid administered weekly, the second group received three injections of high-molecular weight hyaluronic acid administered weekly, in association with one injection of corticosteroid, while the third group was treated by a single dose of high-molecular weight hyaluronic acid. All patients were evaluated prospectively at enrollment and at the 2 and 6 month follow-up visits. For clinical evaluation we used the International Knee Documentation Committee score (IKDC) and the Visual Analog Scale (VAS). **Results:** We had no patients lost to follow-up. IKDC and VAS scores were improved in all of the groups. At the 2 month follow-up, all the patients showed similar improvement, but we recorded better results in case of the association of corticosteroid administration. At the 6 month follow-up, better results were observed in the groups that received three doses of hyaluronan, with no differences in case of corticosteroid association. **Conclusions:** The three weekly administered injections showed better efficacy compared to the single dose injection in reducing pain and symptoms, and functional recovering. The association of a corticosteroid gave an immediate pain relief, but the differences were not maintained on the longer term. For reaching definitive conclusions, long term studies on larger patient groups are still needed.

**Keywords:** knee osteoarthritis, hyaluronan, corticosteroids

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## MID-TERM RESULTS OF CEMENTLESS TOTAL HIP ARTHROPLASTY USING THE MEDIALISATION TECHNIQUE

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**Background:** Surgical treatment of the dysplastic hip is a challenging endeavour for the orthopaedic specialist. One of the proven procedures for this is the medialisation of a cementless acetabular component in total hip arthroplasty. **Material and methods:** We studied a number of 214 consecutive patients with hip dysplasia treated in our facility between January 2007 and December 2012 that underwent total arthroplasty with a cementless endoprosthesis implanted using the medialisation technique (239 hips). Patients were evaluated clinically and radiologically both pre- and postoperatively and at the follow-up visits. **Results:** Mean age was 45 years (34 to 52) and the mean follow-up period was of 4.1 years. Based on the Crowe classification, we found 77 patients with type I hip dysplasia, 90 patients with type II, 69 with type III and 3 patients had type IV dysplasia. The mean value of the WOMAC score was 83 points preoperatively, decreased to 48 points at 6 months postoperatively and to a mean of 37 points at the last follow-up. Radiological evaluation showed a mean medialisation value of 3 mm from the Kohler line. The mean percentage of the cup surface that was placed medial to the Kohler line was of 23% (15-40%). In 8 cases (3.3%) the prosthesis broke through the medial wall of the acetabulum. The hip centre of rotation was medialised by a mean of 13 mm (8-19), while the mean abduction

angle of the acetabular component was 44° (35 to 45°). None of the cases needed revision arthroplasty up to this point. Our radiologic evaluation showed the presence of less than 2 mm wide radiolucent lines in 2 cases - on the outer and mid thirds of the acetabular component. **Conclusions:** The medial protrusion technique is relatively simple and convenient, as it can reduce operating time, while also providing a stable fixation of the acetabular component.

**Keywords:** total hip replacement, medialisation, cementless total hip arthroplasty

## RESULTS OF SURGICAL TREATMENT FOR HABITUAL SHOULDER DISLOCATION

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**Background:** The shoulder is the most commonly dislocated joint in the body. In cases of previous shoulder dislocation, patients are more prone to redislocation, which usually occurs because the tissue does not heal properly and/or because the tissue stretches out and becomes more lax. We present our long term results after the surgical treatment of habitual shoulder dislocation in 47 patients (51 shoulders), operated on between January 2005 - October 2014. **Material and methods:** Patients were treated using the Matty Magnusson, Eden-Hybinette, Putti-Platt and combined surgical techniques. Patients were followed for an average of 6 years postoperatively. Mean age was 42.5 years at the time of surgery. Preoperatively and at the follow-up visits, patients underwent physical examination, X-ray evaluation (Samilson-Prieto) and we used the Visual Analogue Scale (VAS) for subjective evaluation of outcomes. We also used the Constant score for evaluating the results. **Results:** The values obtained for the Constant score were of 78 points for the Putti-Platt intervention, 73 for the combination of the Putti-Platt and Eden-Hybinette techniques, 70 for the Eden-Hybinette alone, and 62 for the Matty Magnusson operation. Redislocation was observed in 14% of cases, and late arthritic changes were detected in many cases, but we found severe arthritis in only 2. **Conclusions:** Based on our results, we concluded that the Putti-Platt and Matty Magnusson techniques were offer the most reliable results. Still, the outcomes of the Putti-Platt operation were not as good as the results reported in the literature for the Bankart procedure.

**Keywords:** Shoulder dislocation, habitual, long term

## GENDER DIFFERENCES IN SUBJECTIVE OUTCOMES AFTER ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION

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**Background:** Anterior cruciate ligament (ACL) rupture is the most frequent ligamentous intra-articular injury of the knee, and ACL reconstruction is one of the most often performed procedure in orthopaedic surgery. Although some studies have looked at specific gender differences in terms of risk factors and incidence, to date the information about gender differences in the results of ACL reconstruction are still scarce. The aim of our study was to evaluate the gender differences in patient-reported outcomes after arthroscopic ACL reconstruction. **Material and methods:** We included 25 female and 25 male patients that underwent ACL reconstruction in our Institution between January 2012 and January 2013. The two groups were similar in terms of age, BMI and prelesional activity level. All patients underwent arthroscopically assisted single-bundle ACL reconstruction using hamstring autografts. The graft was anatomically placed using the "femur-first" technique. Femoral fixation was achieved using an extracortical button (XO Button™, ConMed Linvatec) while for tibial fixation we used a bioresorbable interference screw (Matryx®, ConMed, Linvatec). Postoperative rehabilitation was based on the same protocol in both groups. For subjective evaluation we used the International Knee Documentation Committee (IKDC) Subjective Knee Evaluation Form (IKDC) and the Visual Analogue Scale (VAS), preoperatively and at the 6 and 12 month follow-ups. **Results:** Pain scores as reported by using VAS were similar for the two sexes, both preoperatively and at the later follow-ups. We found differences between the IKDC score preoperatively and at 6 months postoperatively, with worst scores in female patients (mean difference 5.8, 95% confidence interval). IKDC score results were similar in the two groups at 12 months postoperatively. **Conclusions:** Female patients had worse IKDC scores preoperatively and at 6 months post-surgery, but the subjective outcomes were similar in both sexes at 12 months postoperatively. Our study highlights the need for gender specific outcome measures after ACL reconstruction.

**Keywords:** ACL reconstruction, subjective, gender

## PREDICTORS OF EARLY OUTCOME AFTER TOTAL HIP ARTHROPLASTY

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**Background:** The acetabular cartilage surface wear out is a very common disease. The most effective way to treating the hip joint osteoarthritis is the complete hip arthroplasty, which greatly alleviates the pain and improves the movement. Technically the well-executed surgery and post-operative rehabilitation does not always provide full recovery. There are several factors that can affect the success of the post op rehabilitation. **Material and methods:** With a sample of 90 patients with total hip arthroplasty, we have conducted a prospective observational study, to determinate those internal and external factors that positively or negatively influence the full post op recovery in the shortest time **Results:** After hip replacement, the rehabilitation of the patient is largely determined by his/hers preoperative status, the presence of comorbidities and other influenceable and not influenceable factors. **Conclusions:** Full recovery after total hip arthroplasty is not based only on the surgical technique, but also on many endo- and exogenous predictive factors which influence the rehabilitation outcomes.

**Keywords:** hip arthroplasty, rehabilitation outcomes, predictors, full recovery

## CORRELATION BETWEEN MAGNETIC RESONANCE IMAGING AND ARTHROSCOPIC FINDINGS IN KNEE LESIONS

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**Background:** Magnetic Resonance Imaging (MRI) is a non-invasive diagnostic method with no known side effects, which has been shown to have a high sensitivity in detecting meniscal lesions (90-96%) and lesions of the anterior and posterior cruciate ligaments (up to 95-97%). Still, for a correct and complete diagnosis, the MRI results must be interpreted in the context of anamnestic data and the objective clinical examination of the patient. The MRI results can support the surgical indication for arthroscopy, which is a minimally invasive intervention that facilitates the visualization, investigation, diagnosis and treatment of intra-articular lesions of the knee. The purpose of this study was to assess the correlation between MRI results and the intra-articular lesions detected by arthroscopy. **Material and methods:** This retrospective study evaluated a total of 60 patients admitted and treated during a 12 months period (between the 1st January 2013 and the 1st January 2014) in the Clinic of Orthopaedics and Traumatology of Mureş County Hospital. As a statistical method, we used the Kappa coefficient, which indicates the degree of agreement between the two methods. **Results:** Anterior cruciate ligament (ACL) lesions were seen on MRI in 40 patients (93%), and it was arthroscopically confirmed in 37 patients (86%). In 34 cases (79.1% of the total of 43) MRI and arthroscopic results were similar. The kappa coefficient shows a high degree of correlation (0.90), which is considered very good. The kappa coefficient was calculated similarly for lesions of the posterior cruciate ligament (PCL) and medial and lateral menisci. In other cases the coefficient could not be calculated due to objective reasons. **Conclusions:** By assessing the kappa coefficient to highlight the correlation between the MRI and arthroscopic diagnosis for knee injuries, we found a statistically relevant correlation between the two methods. This suggests that a correct diagnosis can be determined by both methods.

**Keywords:** knee, intra-articular lesions, magnetic resonance imaging, arthroscopy

# PATHOLOGY

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## CEREBRAL NEUROECTODERMAL CYST. A CASE REPORT

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**Background:** In the literature, epithelial cysts of the brain were reported as having several origins such as neuroepithelial, ependymal, choroid, enterogenous, neurenteric, metaplastic respiratory epithelial, and endodermal. Differential diagnosis is mainly based on their immunoprofile. **Material and methods:** A 58-year-old hypertensive female was hospitalized with two-month history of persistent headache. She has been previously treated with antihypertensive drugs. During hospitalization, despite the specific therapy, the headache persisted and patient died four days after admission. During autopsy a marked leptomeningeal hyperemia, subarachnoid and intraparenchymal brain hemorrhage along with the flooding of the fourth cerebral ventricle, were seen. Concentric left ventricular hypertrophy of the heart and myocardial sclerosis were associated. The patient died as result of hypertensive-related brain hemorrhage. In the posterior cranial fossa, on the left side of the brainstem, a 20x20x15 cm multilocular cystic lesion was also incidentally identified. It was filled with serous fluid and lined by a 0.5-1mm smooth layer that was microscopically proved to be lined by a simple columnar epithelium; focally papillary projections that incorporated psammoma bodies were identified in the cystic wall. The covering epithelial cells were positive for AE1/AE3 keratin, vimentin and S-100 protein, and did not display reactivity for GFAP (glial fibrillary acidic protein) and EMA (epithelial membrane antigen). **Results:** Based on the localization, gross and microscopically aspect, and immunoprofile, the final diagnosis was neuroectodermal cyst of posterior cranial fossa. The immunoprofile facilitated its differentiation from other benign cerebral cystic lesions. **Conclusions:** Neuroectodermal cyst is a rarely incidentally-encountered lesion of the brain. Its localization in the posterior cranial fossa can associate non-specific symptoms; undiagnosed cysts may increase the severity of other associated cerebral lesions.

**Keywords:** pathology, pathology, neuroectodermal cyst, intracranial, posterior cran

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## PEDIATRIC MALIGNANT PHEOCHROMOCYTOMA: A CASE REPORT AND REVIEW OF THE LITERATURE

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**Background:** Malignant pheochromocytomas affecting young people are rare and the prognosis of children with this tumor is not well known. Approximately 20% of pheochromocytomas are found in the pediatric population. **Material and methods:** We report a case of a malignant pheochromocytoma in a 14 year old girl, wich presented a 4 cm sized unilateral adrenal mass. **Results:** On macroscopic examination the tumor was nodular, encapsulated mass with brown-red cut surface. The malignancy was confirmed by using the multiparameter scoring system PASS (Pheochromocytoma of Adrenal gland Scaled Score) and by immunohistochemical findings. In our case the PASS score was >6 and we observed a remarkable decrease in the immunohistochemical reactivity of S-100 protein positive cells, wich helped us to identify the malignant behavior of this tumor. **Conclusions:** Early diagnosis and intervention are important for the successful management of this rare pediatric neoplasm. PASS prognostic scoring is highly predictive of the clinical behavior of pediatric malignant pheochromocytoma. Family screening and long-term follow up is also important.

**Keywords:** malignant pheochromocytoma, pediatric tumors, PASS score

## PRIMARY MEDIASTINAL TUMOR WITH FULMINANT EVOLUTION: CASE PRESENTATION.

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**Background:** T cell committed lymphoblastic lymphoma in pediatric pathology represent only 15% of ALL. Usually involves bone marrow and blood with high leukocyte count, frequently presents like a mediastinal mass with rapid growth. Other possible sites include peripheral lymph nodes, skin, liver, spleen, Waldeyer's ring, central nervous system and gonads.

**Material and methods:** We present a autopsy case of a 1 year girl, who presented with compressive symptoms and with an enlarged, nodular mass in the mediastinum. Clinical examination and CT exam revealed a firm nodule with dimension 60x 65 mm involving the pericardium, the respiratory tract, both lungs and large vessels. A biopsy of the pericardium was performed for the histopathological exam, one day after our patient died. The piece was fixed and processed for microscopic evaluation.

**Results:** On macroscopic examination during the autopsy the mediastinal compartment was replaced by a firm nodular mass partially encapsulated with extracapsular extension of the tumor to the esophagus, respiratory tract, lungs and large vessels. Microscopic exam of the lymph node, liver, spleen, lungs, kidneys revealed a proliferation of malignant lymphoid cells represented by small blasts with finely dispersed chromatin, and variable cytoplasmic ratio. Immunohistochemistry (IHC) was done to ascertain the origin of these cells: these are Tdt positive, they express LCA, CD3, CD99 and are negative at CD10,CD79a. Ki67 proliferative index on malignant cells was approximately 90-95%.

**Conclusions:** Based on morphologic characteristics and the IHC findings our final diagnosis was of T cell lymphoblastic lymphoma. The site of involvement was characteristic in these case, in pediatric protocols these entity is usually treated as high-risk disease. Death was produced suddenly by multi organic failure.

**Keywords:** antigen markers, high-risk disease, lymphoblastic lymphoma

## PEDIATRIC PRIMARY EXTRANODAL LYMPHOMAS WITH UNUSUAL LOCALIZATION: REPORT OF TWO CASES

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**Background:** Primary extranodal non-Hodgkin's lymphoma in genital tract and subcutaneous soft tissue is a rare entity in pediatric pathology. Etiology and pathogenesis of these NHLs are unknown, there might be possible association between chronic inflammation and lymphomas.

**Material and methods:** We report one case of testicular and one case soft tissue lymphoma. The symptoms and the differential diagnosis are also discussed. Case1: A 5-year-old pboy with testicular enlargement was referred to our departament of pediatric surgery. The testicular biopsy showed an homogenous lymphoid infiltrate. The immunohistochemical analysis showed an evidence of massive positivity to CD45 and B-cell markers. 90% of the tumor cells showed intensive positivity to Ki-67 nuclear proliferative antigen, without TdT expression. Case 2: An otherwise healthy, 13-year-old boy presented a relatively well-circumscribed white-yellow, soft tumor mass in thoracale subcutaneous soft tissue. The histological examination showed an inflamatory background with many atypical tumor cells with irregular, pleomorphic vesicular nuclei, prominent nucleoli and many mitotic figures. The tumor cells were LCA, CD3, CD4 positive, without expression of B-cell markers. Ki-67 proliferative index was 50%.

**Results:** Large panels of antibodies was used in order to establish the diagnosis in both cases. Case 1 was diagnosed as B-cell lymphoma, unclassifiable with features with intermediate features between Diffuse Large B-cell Lymphoma and Burkitt-lymphoma. Case 2. was considered Peripheral T-cell lymphoma, not otherwise specified. Large panels of antibodies was used in order to establish the diagnosis in both cases.

**Conclusions:** Primary testis DLBCL in children is very rare, characterized by an increased risk of extranodal, CNS, and contralateral testis recurrence with poor outcome. T-cell lymphomas are challenging childhood neoplasms. These cancers have varying presentations, vast molecular heterogeneity, and inflamatory background creating diagnostic challenges frequend misdiagnosed as inflamatory disease.

**Keywords:** pathology, pathology, Primary extranodal non-Hodgkin's lymphoma, pediater

## RETROPERITONEAL EMBRYONAL RHABDOMYOSARCOMA: CASE REPORT

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**Background:** Embryonal rhabdomyosarcomas are primitive, high-grade neoplasms and affect most commonly children under 5 years. They possess various locations, but are rare in retroperitoneum. **Material and methods:** A 2 year-old girl presented abdominal pain and urinary complaints. Abdominal CT scan showed an inhomogeneous, well defined tissular mass that measured 81x75x96 mm, located in the retroperitoneum, compressing the anatomical neighborhood. A surgical resection of the tumor mass was performed. **Results:** The unoriented surgical specimen was covered by a discontinuous, thin smooth capsule. On the cut surface presented inhomogeneous white-gray elastic lobulated structure with myxoid peripheral areas. Microscopically the tumor tissue showed compact structure, composed predominantly of small and medium sized cells with round and elongated nuclei, with a variable amount of eosinophilic cytoplasm and moderate pleomorphism. These cells were predominantly arranged around vascular spaces, but they also formed fascicles with a storiform pattern. The tumor tissue presented rare clusters of anaplastic cells and frequent mitotic figures (62/50 HPF), and extended into the thin capsule and into the peritumoral, richly vascularized connective tissue. These tumor cells express vimentin and desmin, without CTK, SMA, S100, EMA, CD99, CD117, CD34, NSE positivity. WT1 highlights some of the tumor cells. Ki-67 proliferative index was 80%. LCA highlighted lymphoid elements arranged among tumor cells. The final microscopic finding of the surgical specimen concluded rhabdomyosarcoma, embryonal variant. **Conclusions:** Embryonal rhabdomyosarcomas is less frequent in the retroperitoneum, in this case IHC reactions helped us to include this tumor in prognostically histological categories.

**Keywords:** pleomorphism, storiform, anaplastic, embryonal rhabdomyosarcomas

## THE PREVALENCE OF PREMALIGNANT GASTRIC LESIONS ON TWO LEVEL GASTRIC BIOPSIES

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**Background:** Infection with *Helicobacter pylori* (HP) is the main risk factor that can trigger a cascade of premalignant gastric lesions resulting into intestinal type of adenocarcinoma. The first step in this cascade is represented by the loss of the normal gastric glands that can be followed by metaplastic changes, dysplasia and eventually, the development of malignancies. The aim of this study was to assess the gastric premalignant lesions on two level gastric biopsies. **Material and methods:** It is a retrospective study of 320 gastric biopsies, on two levels, diagnosed in the Pathology Department of the Emergency County Hospital, Tîrgu Mureş. We pursued the types of premalignant lesion, the frequency and extent of these injuries, their correlation with the HP infection and types of gastritis. **Results:** The HP infection, present in 39.4% of the cases, was more frequent in the 5th and 6th decade. Atrophy of normal gastric glands (GA), complete (CIM) and incomplete (IMM) intestinal metaplasia were diagnosed in 73, 100 respectively 99 cases, most frequently in the antral region; 23, 40 and 44 of the cases presented HP infection. Histopathological, AG and CIM were significantly associated with active, respectively inactive chronic gastritis while IIM was significantly associated with inactive gastritis, only. Indefinite for dysplasia type of lesions were observed in 7 cases, while two cases presented mild epithelial dysplasia. **Conclusions:** The results show that the prevalence of premalignant gastric lesions is quite high in a region where HP infection is reduced. The interrelationship between the type, extent and severity of premalignant gastric lesions is an important indicator for clinical surveillance protocols for these patients. **Acknowledgment:** "This paper was published under the frame of European Social Found, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/136893"

**Keywords:** Internal Medicine, Public Health, premalignant gastric lesions, intestinal metaplasia, *Helicobacter pylori*

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## HEPATOBLASTOMA: A CASE REPORT AND REVIEW OF THE LITERATURE

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**Background:** Hepatoblastoma is the most common form of liver cancer in children, although it is a comparatively uncommon pediatric solid tumor. The disease usually affects children younger than 3 years. **Material and methods:** We report a case of pediatric hepatoblastoma in a 2 year old boy, wich presented a 3 cm sized mass in the left hepatic lobe, that underwent chemotherapy prior to the surgical intervention. **Results:** Microscopically, the infiltrative tumor mass in the liver parenchyma was represented by an immature hepatocyte proliferation, arranged in cords, with numerous a capillary sinusoids. This morphological aspect and high mitotic index (10 mitoses / 10 HPF) is corresponding to histological subtype of fetal epithelial hepatoblastoma, mitotically active. Peritumoral lymphovascular tumor emboli were numerous. Tumor cells showed Alpha-fetoprotein positivity, and were negative for CEA, Chromogranin and EMA. At the periphery of the tumor, among tumor plaques, are areas of fibrosis with thrombosed blood vessels (effect of chemotherapy). Remaining liver parenchyma showed micro- and macrovacuolar adipose dystrophy, with chronic inflammatory infiltrate in the stroma, and numerous epithelioid granulomas circumscribed by multinucleated histiocytes, with caseous central necrosis. **Conclusions:** The increased mitotic index and the presence of vascular emboli include this tumor in the high-risk category, being associated with epithelioid granulomas as an effect of chemotherapy.

**Keywords:** Hepatoblastoma, pediatric, chemotherapy, epithelioid granuloma, high risk

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## OSSIFYING FIBROMYXOID TUMOR: A CASE REPORT

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**Background:** Ossifying fibromyxoid tumor (OFT) is a very rare neoplasm in childhood, with cords and trabeculae of ovoid cells embedded in a fibromyxoid matrix, surrounded by a partial shell of bone spicules. **Material and methods:** The 9-year-old female patient presented with a well circumscribed right latero-cervical subcutaneous nodular mass, dimensions 52x22x20 mm, firm, hard, white in colour. **Results:** Microscopy revealed a well circumscribed nodular mass surrounded by a fibrous pseudocapsule. The tumor is composed of lobules of cells with epithelioid morphology arranged in nests and cords, and set in a fibromyxoid stroma. The neoplastic cells are monomorphous with round-to-ovoid nuclei, small nucleoli and a variable amount of eosinophilic cytoplasm. Mitotic activity is less than 2 per 10 high power fields. The lesion contains peripheral bone spicules. The neoplastic cells express Vimetin and S100 protein, focally positive for SMA and Desmin, negative for CD34, CD10 and FXIII. **Conclusions:** Microscopic morphology and performed IHC reactions helped us to diagnose this tumor with uncertain histogenesis, although the preponderance of evidence suggests a Schwann cell origin. The majority behave in a benign fashion, but very rare tumors with histologic and clinical evidence of malignancy have been reported. Criteria for malignancy in OFT are not yet defined.

**Keywords:** ossifying, fibromyxoid tumor, bone spicules, uncertain behaviour, antigen markers

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## PARTIAL NODAL INVOLVEMENT COMBINED WITH IN SITU FOLLICULAR LYMPHOMA: CASE REPORT

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**Background:** Non-neoplastic follicles may be present in lymph nodes involved by otherwise typical follicular lymphoma (FL), or may be also partially colonized by tumor cells (in situ FL). These aspects has been considered to predict for lower stage at diagnosis. **Material and methods:** A 76 year-old women presented with isolated enlargement of left axillary lymph nodes, anemia, weight loss and fewer. Lymph node biopsy was sent for histopathology. Histological and immunohistochemical studies was performed. **Results:** Histological examination of biopsy releved lymphoid hyperplasia, effacement of lymph node architecture by neoplastic follicles, associated with reactive follicle structures in periferic areas. The neoplastic cells were predominantly small, cleaved

centrocytes, with scattered centroblasts. Focally these cells have intrafollicular distribution and were also positive for CD20, CD10, bcl-2 and bcl-6. Based on histopathologic and immunohistochemical findings, the case was completed as FL, grade 1: partial nodal involvement combined with in situ FL. **Conclusions:** In situ component cannot be recognized without bcl-2 staining. The significance of this findings is unknown, but partial involvement associated with in situ component and preserved reactive germinal centres are a strong indicator for a limited disease stage. This finding is of particular importance, because localized FL can be cured with radiotherapy or according to a recent studies, might be left untreated until a relapse occurs.

**Keywords:** in situ follicular lymphoma, limited disease, partial nodal involvement

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## HISTOGENESIS OF INTESTINAL AND DIFFUSE TYPE GASTRIC CANCER

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**Background:** The aim of this paper was to present our experience correlated with literature data in field of histogenesis of gastric cancer (GC). **Material and methods:** In 180 consecutive cases of GC, diagnosed at Clinical County Hospital of Tîrgu-Mureş, Romania, the clinicopathological data (demographic data, localization, histologic type, and stage of the tumor) were correlated with the tumor immunoprofile, based on a panel of 7 antibodies: E-cadherin, Slug-1, vimentin, maspin, bax, p53, and Ki67. The status of p53 gene was also explored. **Results:** In all of the cases, normal gastric mucosa displayed maspin cytoplasmic positivity, while the dysplastic cells presented a maspin nuclear shift. In some of the cases, intramucosal signet ring cell clusters with maspin nuclear positivity were also observed. Maspin expression was lost in 14.5% of the cases and correlated with poorly-differentiated or poorly-cohesive architecture and presence of distant metastases. The epithelial-mesenchymal transition (loss of E-cadherin expression and positivity for vimentin and/or SLUG-1) was more characteristic for poorly cohesive GCs with negative or nuclear pattern of maspin. The well differentiated adenocarcinomas diagnosed in early stages were rather characterized by cytoplasmic maspin and bax/E-cadherin positivity. No correlation between maspin subcellular pattern and survival rate was noted. **Conclusions:** In patients with GC, loss of maspin expression and epithelial-mesenchymal transition indicates a tumor dedifferentiation and a higher risk for distant metastases. This work was partially supported by the team research project POS-UMFTGM-CC-13-01-V01, No 15/16189/2013 funded by the University of Medicine and Pharmacy of Tîrgu-Mureş, Romania, and Studium foundation.

**Keywords:** PATHOLOGY, PATHOLOGY, gastric cancer, histogenesis, maspin, E-cadherin,

# PATHOPHYSIOLOGY

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## CASE BASED LEARNING MEDICINE-A MODERN CONCEPT OF TEACHING AND LEARNING

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**Background:** Evidence Based Medicine (EBM) is currently one of the most spread teaching concepts in the world. On the same lines, teaching and learning based on medical clinical cases becomes very popular and widely accepted in modern medical universities. **Material and methods:** This paper presents a Case Based Learning (CBL) model, which is adapted after the North-American system and successfully applied in the Pathophysiology department with the third year medical students. For a semester, every student will have to make two case presentations, respectively four presentations until the end of the third year. The department's teaching staff is preparing in advance two cases every week, which are going to be analyzed and presented by a team formed of two to four students. The lectures' theme is presented a week before it is discussed during practical works and each student will receive two or more scientific articles from PubMed about the suggested subject for presentation. **Results:** Up until now, each group of students had already presented ten cases. At the end of their presentations, the students that completed the respective project will have to write some hand-outs that are going to encompass the most important information related to their subject; these handouts will be provided to their colleagues, as well as to the teacher. These learning materials will build the base from which the questions for the practical exam are going to be made, for assessing understanding of the theoretical notions presented during the practical works. In this paper there would also be discussed the SWOT analysis of these ten presentations. **Conclusions:** Most of the students prefer this type of learning instead of the classical one in which the teacher presents all the notions, the students are learning the subjects presented and the evaluation is made by an exam held by the teaching staff.

**Keywords:** Case-Based Learning, Evidence Based Medicine, Pathophysiology

## PEDIATRICS

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### LINK BETWEEN MOLECULAR CHARACTERISTICS, CLINICAL PRESENTATION AND TREATMENT APPROACH OF LEUKEMIAS IN CHILDREN

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**Background:** The knowledge of molecular biology features of acute leukemias enables an accurate risk stratification and consequently an appropriate treatment approach. The prognostic impact of the genetic and molecular characteristics of blasts have been known before 2000. Hypodiploidy  $\leq 45$  and the detection of t(9;22) (BCR-ABL p190) or t(4;11) (MLL-AF4) fusion genes renders the ALL patient to the high-risk group, irrespective of other risk factors. **Material and methods:** The BCR-ABL p190, MLL-AF4 and TEL-AML1 fusion genes were assessed among the ALL patients and AML1-ETO, CBFB/MYH 11 (inv 16), FLT3 mutation and MLL-AF4 in AML patients, treated at the Pediatric Clinic of the Mures County Hospital. Test results were correlated with other risk factors such as age at diagnosis, presenting WBC count, gender, blast type, blast immunology and survival. **Results:** A number of 21 ALL patients and 2 AML patients underwent molecular biology testing. Among ALL patients 4 harbored BCR-ABL fusion genes, 2 were positive for TEL-AML1 rearrangement and 15 were negative for the assessed fusion genes. One AML5 patient was negative for FLT3, MLL-AF4 and inv 16 (CBFB/MYH 11) and the other AML2 patient was positive for AML1-ETO (t(8.21)). One of the BCR-ABL positive patients is treated with imatinib and intensive chemotherapy regimen. Both ALL patients with TEL-AML1 fusion gene presented high WBC count but showed favorable outcome until present time, when they are under maintenance therapy. **Conclusions:** Discussion: MLL-AF4 fusion gene appears more frequently in infants and has unfavorable outcome. Ph+ALL has a cure rate of less than 35% in the absence of hematopoietic stem cell transplantation (HSCT). Intensive chemotherapy combined with imatinib has improved survival up to 80%. TEL-AML1 rearrangement has a more favorable prognosis, even in the presence of high leucocyte number. Conclusion: molecular biology features of ALL and AML are important in risk stratification and proper treatment of leukemias.

**Keywords:** Pediatrics, Pediatrics, leukemias, children, molecular biology

### CARDIOVASCULAR MANIFESTATIONS IN CHILDREN WITH THE SYNDROME MARFAN

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**Background:** Aortic dissection and the progression of mitral valve prolapse associated with Marfan syndrome worsens the prognosis of the disease and eventually leads to death at the age of 35-40 for a large number of patients. Purpose: echocardiographic and clinical assessment of cardiovascular manifestations in children with Marfan syndrome being cared for in our service. **Material and methods:** Clinical and echocardiographic 2D and Doppler assessment of 15 children diagnosed with Marfan syndrome associated with mitral and aortic valve lesions, admitted and cared for in the Tg Mures Pediatric Cardiology Clinic between 2013-2014. **Results:** The mean age of children with cardiovascular disease was 7 years old, 11 patients had mitral valve prolapse, 5 patients had moderate to severe mitral insufficiency associated with valve prolapse, 9 patients had significant dilation of the aorta and received treatment with beta-blockers and 5 patients showed both lesions. **Conclusions:** The evolution of cardiovascular manifestations in the case of Marfan syndrome must be carefully observed during childhood as our observations have shown a tendency towards the progression of mitral insufficiency and aortic dilation

**Keywords:** cardiovascular manifestations, children, syndrome M

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## ULTRASONOGRAPHIC FINDINGS IN URINARY BLADDER DISEASES IN CHILDREN

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**Background:** Urinary bladder must be ultrasonographically examined when it is full, but sometimes it is necessary to be examined when it is empty. This presentation aims to assess the contribution of ultrasonography in diagnosing urinary bladder problems in children. **Material and methods:** The authors present a series of cases from Department of Pediatrics, Mures County Hospital, each case is presented and discussed based on ultrasonographic findings and final diagnosis. **Results:** The authors present 6 cases of urinary bladder disease, aged from 6 months to 13 years. The main clinical feature in all cases was dysuria and problems with urination. In each case, ultrasonography was the key of diagnosis, alongside with laboratory tests. **Conclusions:** Ultrasonography is a noninvasive and repetitive method that can bring important information about urinary bladder problems. Sometimes, it can be also used as a valuable instrument to assess evolution of disease.

**Keywords:** pediatrics, pediatrics, children, urinary bladder

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## BONE MARROW APLASIA SECONDARY TO CHEMOTHERAPY - PEDIATRIC CLINIC NO. 2, TG MURES

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**Background:** Haematological malignancies require aggressive chemotherapy treatment, which results in a temporary marrow aplasia. Depending on the underlying disease, duration and severity differs. Our study aims to analyze clinical bone marrow aplasia secondary to cytostatics and their treatment, respectively. **Material and methods:** 8 patients in the hematology-oncology department casuistry of Pediatrics clinic no. 2 of Targu Mures are under observation over a period of 1 year while receiving intensive chemotherapy treatment and clinical and laboratory studies are conducted. **Results:** Case distribution: 3 LAL, 1 LAM, 2 Wilms tumor, 1 Neuroblastoma, 1 Hodgkin lymphoma stage IV nodular sclerosis form. Pathologies related to periods of aplasia: pneumonia, paratuberculous + cutaneous abscess, typhoid perianal abscess, reactivation of herpes infection (shingles), carbohydrate metabolism imbalance. Treatment requires patient isolation with rigorous hygienic-dietary regime, an arsenal of broad-spectrum antibiotics, intravenous immunoglobulin, platelet and red blood cell substitutes, granulocyte colony stimulating factor. **Conclusions:** In acute lymphoblastic or myelogenous leukemia bone marrow aplasia requires a long period of time, rebellious to treatment, whereas in the case of solid tumors post-cytostatic marrow aplasia requires a shorter timeframe and it is easier to correct.

**Keywords:** hemato-oncology, M4, Aplasia, substitution, secondary infections, agres

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## SERUM LEVELS OF LEPTIN AND IGF-1 AND RELATION WITH ANTHROPOMETRIC PARAMETERS AND BODY COMPOSITION IN CHILDREN WITH MALIGNANT DISEASES

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**Background:** Poor nutritional status is a common problem among children with malignant disease. In order to detect changes in nutritional status and body composition this study investigates biochemical and anthropometrical parameters and body composition among pediatric patients with malignant diseases. **Material and methods:** We prospectively enrolled 43 patients divided in 2 groups: study group (23 pts) - patients with different malignant disease and control group (20 pts) - patients with pediatric diseases. Plasma concentration of leptin, protein and IGF-1 were measured in both groups. The anthropometric parameters [weight-W, height-H, body mass index (BMI), middle upper arm circumference (MUAC), tricipital skinfold thickness (TST)] were comparatively evaluated. Body composition (percent of body fat, lean body mass, total body water) was recorded using bioelectrical impedance analysis method. **Results:** Leptin level, proteins and IGF-1 were much lower in the oncological group

compared with controls ( $p < 0.05$ ). Anthropometric parameters in Group I were significantly different from those in Group I only for MUAC ( $p < 0.05$ ). In the study group, FM was much lower ( $15.13 \pm 6.93\%$ ) compared with controls ( $21.65 \pm 10.05\%$ ) ( $p = 0.04$ ) and TBW was much higher ( $61.85 \pm 4.93\%$  versus  $57.4 \pm 7.37\%$ ) ( $p = 0.05$ ). **Conclusions:** This research showed that the pediatric patients diagnosed with malignant disease has a poor proteic status than the control group (serum levels of total protein, leptin and IGF-1 decreased in malignancies). Arm anthropometry, in conjunction with bioelectrical impedance analysis and serum protein accurately characterizes the nutritional disorders at the diagnosis of malignant disease. **Acknowledgment.** This paper is supported by the project 14/30.01.2013: "The assessment of nutritional status in children with cancer", project financed by internal research grants from The University of Medicine and Pharmacy, Tîrgu-Mureş, Romania.

**Keywords:** leptin, IGF-1, anthropometry, body composition, malignant disease

## THE IMPACT OF NUTRITION ON HEALTH IN THE EARLY YEARS

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**Background:** Starting the food diversification of children, parents are responsible for a multitude of factors that can influence in a positive or negative way the health status (physical and mental) of their child. Of these, the most important are: food choices, portion sizes, schedule and quality of the meals, the ambience in which they are served, the financial income of the family, sanitary conditions, education level of parents, attention to physical activity. All these factors listed and analyzed in detail can accurately outline the family and the kind of "parenting" influencing the growth and development of each child. **The purpose** of this study is to identify nutritional mistakes that parents make in their children's nutrition and highlight their possible repercussions on the body of children. **Material and methods:** This is a prospective study performed in the Pediatric Clinic of Targu Mures over a period of 8 months, that aims to identify nutritional mistakes in child nutrition. A sample was analyzed systematically consisting of 165 patients, the data necessary for the study were collected with the aid of a questionnaire composed of a series of questions. **Results:** Smoking status of parents is significant, there have also been recorded cases of pregnant smokers and smoking mothers during lactation. Cow's milk has been used in the diet of 65% of the children, introduced at the earliest age of 2 months. We have identified cases where food diversification was initiated early/late, only 25.2% of parents initiating diversification at six months. The introduction of age-inappropriate food combinations is frequent. **Conclusions:** Unfortunately, there are many parents who do not get involved actively and appropriately to ensure their child's healthy lifestyle, making numerous mistakes, including those of nutrition, which has a major and sometimes irreversible impact on childhood and adolescence.

**Keywords:** Pediatrics, Pediatrics, nutrition, mistake, child

## THE ASSOCIATION BETWEEN INTERLEUKIN-6 GENE – 190 T/C POLYMORPHISMS AND ANTHROPOMETRIC PARAMETERS IN OBESE CHILDREN

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**Background:** The higher prevalence of child obesity has led worldwide in action to promote a healthy lifestyle, education and information, in parallel with continuing research in the field; in Europe, the increasing prevalence has accelerated in recent years. IL-6 190 is known as an inflammatory cytokine and increasingly studied as possible marker of obesity; the polymorphism of IL-6 190 gene establish the producing and level of this protein. The aim of study was to find the correlations between these gene polymorphism and obesity in a children population from Romania, which was not evaluated in children until now. **Material and methods:** 185 consecutively hospitalized patients were assessed in a tertiary emergency pediatric hospital; they were divided by BMI percentile value in two groups: group I, the control group - 98 patients with normal nutritional status, and group II, 87 patients - obese children. The two groups underwent IL-6 190 T/C polymorphism, anthropometric parameters [middle upper arm circumference (MUAC), tricipital skin-fold thickness (TST)] and paraclinical evaluations (leptin, adiponectin, VEGF, proteins, albumins). **Results:** The phenotype CC was observed to be more frequent in obese children [ $p = 0.0001$ ]. By a multivariate regression analyse (with leptin as dependent variable), we found that leptin was dependent of albumin [ $p = 0.01$ ]; using the same

statistic analyse, leptin and adiponectin were shown to be independent of IL-6 190 phenotype. MUAC and TST as anthropometric index, and albumins and leptin as biochemical parameters seem to characterize well all three haplotypes (CC, CT, TT) of IL-6 190 T/C gene in obese children ( $p=0.0001$ ). **Conclusions:** In obese children, CC alleles of IL-6 190 gene correlate with anthropometric parameters (BMI, MUAC, TST) and with serum albumine levels.

**Keywords:** Pediatrics, Pediatrics, interleukin-6 gene – 190 T/C polymorphisms, obesity, children

## ANALYSIS OF THE CONTRIBUTION OF RS17817449 SNP IN FTO GENE TO OBESITY IN ROMANIAN CHILDREN

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**Background:** One of the most common maladies is represented by obesity, with a significant increased frequency in the last decade. The linkage between single nucleotide polymorphisms (SNPs) in the first intron of the fat mass and obesity-associated (FTO) gene and some measures of adiposity (anthropometric and metabolic parameters) have already been reported in several studies. FTO gene variants have been associated with higher BMI, BMI z-score, waist and hip circumference; tricipital and subscapular skinfolds; blood pressure; triglycerides, total cholesterol and adipokines in widespread populations (Asians, Europeans, South and North Americans). Knowing that obesity is a polygenic disease, presently the FTO gene is considered to play one of the most important roles. The aim of this research was to look for any association of the rs17817449 SNP in FTO gene with obesity in a group of Romanian children. **Material and methods:** In this research were included one group of overweight/obese children and a group of healthy subjects. Anthropometric parameters and laboratory analyses were performed in all cases. Genotyping of rs17817449 FTO gene polymorphism was performed from whole blood samples using the PCR-RFLP method. Association of the FTO polymorphism with several anthropometric traits and laboratory analysis was investigated. Also we looked for any association of the risk (G) allele with overweight and obesity. **Results:** We didn't find significant associations for rs17817449 SNP FTO gene with obesity and obesity-related outcomes. G allele carriers had higher values for weight, BMI, waist and hip circumference, cholesterol, triglycerides, adiponectine and fasted glucose ( $p > 0.05$ ). **Conclusions:** This study could not replicate the genetic association of rs17817449 SNP of FTO with obesity in children as it was observed in other studies. The explanation could be the small number of cases. Acknowledgements This paper was published under the frame of European Social Found, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/136893

**Keywords:** Pediatrics, Obese, children, FTO gene, obese, child, FTO gene

## PERINATAL RISK FACTORS FOR INTRAVENTRICULAR HEMORRHAGE IN VERY LOW BIRTH WEIGHT INFANTS

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**Background:** Intraventricular hemorrhages (IVH) occur mainly in preterm infants  $\leq 32$  weeks of gestation. The incidence, decreases with advancing gestational age and is influenced by certain perinatal risk factors. Aim: To identify risk factors for IVH in very low birth weight (VLBW) infants. **Material and methods:** the authors collected data prospectively from the Romanian National Registry for RDS from Tg. Mureş regional centre of neonatal intensive care, between 01.01.2011-31.12.2013. All the inborn and outborn VLBW infants were included. Data were analyzed using IBM SPSS Statistics 19.0,  $p$  was considered significant when  $<0.05$  on a CI of 95%. **Results:** 212 preterm neonates with mean gestational age GA of  $29,59 \pm 2,20$  weeks (24-32 weeks) and mean BW of  $1295,47 \pm 368,28$ g were enrolled in the study. 68 of them were diagnosed with IVH (32.07%). VLBW infants with IVH had significantly lower GA ( $p=0.000$ ), BW ( $p=0.000$ ), Apgar score at 1 minute ( $p=0.018$ ). The duration of CPAP support ( $p=0.000$ ), mechanical ventilation ( $p=0.000$ ), and oxygen therapy ( $p=0.000$ ) were significantly higher. Unsignificant correlations were found between IVH and need for resuscitation at birth, CPAP support, barotrauma, apnea of prematurity, periventricular leucomalacia, neonatal sepsis, maternal-fetal infection, and nosocomial infection ( $p>0.05$ ). The need for surfactant administration,

mechanical ventilation, persistent ductus arteriosus (PDA), and retinopathy of prematurity were significantly correlated with IVH ( $r>0.3$ ,  $p>0.05$ ). **Conclusions:** Low BW and GA, birth asphyxia, need for ventilatory support and surfactant administration, longer CPAP support and oxygen therapy, persistent ductus arteriosus, and oxygen therapy, were the recognized as risk factors for IVH in VLBW infants. The results of this study are concordant with the data in the literature.

**Keywords:** Intraventricular hemorrhages, VLBW infants, risk factors

## THE ASSESSMENT OF DISTRIBUTION OF THE METABOLIC SYNDROME COMPONENTS IN A GROUP OF OBESE CHILDREN

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**Background:** Although there is no consensus on the definition and usefulness of the term metabolic syndrome in children, this entity is a constellation of metabolic disorders associated with overweight. Metabolic syndrome (MS) includes increased abdominal perimeter, fasting hyperglycaemia, hypertension or pre-hypertension, low HDL-cholesterol and increased triglycerides. Several authors established different thresholds of these markers in pediatrics. **Purpose:** To identify the components of the metabolic syndrome in a group of obese children. **Material and methods:** The study was conducted in the Ist Pediatric Clinic Tîrgu-Mureş between October 2010-March 2014. We assessed 119 obese patients (BMI above 95 percentile/P), including only patients over the age of 5 years, age limit below which there are no criteria for the definition of dyslipidemia. We analyzed anthropometric indices (expressed as DS and percentile with Growyh Analyser software), biochemical parameters (blood glucose, total cholesterol and fractions, triglycerides) and blood pressure (measured by auscultatory method Korotkow, appreciating values in relation to percentile for age, height and gender, considering pre-hypertension at values above P90 and hypertension at values above P95). We studied the proportion of MS in our group of obese children by three different sets of pediatric criteria: Weiss et al, Cook et al and de Ferranti et al. **Results:** After Weiss-criteria, there were 32 obese children with four of five components for the diagnosis of MS, and 4 with three of five components (totaling 30.25%); by Cook, we detected 41 children with MS (34.45%), 5 of them with four components, and 36 with three components, while applying deFerranti criteria, we recorded 46 obese children with MS (38.65%), 12 having four components and the rest - three components. **Conclusions:** Regardless of the criteria applied, metabolic sdr as combination of several complications was found in over a third of children with obesity. **Acknowledgements** This paper was published under the frame of European Social Fund, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/136893

**Keywords:** Pediatrics, Pediatrics, child, metabolic syndrome, obesity

## RAPUNZEL SYNDROME - CASE PRESENTATION

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**Background:** Trichobezoar is a fairly rare disease which is characterized with gastric dilatation or even perforation, occurred after ingestion of hair. This psychological disorder often occurs in people suffering from trichotillomania - the need to pull out the hair (of the head, body). It is a self-destructive behaviour which is stress based. **Material and methods:** The authors wish to present the case of a 10 year old child, who was admitted to the Pediatric Clinic II in Targu Mures with complaints of nausea, persistent vomiting, epigastric pain and abdominal distention. **Results:** A series of analyzes were performed, which disclosed a distended stomach associated with a hiatal hernia, a marked eosinophilia. Gastroscopy is performed which results in the diagnosis of trichobezoar and the patient is directed to the Pediatric Surgery Clinic, where the conglomerate hair is removed through laparotomy. **Conclusions:** The medical and psychiatric consequences of trichotillomania should not be underestimated. Establishing an early diagnosis is very important; it can save the patient's life and prevent recurrences.

**Keywords:** Trichobezoar, Laparotomy, Trichotillomania, Rapunzel

## ANGIOTENSIN-CONVERTING ENZYME GENE POLYMORPHISM IN CHILDREN WITH IDIOPATHIC NEPHROTIC SYNDROME

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**Background:** Idiopathic nephrotic syndrome (INS) is a common renal disease in children. Angiotensin-converting enzyme (ACE) gene insertion/deletion (I/D) polymorphism has been studied as a predictor of clinical response to steroid therapy. Association between ACE I/D gene polymorphism and steroid-sensitive nephrotic syndrome risk in children is still conflicting. Aim: This study was performed to investigate the distribution of ACE I/D gene polymorphism in children with INS, as well as its relationship with patient's clinical response to steroid therapy and to explore whether ACE D allele or DD genotype could become a predictive marker for steroid responsiveness. **Material and methods:** The studied subjects included 50 children with INS (divided into 2 groups according to their clinical response to steroids: steroid-sensitive and non-steroid-sensitive) compared to 100 unrelated healthy children. Each individual genotype was determined using PCR amplification of extract genomic DNA and allele distribution based on size of the PCR fragments. **Results:** Patients with INS had a higher percentage of II and ID genotype than the control group. I allele frequency was significantly higher in INS patients than healthy controls. This higher incidence of the I allele carriers was observed in both the steroid-sensitive and non-steroid sensitive groups. No association between ACE I/D gene polymorphism and the treatment response of steroid in children with INS was found. **Conclusions:** Our data shows that INS is associated with a higher incidence of the ID genotype. This finding suggests that the deletion might be a protective factor and insertion a risk factor for INS. **Acknowledgments:** This paper work was supported by Internal Research Grants of the University of Medicine and Pharmacy Tîrgu Mureş, Romania, contract no 29/11.12.2013

**Keywords:** Pediatrics, Child, ACE gene, nephrotic syndrome, nephrotic syndrome, Children, ACE gene

## A CASE OF WILSON'S DISEASE IN PATIENT WITH GIANT SPLENOMEGALY

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**Background:** Wilson disease is a rare autosomal recessive inherited disorder of copper metabolism that is characterized by excessive deposition of copper in the liver, brain, and other tissues. Wilson disease may be fatal if it is not recognized and properly treated. **Material and methods:** We report a case of an 11 year old boy, who presented in our hospital with abdominal swelling, recurring epistaxis and loss of appetite. These symptoms started 2 years before admission. **Results:** Clinical examination and abdominal echography have revealed a giant spleen exceeding the midline, palpable 10 cm below the ribs. Based on clinical, laboratory and imaging examination the suspicion raises of a chronic liver disease with portal hypertension, hypersplenism. Following the high values of copper and the increase of these values after administrating copper (stimulation test), the diagnosis determined Wilson disease. **Conclusions:** The peculiarity of this case consists of the insidious onset of the disease, with coagulation disorders and giant splenomegaly in a patient with chronic liver damage within the frame of a genetic disease. Wilson disease should be suspected in any patient presenting with: inexplicable cirrhosis, signs or symptoms of hepatitis, chronic active hepatitis, and unexplained persistent elevations of serum transaminases.

**Keywords:** Wilson's disease, cirrhosis, splenomegaly, copper, inherited

# PHARMACY

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## CHIRAL SEPARATION OF OMEPRAZOLE ENANTIOMERS BY CAPILLARY ELECTROPHORESIS

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**Background:** Omeprazole is a benzimidazole sulfoxide proton pump inhibitor (PPI) used in the treatment of different gastric acid hypersecretory disorders. It contains a chiral sulfur atom that form an enantiomeric pair, the S-enantiomer having a slightly greater PPI action and superior metabolic and pharmacokinetic profile than the R-enantiomer. It is used in therapy both as a racemic mixture and pure enantiomer (esomeprazole). **Material and methods:** HPLC methods are usually used in modern Pharmacopoeias for the chiral discrimination of omeprazole enantiomers. Capillary electrophoresis (CE) proved to be in recent years a valuable alternative and complementary method for the more frequently used chromatographic methods. The main advantages of CE in chiral analysis are related to the high efficiency, method development simplicity, low sample, reagent and chiral selector consumption and especially with the high selectivity of choosing and changing the chiral selector. Cyclodextrines (CDs) are without doubt the most frequently used chiral selectors in CE. A complex screening of several native and derivatized, neutral and charged CDs was made in order to establish the optimum chiral selector. **Results:** Several analytical and electrophoretic parameters were evaluated, including buffer composition, concentration and pH, chiral selector type and concentration, voltage, temperature and injection parameters; in order to obtain enhanced chiral resolution and a short analysis time. The optimized system consisted of 50 mM phosphate buffer at a pH - 2.5 with 20 mM randomly methylated beta-CD as chiral selector, temperature at 15 °C, voltage at 20 kV and UV detection at 300 nm. Using the optimized conditions we obtained the baseline chiral separation and established the migration order of the two enantiomers. **Conclusions:** Therefore, the developed method was found to be appropriate for enantiomeric quality control and enantioseparation of omeprazole enantiomers and also for their determination from pharmaceutical preparations.

**Keywords:** Chiral separation, Proton pump inhibitor, Capillary electrophoresis, Cyclodextrines, Stereoselectivity

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## THE INFLUENCE OF SOME ANTIPSYCHOTICS ON RAT LIPIDIC AND GLUCIDIC METABOLISM

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**Background:** The aim of the present study was to determine the effects of risperidone and amisulprid at different doses on glucidic and lipidic metabolism. **Material and methods:** Five groups of white Wistar rats were treated daily for 9 weeks with risperidone 1, 2 or 4 mg/kg body weight, or amisulprid 2mg/kg body weight. Another group received distilled water and served as control group. At the end of the treatment period blood samples were collected and the follow biochemical parameters were determined: serum cholesterol, triglycerides, blood glucose and 25-hydroxivitamine D. **Results:** The values of biochemical parameters treated with atypical antipsychotics were significantly increased (P <0.05) compared to the control group. **Conclusions:** Even though risperidone has a different mechanism of action compared to amisulpride pronounced more significant metabolic effects, which constitute a disadvantage in long-term treatment.

**Keywords:** risperidone, amisulprid, rat, lipidic metabolism

## HOW USEFUL IS THE NOX TEST AS A NITRIC OXIDE BIOMARKER?

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**Background:** Many biological activities were linked with the concentration of nitric oxide in different tissues. Because of the high importance of this endogenous compound, there is an increased interest in finding nitric oxide donors and to identify pathological conditions associated with altered nitric oxide production. Measuring nitric oxide concentrations is extremely important to achieve this objective. Unfortunately, nitric oxide is extremely unstable and very difficult to measure. The following methods are widely used for assessment of the nitric oxide status: nitrite and nitrate test, electron paramagnetic resonance (unsuitable for in vivo applications in the case of humans), nitrated protein assessment. Nitrite and nitrate are usually measured as a sum, method named NO<sub>x</sub> test, after the reduction of nitrate to nitrite which is determined after transformation in an azo dye. In this work we tested if NO<sub>x</sub> test is suitable for detection of an instant release of nitric oxide. **Material and methods:** A validated HPLC-UV/VIS method was used for speciation and measurement of nitrite and nitrate concentrations in rabbit (experimental animals) blood. Following substances were administered to rabbits: blank (hydroalcoholic solution 1.5 ml/kg; iv and ip); phenyl-N-tert-butyl nitron - a nitric oxide production inhibitor (PBN, 100 mg/kg; ip); nitroglycerin - a nitric oxide precursor (0.1 and 1.0 mg/kg; ip) and nitrite (0.25 mg/kg; iv). **Results:** PBN administration significantly increased nitrate and decreased nitrite concentrations, nitrite administration excessively increased nitrate concentrations, while nitroglycerin (1 mg/kg) significantly increased both nitrate and nitrite concentrations. **Conclusions:** NO<sub>x</sub> test has important drawbacks and could not be considered accurate for nitric oxide status evaluation, because the modifications of nitrate concentrations do not follow the changes in the nitric oxide production. Nitrite, on the other hand, proved to be a good in vivo nitric oxide marker. The research was supported by the University of Medicine and Pharmacy of Tîrgu Mureş, Romania, internal grant number 30/11.12.2013.

**Keywords:** nitrate, nitrite, nitric oxide, nitroglycerin, rabbit

## LIFESTYLE OF YOUNG REFLECTED IN THE PATHOLOGY OF THE ELDERLY

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**Background:** Cardiovascular diseases and diabetes are a public health problem in both sexes, especially in the elderly. Lifestyle, reflected in eating behavior, BMI, physical activity in youth is reflected in the pathology of the elderly. The cardiovascular risk and osteoporosis have a different sex distribution, but their prevalence may be predictive correlated with lifestyle of youth. **Material and methods:** Critical analysis of 101 clinical studies published in the literature (2010-2014) using keywords: BMI, cardiovascular risk, clinical studies, allowed the identification of independent quantitative descriptors of cardiovascular risk: physical activity, diet, obesity, sex. Using key words such as BMI, osteoporosis and sex, 132 results were identified in which females were involved and only 3 results for male studies. **Results:** Analysis of studies on the association between diet and cardiovascular risk in Caucasian subjects lead to contradictory results regarding the amount of intra-abdominal fat and cardiovascular risk, including weight loss as a therapeutic measure that is found only in the evolution of type 2 diabetes. Hypoglycemic diet in young women significantly increases HDL cholesterol values in adulthood. In women, the osteoporotic risk is inversely associated with BMI, bone resorption is already significant 2 years before menopause. In prepubertal boys, bone density is dependent on calcium intake before puberty induced hormonal changes. Muscle-bone ratio is sex-dependent in the elderly, concerning bone loss associated with age, BMI is not an accurate predictor, but lean mass. **Conclusions:** Lifestyle of the young is reflected in its pathology in old age including mortality risk or invalidating diseases. BMI is positively correlated with cardiovascular risk in both sexes and negatively with the risk of osteoporosis in women.

**Keywords:** cardiovascular risk, osteoporosis, BMI, diet, lifestyle

## DISSOLUTION CURVE FITTING USING STATISTICAL SOFTWARE

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**Background:** Market software includes a variety of software packages for statistical analysis, e.g. SigmaPlot Systat, DDSolver, etc. These include facilities for fitting dissolution curves. When a statistical software package is chosen, the most important aspects are: facilities offered for the statistics management, statistical functions available for analysis and graphical facilities of user interface. The aim of this study is to reveal the advantage of using the right software for the purpose established in analysis. **Material and methods:** Software used for automated curve fitting analysis: TableCurve 2D®-Trial version (Systat Software Inc.). Discrimination criterion: the adjusted coefficient of discrimination ( $R^2_{adj}$ ). Analyzed data: a dissolution curve and the previous results of analysis with DDSolver as software for identify the best function of time which fit the most appropriately the dissolution curve. **Results:** The dissolution curve was analyzed within a few seconds, by fitting it simultaneous with the approximately 3500 mathematical equations of the automated curve fitting used software. Four kinds of mathematic equations were identified as fitting the best: three very high-order polynomial functions ( $R^2_{adj}= 0.9979$ ); one simple power function ( $R^2_{adj}= 0.9883$ ), one peak function ( $R^2_{adj}= 0.9876$ ), one equilibrium-kinetic function ( $R^2_{adj}= 0.9911$ ). In the previous study, curve fitting was performed by a more complex procedure and it was determined that two equations (of the 37 equations used) have the highest predictability: Higuchi with  $F_0$  ( $F=F_0+k_H \cdot t^{0.5}$ ,  $R^2_{adj}= 0.9844$ ) and Logistic 3 ( $F=F_{max}/\{1+Exp[-k \cdot (t-t_0)]\}$ ,  $R^2_{adj}= 0.9857$ ). These equations are among those identified in the current analysis, namely: simple power function ( $y=a+b \cdot c$ ,  $R^2_{adj}= 0.9836$ ) and the peak function ("Logistic dose response peak"  $R^2_{adj}= 0.9876$ ). **Conclusions:** The analyzed dissolution profile is the result of complex phenomena that occurred during the kinetic process of drug release from the pharmaceutical form. Choosing the right software, the most appropriate kinetic function can be identified in terms of a few seconds.

**Keywords:** dissolution profile, statistical software, fitting curve

## CHARACTERIZATION OF CYTOKINE RESPONSE IN A MONOIDOACETATE-INDUCED RAT OSTEOARTHRITIS MODEL

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**Background:** Monoiodoacetate-induced osteoarthritis is a disease model characterized by focal loss of hyaline cartilage, degradation of collagen matrix, chondrocyte necrosis and reactive synovial infiltration. IL-6 and TNF $\alpha$  are known classically as pro-inflammatory cytokines participating in the development of these inflammatory signs; however, IL-6 was described to generate also anti-inflammatory activity via the membrane-bound gp130 receptor-signaling, and, in some circumstances TNF $\alpha$  may act similarly. Meanwhile, IL-10 has mainly protective effects in osteoarthritis. **Material and methods:** We studied the serum levels of IL-6, IL-10 and TNF $\alpha$  of 30 MIA-induced osteoarthritic Wistar rats along with 9 control animals, which received only a saline injection. The osteoarthritic rats were divided in 3 subgroups: one treated with placebo, a second receiving low-dose meloxicam (0,2 mg/kg), and a third group, to which high-dose meloxicam injection has been administered for 4 weeks. Blood samples were drawn at baseline, after 4 and 8 weeks, the sera obtained were subjected to analysis by XMAP technique on a Luminex 200 platform **Results:** The serum IL-6, IL-10 and TNF $\alpha$  levels of the control and placebo groups did not change significantly during treatment. We observed a significant decrease of IL-6 in the low-dose group during and a significant increase in the high-dose group during, and most prominently, after treatment. The same, but weaker tendency has been observed at TNF $\alpha$ . No relevant changes of IL-10 have been registered. **Conclusions:** Our findings show that application of low- and high-dose meloxicam generates a divergent IL-6 and TNF response. While low doses appear to be simply suppressive, high-doses might trigger an enhancement of the IL-6 and TNF response with a potential anti-inflammatory role.

**Keywords:** IL-6, IL-10, TNF, meloxicam, osteoarthritis

## OMEGA 3 INDEX VERSUS THE RATIO OMEGA3 / OMEGA6 PREDICTORS IN THE DEVELOPMENT OF CARDIOVASCULAR DISEASE? PRACTICAL DETERMINATION POSSIBILITIES

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**Background:** Among EU countries Romania is on a leading position in terms of both incidence and mortality from cardiovascular causes. In this context omega 3 index or the ratio omega 3 / omega 6 may be biomarkers of cardiovascular disease progression, treatment effectiveness or the establishment of preventive measures in patients at high risk. As the ratio omega3 / omega6 in plasma is not always conclusive, determination of erythrocyte membrane omega-3 index can be a minimally invasive method to determine the composition of omega-3 polyunsaturated fatty acids in membranes. **Material and methods:** Separation of the fatty acids in the erythrocyte membrane involved lysis of the membrane, fatty acids saponification, fatty acid salts hydrolysis and their extraction in the organic phase. It was developed a HPLC-UV method for highlighting the omega-3 fatty acids: eicosapentaenoic and docosahexaenoic acid in erythrocyte membrane. Separation was performed on a Zorbax SB-C18, 4.6 x 250 mm, 3.5 micron. The mobile phase used a 50-0% gradient of mobile phase A: 25% acetonitrile in water with 0.12% acetic acid added to adjust the pH and B: acetonitrile. **Results:** Eicosapentaenoic and docosahexaenoic acids were separated with good resolution at retention time of 16.35 minutes and 19.39 minutes in erythrocyte lysate samples analyzed. **Conclusions:** HPLC UV method allows highlighting, respectively, quantification of small amounts of analyte, however, in the literature there are few studies to determine fatty acids in animal cells. After establishing the validation parameters, this method could be used to determine the omega-3 index in patients with increased risk of sudden death, the effectiveness of treatment after myocardial infarction and secondary prevention of cardiovascular disease. This paper was published under the frame of European Social Found, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/136893.

**Keywords:** omega 3 fatty acids, eicosapentaenoic acid, docosahexaenoic acid, cardiovascular risk, sudden death

## COSMETOVIGILANCE ACTIVITIES IN ROMANIA

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**Background:** Cosmetics are products which are intended to be introduced into or applied to the human body in order to clean, beautify, promote attractiveness or alter the appearance. The legal basis for monitoring cosmetics in the European Union is derived from Cosmetics Directive 76/768/EEC. Reporting serious side effects due to the use of cosmetics has become required in Romania starting from 1 July 2013. In this context, Health Ministry has an obligation to develop legislation for organizing cosmetovigilance system so as to provide: information flow, reporting format, evaluation of the causes and remedies of situations. This study aims to present the current state of cosmetovigilance in Romania, in order to provide arguments for a new direction of development in our university. **Material and methods:** Documentary study. **Results:** Although the cosmetovigilance system (which include: identification, analysis, collecting, reporting and monitoring activities) are expected to involve an association of health professionals (doctors, pharmacists and dentists), manufacturers and consumers, these activities related to cosmetic products are still the responsibility of manufacturers. As part of European Union, Romania should contribute by creating and managing its own network which can be integrate in the European system (intended for exchange of information between states in order to allow harmonization of cosmetovigilance procedures in Europe). **Conclusions:** Creating an integrated center for Romanian cosmetovigilance activities could be an objective of great interest to University of Medicine and Pharmacy from Tîrgu Mures.

**Keywords:** cosmetovigilance, regulations, cosmetics

# PHYSIOLOGY

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## LEFT ATRIAL MOLECULAR REMODELING IN SPONTANEOUSLY HYPERTENSIVE RATS WITH ADVANCING AGE

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**Background:** Atrial molecular remodeling has been incriminated in atrial fibrillation occurrence and maintenance. The aim of this study was to perform a comprehensive molecular analysis of atrial tissue from rats with atrial fibrillation. **Material and methods:** Left (LA) and right (RA) atrial samples were obtained from young, adult, and aging spontaneously hypertensive rats (SHR), and age-matched Wistar-Kyoto (WKY) rats. Expression levels of *Pitx2* were assessed using RT-PCR. Expression levels of other 89 genes known for their involvement in cardiac arrhythmogenicity were studied using TLDA. **Results:** No difference was found in RA *Pitx2* expression between SHRs and WKY rats, regardless of the age of animals. Also, young and adult SHRs presented similar LA *Pitx2* mRNA levels with age-matched WKY rats. The only significant difference was found between aging WKY rats and aging SHRs, the later presenting significantly lower LA *Pitx2* levels ( $26.3 \pm 3.1$  in aging WKY rats vs.  $10.7 \pm 1.7$  in aging SHRs;  $P=0.02$ ). Transcriptomic analysis identified 6 genes with changed expressions in the LA of aging SHRs, encoding for the L-type calcium current, proteins involved in the intercellular coupling, and type VI collagen. **Conclusions:** The occurrence of spontaneous atrial fibrillation in aging SHRs was demonstrated in previous studies. This study demonstrates that these rats also display decreased LA *Pitx2* expressions. Additionally, abnormal expressions of genes encoding for the L-type calcium current, proteins involved in the intercellular coupling, and type VI collagen were also noticed. **Acknowledgment:** This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/133377.

**Keywords:** Experimental model, Transcriptomics, *Pitx2*

# PSYCHIATRY

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## ASPERGER DISORDER

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**Background:** Asperger disorder is merged into the Autism Spectrum Disorder, characterized by significant difficulties in social interaction and behavior, existence of restricted interests and concerns, stereotyped movements, relative preservation of linguistic and cognitive development and low capacity of emotional reciprocity and empathic behavior. Prevalence rates are ranging from 3 to 4/10000 children, it has higher incidence in males, its debut is between 3-4 years of life. The etiopathology is still not clarified, and controverted, genetic factors are considered important in developing the disorder. **Material and methods:** Four children ageing between 11 - 16,7 years were diagnosed with Asperger disorder, conforming to DSM-V and ICD-10, in Pediatric Neurology and Psychiatry Clinique at Tg-Mures. The Raven test has been applied. **Results:** Patients with Asperger disorder are cloddish, without sport ability, awkwardness; they present performance in some fields (mathematic, music, astronomy etc), they have mechanic memory and bizarre, rich imagination. Individuals with Asperger syndrome acquire language skills without significant general delay, but also presume significant abnormalities like intonation and prosody, pedantic and stereotype speech. Verbal IQ is superior to performance IQ. **Conclusions:** Despite of the low incidence, Asperger disorder is a severe disease, with can be progress to acute psychosis at adolescent period and adulthood as well. Frequent the disorder is described as schizoid or schizotypal personality. The treatment is complex, involves special education techniques, psychotherapy in group and of family, neuroleptic medication.

**Keywords:** autism spectrum disorder, childhood, treatment

## ADHD: ETIOLOGY, COMORBIDITIES AND TREATMENT IN CHILDREN

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**Background:** ADHD is a neurobiological disorder with genetic determinism, psychological functions affected are attention, memory and perception also executive functions: organization, planning, working memory, attention. Debut before age 7 years and is more common in boys school from urban areas. Etiopathogenesis has a genetic basis in 80% of cases and 20% in the case of acquired brain disorders, seat of the lesion being in the right prefrontal cortex. Are involved: dopamine in regulation of learning, norepinephrine in maintaining alertness and attention, serotonin in mediating hyperactivity and impulsivity. **Material and methods:** There were followed 42 children hospitalized in the Pediatric Neurology and Psychiatry Clinic Tg-Mures in the period 2013-2014, having age between 7 and 15.9 years, diagnosed by DSM V and ICD-10. There were evaluated epidemiological aspects, comorbidities, etiological factors, social implications and treatment. **Results:** Hyperactive and impulsive type accounted for 43% of cases, the combined 41%, and attention deficit 16% of cases. Etiologic factors involved were: antenatal factors (pregnancy and / or pathological birth or Rh blood group incompatibility, smoking and alcohol consumption during pregnancy, maternal metabolic diseases) 30%, perinatal factors (anoxia, hypoxia at birth evidenced by score Apgar less than 8) 35%, psycho-social factors (family conflict, alcohol consumption, child aggression, neglect, poor economic situation) 21%. The most common comorbidities were: behavioral disorder (38%), epilepsy (17%), mood disorders and anxiety (14%), specific developmental disorders: dyslexia, dysgraphia (12%), disharmonic structure of personality -type antisocial (17%). **Conclusions:** Heritability in ADHD is 60-80%, parents with the disease having 50% chance of having a child with ADHD. The condition persists into adolescence in half of affected children, and 50% of them to adulthood will have antisocial personality disorder, drugs use, alcohol, crime. The most common form is with impulsivity and instability. Treatment is complex consisting in cognitive-behavioral therapy, parent's education, a positive child-parent relationship, child-educator, non-stimulant and stimulant medication, diet.

**Keywords:** ADHD, comorbidity, etiology, treatment

## A REVIEW OF ETHICAL ISSUES IN PATIENT'S ACCESS TO MENTAL HEALTH CARE

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**Background:** Making the ethics to become the basis of health care is a continuous challenge in our days, particularly in psychiatry, where aspects as stigma and discrimination are important. **Material and methods:** A review of articles concerning ethical issues in patient's access to mental health care was done and the findings were compared to the American Psychiatric Association Principles of Medical Ethics in Psychiatry and other official documents published in this regard. **Results:** Important issues in applying the principles in everyday ethics in clinical practice were found in different mental health care units. Some of these issues (compulsory admission, losing civil rights, using mechanical restraints) are regulated in mental health legislation, but issues as limited access to services because of lack of accessibility, lack of referrals from professionals, discrimination, etc are not clear and require some elucidations. **Conclusions:** In many health care units, applying the ethical principles in everyday practice is difficult and there are ethical issues in patient's access to mental health services.

**Keywords:** Medicina Generala, Psihiatrie, ethical, principles, patient, access, psychiatry.

## 10 YEARS FOLLOW-UP STUDY OF MENTAL DISORDERS REGISTRATION IN EMERGENCY DEPARTMENT OF GENERAL HOSPITAL

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**Background:** The frequency of mental disorders in patients asking for help in emergency department of general hospital varies from country to country from 3 to 30% depending of method of screening from mental health problems. In 2004 the mental disorders were detected in 0.31% (77) of total number of consultation, the majority being the suicide attempts (69). The medical system in Romania in lasts years increased the accessibility of population to the emergency department. Objective: To identify the changing in registration rate of mental health problems in a follow up study after 10 years. **Material and methods:** This is an observational study. The evaluation of administrative data will be done in same emergency department, in two points in time 2004 and 2014. The total numbers of consultations, psychiatric diagnosis and of specific diagnosis of suicidal attempts were recorded. **Results:** Historical trends show an important increase between these two points. In 2014 in same period of year were recorded with psychiatric diagnosis 1,84% (190) comparing with 0.31% (77) from a total number of consultation in 2014 respective in 2004. The figures show a significant increase in detection of mental disorders but no significant change in number of suicidal attempts. **Conclusions:** The emergency of general hospital represents the first gate to psychiatric services and the registration of mental disorders is important in improving the quality of these services.

**Keywords:** mental disorder, emergency department, registration, follow-up study

## ALZHEIMER'S DISEASE AND MANAGING STRESS ON FAMILY CAREGIVERS

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**Background:** Alzheimer's disease is a serious condition for the patient and representing a burden for family carers. The request from the family caregivers are multiple: psychological, physical, financial, and social. In the case of mild/moderate, Alzheimer's disease, it is extremely difficult to take care of a person who suffers from this disease. In the present research we sought to identify

the stress experienced by family caregivers of patient with mild/moderate Alzheimer's disease. **Material and methods:** This research was conducted, from april 2014 until octomber 2014, on an number of 78 patients, with mild/moderate Alzheimer's disease at the Mental Health Centre, Tirgu Mures. All family caregivers have received Zarit Interview. Version containing 22 items and is a self-report measure. Each item of the interview is a statement that the caregiver is asked to respond using a 5-point scale from 0 (never) to 4 (almost always). **Results:** After statistical processing of data above, it results in an average of around  $75 \pm 4$  years of age. 43% of carers spend more than 30 hours a week making care tasks. 77% of them are worried about the impact of this burden on the family budget. Over half (53%) of respondents reported that this task has affected their professional activity because they were forced to take extended vacations or even abandon the service. Scores were found to be significantly positively correlated ( $p < 0.01$ ), with moderate stage of disease and stress experienced by family caregivers. **Conclusions:** Family caregivers of patients with moderate Alzheimer's disease, that participated in this study manifested the highest level of psychological distress and perceived stigma while associated with this condition. The moderate stage of the disease, due to the increasing dependence of the patient, the family might consider hiring someone to help at home or may transfer the patient in an institution special care.

**Keywords:** Alzheimer's disease, family caregivers, burden

## PUBLIC HEALTH

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### ASPECTS OF ACTIVE SMOKING IN A GROUP OF PREGNANT WOMEN IN TIRGU MURES

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**Background:** Smoking during pregnancy is harmful to the health of mother and fetus. An important number of women are smokers and a high frequency of them are not quitting smoking during pregnancy. It is important to identify the magnitude of this phenomenon locally. The aim of this study was to assess the level of exposure to active smoking among pregnant women in Tîrgu Mures city. **Material and methods:** We used a cross-sectional survey based on a questionnaire in order to assess smoking-related behavior during pregnancy in a group of 1278 mothers who came for delivery in Mures County obstetrical wards between January 2013 and June 2014. Data were entered into an SPSS database and statistically analyzed. **Results:** 29.81% of women surveyed were smokers prior to pregnancy, and 3.83% have smoked occasionally. From the smokers group 51.18% said they smoked more than 5 cigarettes daily, 5% said they used to smoke more than 20 cigarettes daily, 43.4% of smokers continued to smoke during pregnancy, also 56.6% have quit smoking when they found out that they are pregnant. The incidence of smoking in the group surveyed was 12.91%. 80% of those who had smoked prior to pregnancy resume their habit of smoking after birth. **Conclusions:** By identifying the incidence of smoking during pregnancy, we can evaluate the magnitude of the problem and thus we will applied community interventions targeted to this population at risk in order to reduce the frequency of smokers. Research funding. Research reported in this publication was supported by the Fogarty International Center and the National Cancer Institute of the National Institutes of Health under Award Number R01 TW009280-01. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

**Keywords:** smoking, pregnancy, intervention

### SMOKE FREE UNIVERSITY PROJECT AT THE UNIVERSITY OF MEDICINE AND PHARMACY TIRGU MURES – FIRST PRACTICAL STEPS PREPARING THE IMPLEMENTATION

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**Background:** In Romania, there are no nationally representative descriptive data about tobacco smoking among university students in medical training. **Aims** To develop and generally implement the smoke free university project in Romania, starting with the University of Medicine and Pharmacy Tîrgu Mures by involving students as volunteers in primary data collection, evaluation, project planning and implementation. **Material and methods:** Our long term intervention project is based on partnership with the university leaders, and the local student organizations. The first step was gaining baseline data about the smoking prevalence, and testing willingness to participate in the smoke free university project. The questionnaire we used was based on Global Health Professions Student Survey methodology with our additional items concerning the projected plans of intervention. The target population was the total actual number of students (n=4,151) of all years and faculties. 76.0% (3,203) participated (71.4% females). We used the IBM-SPSS program for descriptive statistical evaluation. **Results:** There were 143 volunteers recruited for further preventive interventions. The overall prevalence of current smokers was 34.1% (31.6% among females and 40.0% among males). Related to faculties, the prevalence was 33.7% in medicine, 38.7% in dentistry, 29.5% in pharmacy and 33.9% in nursing. With increasing years, the smoking prevalence became higher (1st year 32.0%, 6th year 39.1%). Concerning only the university

compound, every fourth student 26.9% admitted that he/she smoked cigarettes and 5.1% used other tobacco products in the last year. Every fifth current smoker (20.6%) declared that he/she smoked cigarettes inside the university buildings. **Conclusions:** Our study indicates a high prevalence of smoking among students of our university. Every third student is a current smoker, and every fourth smoked cigarettes in the university compound. The first steps of enforcing any smoke free regulations must be consulted previously with our volunteering students. The second step should be gaining support by the whole community.

**Keywords:** Epidemiology, Public Health, smoking, health profession student

## TABAGISM AND SMOKING-RELATED BEHAVIOR IN FIRST YEAR HEALTH PROFESSION STUDENTS

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**Background:** Tabagism is a major public health problem, smoking often becomes a habit at very young age. The aim of the study was to evaluate smoking habits and related behavior of first year health profession students, including their opinion regarding cessation and restriction of tabagism. **Material and methods:** We evaluated 649 first year students at the University of Medicine and Pharmacy in Tîrgu Mureş, including general medicine, dentistry, pharmacy and nurse students, 98,6% of them being less than 24 years old, 75,2% were female subjects. We used a special questionnaire containing 72 questions about smoking habits and opinion regarding tabagism-related aspects. **Results:** 38,8% of the evaluated first year students are smokers, more than one third of them being nicotine dependent (they smoke their first cigarette during the first hour after waking up) and 86,1% of them became a smoker under 18 years of age. We observed a significant difference regarding the desire of smoking cessation between long-term (general medicine, dentistry) and short term studying (pharmacy and nurse) students using the chi-square test ( $p=0,0216$ ); the majority of the students in the last group (83,4% girls) prefer to continue smoking. 73,8% of the students tried smoking before, and 38,6% of those who tried had their first tobacco-related experience before 15 years of age. From all students 17,1% are former smokers who quit tabagism, more than half of them recently. **Conclusions:** Tabagism is a common habit among the health profession students attending our university, smoking habits often start at very early age, and its incidence is high in female subjects. First year students would represent a proper target group for the intervention of specialists enhancing cessation.

**Keywords:** smoking, cessation, health profession students

## ATTITUDES TOWARD SMOKING OF HEALTH PROFESSION STUDENTS FROM THE UNIVERSITY OF MEDICINE AND PHARMACY TIRGU MURES – BASELINE DATA OF THE FIRST ROMANIAN SMOKE FREE MEDICAL UNIVERSITY PROJECT

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**Background:** Health professional students' attitude towards their role in promoting tobacco prevention and cessation and smoke-free environments is a key component of the successful implementation of the first smoke-free medical university in Romania. **Aims** To evaluate the attitudes of health profession students at baseline to inform the intervention of the first Romanian smoke-free university, an intervention that relies heavily on student engagement. **Material and methods:** We developed a long-term intervention program that will engage university leaders and the local student organizations in enforcing existing regulations that prohibit smoking in universities. We conducted a cross-sectional survey of health profession students attending the University of Medicine & Pharmacy-Tirgu-Mures. The questionnaire was based on Global Health Professions Student Survey questionnaire - with an extension containing the proposed intervention plans. Descriptive statistics were computed using the IBM-SPSS program.

**Results:**

The students' participation rate was 76% (3203 out of 4151) among them 71.4% female and 28.6% male. Prevalence of current smokers was 34.1% (31.6% for female, 40.0% for male). Most of the students agreed that tobacco sales to adolescents should be banned (93.7%), health professionals need specific training on cessation techniques (91.5%), and health professionals should routinely advise their patients who smoke to quit smoking (91.0%). In spite of this, a high proportion of students declared that smoking should not be banned in discos/bars/pubs (41.0%), in all enclosed public places (24.6%), and restaurants (16.4%). Although smoking is prohibited in universities, 78.5% tolerate their peers smoking inside university buildings. **Conclusions:** There is a general agreement related to the role of health professional in tobacco control. Options are more divided toward the total smoking ban in all confined public places. The main goal of the project will be to encourage health profession students to realize the importance of smoke-free environments to reduce tobacco-related morbidity and mortality.

**Keywords:** Epidemiology, Public Health, smoking, health profession student

## IMPLEMENTATION STRATEGY OF "SMOKE-FREE MEDICAL UNIVERSITY AND CAMPUS"

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**Background:** Smoke-Free Universities and Campuses represent a major initiative of world public health, part of the "Healthy population, healthy campus 2020". **Material and methods:** In March 2014, UMPH Târgu-Mureş initiated an evaluation about smoking habits, with a 76.0 % participation of 4151 students, and a 34.1 % prevalence of current smokers. **Results:** The conference presents the Steps of the Implementation Strategy to the "Smoke-Free Medical University" policies such as: 1) Assessment of the smoking habit 2) Establish the antismoking coalition 3) Establish objectives and action plan 4) Develop a communication language 5) Sustain your case to decision makers 6) Create connection with mass media 7) Mobilize support for the smoke-free policy 8) Present the "Smoke-Free University" policy to the decision makers 9) Establish a plan for implementation, compliance and sustainability with addressability to students, academic and administrative staff. 10) Evaluation of results **Conclusions:** It is necessary to establish an efficient antismoking coalition including students, decision makers of the university and mass media.

**Keywords:** smoking, cessation, students, implementation, strategy

## GLOBAL HEALTH PROFESSION STUDENT SURVEY TIRGU MURES – COMPARATIVE ANALYSIS WITH INTERNATIONAL DATA

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**Background:** Global Health Professions Student Survey (GHPSS) is part of the World Health Organization tobacco surveillance system, it was conducted in 58 countries all over the world for collecting data on smoking habits of third year medical, dental, pharmacy and nursing students. The purpose of our study is to compare the answers given by third year students from our university to international data. **Material and methods:** We conducted a cross-sectional survey of health profession students attending the University of Medicine & Pharmacy-Tirgu-Mures. We evaluated 669 third year students, from medicine, dentistry, pharmacy and nursig, 75,7% of them were female students. The questionnaire was based on Global Health Professions Student Survey questionnaire. We compared our answers to the data available for other countries on web site of the Global Tobacco Surveillance System. Descriptive statistics were computed using the IBM-SPSS program. **Results:** The prevalence of current smoking at our university among third year students is 32.9%, higher than the prevalence in some former socialist countries like Czech Republic, Poland, Slovenia, Albania, and much higher than western European countries like Spain or Italy. The prevalence of current use of other tobacco products is 10.1%, higher than in the above mentioned countries. Smoking at university properties

was reported by 26.6% of students, a percent comparable with other former socialist countries. Smoking in university buildings was reported by 8.0% of students, a percent higher than in western European countries. Smokers declared their desire to quit 68.6%, in a higher percent than in other, even western European countries. **Conclusions:** The prevalence of smoking cigarettes is high in our university, but the declared desire to quit is also high, that creates a good opportunity to benefit from the ongoing smoke free medical university project.

**Keywords:** Epidemiology, Public Health, smoking, health profession student

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## ATTITUDES TOWARD THE SMOKE FREE MEDICAL UNIVERSITY PROJECT OF HEALTH PROFESSION STUDENTS FROM THE UNIVERSITY OF MEDICINE AND PHARMACY TIRGU MURES

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**Background:** Health professional students' attitude towards smoke free medical University project has a key role in tailoring future interventions for creating a smoke-free environment at the university. The purpose of the study is to evaluate the attitudes of health profession students at baseline towards the smoke-free medical university project. **Material and methods:** We developed a long-term intervention program for enforcing existing regulations that prohibit smoking in universities. We conducted a cross-sectional survey of 3,203 health profession students (71.4% female) attending the University of Medicine and Pharmacy-Tirgu-Mures. The questionnaire was based on Global Health Professions Student Survey questionnaire - with an extension containing the proposed intervention plans. Descriptive statistics were computed using the IBM-SPSS program. **Results:** The majority of the students 87.1%, agreed that the delivery of a short smoking cessation advice should be among the practical skills acquired through graduation from medical university. Only 25.7% of the students is strongly confident about delivering the short smoking cessation advice. 66.8% of the students declared that would be interested to participate in a special tabacology course. There is a need for influencing this habit in our university because nearly one third (31.7%) of the students declared that they were exposed to passive smoking inside the buildings of the university in the last 7 days. The majority of the smokers declared they would like to quit 68.9%. **Conclusions:** There is a general agreement about the need for training in the field of tabacology among students. The role of the smoke free medical university project is to reduce exposure of students to passive smoking inside university buildings is welcome. There is a large number of students receptive for quitting smoking in our university, who could benefit from the smoke free medical university project.

**Keywords:** health professional student, smoking, attitude

## RADIOLOGY

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### GIANT RENAL ANGIOMYOLIPOMA IN A 53 YEAR OLD WOMAN: CT FINDINGS AND PRELIMINARY CONSIDERATIONS

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**Background:** We present a case of a 53 year old woman referred to a CT scan due to a very large retroperitoneal mass identified on ultrasound. The complaints of the patient were abdominal pain and nausea. The suspicion was liposarcoma. **Material and methods:** We performed a MDCT scan of the patient which comprised the evaluation of the abdomen. First, unenhanced sequences were performed (120kV, 400 mA, 64x0.6 mm slice collimation) and then a CT angiography of the abdomen (100 ml of Iomeron with 3 ml/sec flow rate) with an arterial phase, porto-venous phase and a delayed phase. **Results:** The basal chest CT which was included in the field of scan showed the presence of several cystic lesions between 2 and 15 mm, with thin smooth walls. Abdominal scan revealed several masses at the level of the liver (six well defined lesions with rich fat content, between 3 and 11 mm in third, fourth, fifth and eighth segments) and both kidneys. The right kidney exhibited an inhomogeneous but well defined fatty enhancing mass of 237/135/113 mm which compressed the rest of the kidney which was functional. Around the mass a 12 mm thick layer of fluid was noted. In the cortex of the right kidney, several smaller fatty well defined lesions were also observed. The left kidney presented several fatty smaller masses between 4 and 40 mm, and also two solid enhancing masses of 24 mm on the superior pole, respectively of 19 mm on the inferior pole. There were no remarkable lymph nodes or free fluid visible. A right nephrectomy was performed and histologic result was angiomyolipoma. **Conclusions:** Because of the presence of bilateral multiple renal AML associated with pulmonary cysts we consider that this patient could have TSC (tuberous sclerosis complex) but it needs further investigations.

**Keywords:** renal angiomyolipoma, tuberous sclerosis, pulmonary cysts

### CT IMAGING FINDINGS IN RENAL TUBERCULOSIS - CASE REPORT

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**Background:** Renal tuberculosis remains a prevalent problem in developing countries. The genitourinary tract is a primary target of hematogenous infections and is the most common site of extra-pulmonary tuberculosis with kidney being the most common affected. We will report the case of a 44 year old male who was admitted to the Nephrology Department of Emergency Clinical County Hospital of Tîrgu Mureş for fever (39°C), chills and sweating. **Material and methods:** Clinical examination, laboratory tests and ultrasound were performed and because of the abnormalities found a CT scan was indicated. We performed an abdominal CT on a Siemens 64 rows detector multislice device using 64x0.6 mm slice collimation with reconstructed slice thickness of 1mm. Used parameters were 120kV, 200 mA, pitch of one and a 0.5 s rotation time. Intravenous contrast media administration was not performed because of the high creatinine values (2.95mg/dl). **Results:** CT examination revealed kidney, urinary bladder, gallbladder and pulmonary basis abnormalities. The right kidney was slightly hypotrophic (99/50 mm) with reduced parenchyma, dilated pielocaliceal system with calcified calyx walls, and hydronephrosis with double urolithiasis. Left kidney had dimensions of 120/61mm with slightly reduced parenchyma, pielocaliceal system was minimally dilated and calyx walls were partially calcified. The urinary bladder had normal wall thickness but it presented multiple millimetric calcifications. The gallbladder presented

radiopaque lithiasis. Multiple nodular opacities were noticed in the pulmonary basis. **Conclusions:** Imaging findings correlated with biological tests lead to the diagnosis of renal tuberculosis and possible pulmonary tuberculosis. Imaging plays an important role in diagnosis of renal tuberculosis, treatment planning and helps avoiding possible complications.

**Keywords:** Radiology, Nephrology, computed tomography, kidney, tuberculosis

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## THE RELATIONSHIP BETWEEN LUMBAR HYPOLORDOSIS AND THE LEVEL OF LUMBAR DISC HERNIATION IN YOUNG ADULTS

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**Background:** To investigate if there is a relationship between the presence of lumbar hypolordosis and a specific location of lumbar disc herniation. **Material and methods:** A retrospective review was performed on young adults (age range of 19 to 40) who had a significant lumbar disc herniation on magnetic resonance imaging to determine whether they were positive for hypolordosis (Cobb angle <20 degrees). After exclusion of patients with scoliosis or any other rotation, congenital anomaly (such as lumbarization and sacralization), trauma and previous lumbar surgery, lumbar spinal lordosis was assessed in 200 patients. **Results:** Of the 200 patients 78 (39%) had lumbar hypolordosis. Low located disc herniation (L4-L5 and L5-S1) reached statistic accuracy in terms of its relationship with the presence of lumbar hypolordosis (p values were 0.0004 and 0.0051, respectively). In contrast, upper locations (L1-L2, L2-L3 and L3-L4) were not significantly related to the presence of hypolordosis (P  $\geq$  0.05 for all). **Conclusions:** We conclude that the absence of a normal spinal lordosis would rather compromise low intervertebral discs (around L4, L5 and S1 vertebrae) in young adults.

**Keywords:** Radiology, Radiology, Hypolordosis, Magnetic resonance imaging, Spinal d

# RHEUMATOLOGY

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## CLINICAL FEATURES IN SYSTEMIC SCLEROSIS-RAYNAUD'S PHENOMENON ASSESSMENT BY VIDEOCAPILAROSCOPY

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**Background:** Systemic sclerosis (SSc), is a chronic disease, characterized by diffuse fibrosis, degenerative changes, and vascular abnormalities in the skin, joints and internal organs. Raynaud's phenomenon (RPh), describe episodic events, which represents vasoconstriction of the digital arteries, precapillary arterioles and cutaneous arteriovenous shunts. Capillaroscopy as a standard method to increase differential diagnostic sensitivity in patients affected by RPh, and it is fundamental for the differential diagnosis between primary and secondary RPh, based on the recognition of early sclerosis pattern, the conversion from primary to secondary RPh which occur in almost 15% of patients over a mean follow-up of 29-30 month. Objective: The aim of this study was to evaluate capillaroscopic changes, in patients with SSc, and to establish the scleroderma pattern according with their clinical and serological symptoms **Material and methods:** Material and method: We performed an observational study, included 31 patients diagnosed according to ACR criteria SSP / EULAR 2013. Evaluation was performed with a device Videocap 3.0 with magnification of 200X. This was done in II-V fingers of both hands. Microvascular changes were classified according to the recommendations of Cutolo - scleroderma pattern 'early', 'active' and 'late'. Clinical examination was performed and it was determined serologically ANA panel, immunoblot and antinuclear antibody titer (ANA), anticentromere antibodies, and antibodies antitopoizomerase (Scl70) by ELISA **Results:** Results: Patients examined: 6 were male and 25 were female, with mean age (years) 49±11SD, with mean disease durations (years) 6,15±4,19SD. RPh was presents at all patients. Active forms of disease were associated with positive serology. 3 of patients has normal capillaroscopic evaluations, while 29 of patients presented microvascular damage characterised by increasing structural alterations of the capillaries-giant capillaries and microhaemorrhages with a progressive decrease in their density, avascular areas and neoangiogenesis. Scar or digital ulcers were observed at 11 patients. **Conclusions:** Conclusions: The detection of scleroderma capillaroscopy pattern allows an early distinction between primary and secondary RPh, and may be useful in the links between clinical signs and pathological issues in SSc.

**Keywords:** Rheumatology, Internal Medicine, systemic sclerosis, Raynaud s phenomenon, capillar

## SOCIAL SCIENCES

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### TOBACCO USE AMONG YOUNG ADOLESCENTS IN MUREȘ, HARGHITA, AND COVASNA COUNTIES

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**Background:** Smoking is known to be initiated during adolescence, making this age group a relevant target for intervention. Romania has among the highest percentage of smoker minors in the European Union and among the lowest age at which children try the first cigarette. A variety of psychosocial factors are involved in the initiation of tobacco use by adolescents. This paper reviews the main findings of the survey conducted in 21 schools from 3 central-Romanian counties analyzing the active and passive tobacco consumption among young adolescents. **Aims:** ☒☒ Describing prevalence of active and passive smoking. ☒☒ Comparative analysis of tobacco use by teenagers belonging to particular social, cultural and ethnic communities. ☒☒ Identification of risk factors that raise the likelihood of tobacco use. ☒☒ Identifying highly vulnerable communities regarding tobacco use to design prevention programs adapted to the needs of the communities in question. **Material and methods:** Methods: A cross-sectional quantitative sociological research study was carried out among Romanian adolescents from 7th and 8th grade pupils in 3 counties (Mureș, Harghita, and Covasna, N=1200) in Spring 2014. **Results:** Results show 48% of respondents has tried smoking at least once. We observe a higher rate of smokers in Harghita County, large cities, among higher grade pupils, and pupils belonging to the Hungarian ethnic group. There is no significant difference between boys and girls. In the selected three counties, 11,7 represents the average age for trying and experimenting with smoking. 13% of respondents reported smoking at least once in the last 30 days, so we may say that the prevalence of smokers is of 13%. **Conclusions:** Interventions to prevent smoking initiation in teenagers should start early, integrate gender differences, and focus on increasing the ability to resist peer pressure, develop negative smoker prototypes, and promote control of negative emotions.

**Keywords:** sociology, sociology, tobacco use, passive smoking, young adolescents

### GENDER EQUALITY IN MEDICAL EDUCATION- THE STUDENTS` PERCEPTION

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<sup>2</sup>,

**Background:** Gender discrimination is still - unfortunately - a reality of the Romanian society. Today we talk about a "feminization" of medicine, due to the fact that more girls opt for a career in the field. In this study, we propose an evaluation of the gender equality in the educational process of the University of Medicine and Pharmacy of Targu-Mures, from students` point of view. **Objectives:** Perception of gender differences and issues in student-student interaction; Perception of gender differences and issues in teacher-student interaction (teaching and assessment in both directions); Highlighting discriminatory issues in so far as they are detected **Material and methods:** A questionnaire focused on the issues mentioned above was applied to groups of students of both sexes from the Faculty of Medicine and Dentistry. The results were represented graphically, comparatively for male and female students. **Results:** 1. Students are aware of gender differences but they assess them, in general, positively. Most of them consider that male students` behavior toward female students is appropriate. 2. In relation to teachers, students of both sexes noticed some attempts (or remnants) of discrimination, but not very serious. 3. In general, students do not differentiate between male and female teachers. However, girls seem to feel more comfortable with female lecturers and admire them more. **Conclusions:** Generally, in our university, students do not feel discriminated against based on gender differences. However, there is some concern among girls about gender equality in their future medical careers. Regarding the teacher-student relationship, if the teacher acquires

respect at the academic level, gender bias in the students' evaluation disappears. Yet they consider that female lecturers communicate better and men lecturers have more authority. Noteworthy is the positive attitude of male students who are open to supporting gender equality in the medical field, and in general.

**Keywords:** gender, discrimination, academia, medicine, students

## SURGERY

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### SENTINEL LYMPH NODE IDENTIFICATION IN GASTRIC CANCER USING INTRAVITAL DYE

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**Background:** The status of lymph nodes represents the main prognostic factor, important in gastric cancer development and indispensable for an adequate postoperative therapy. Accurate determination of the lymph nodes invasion stage can only be established by extended intraoperative lymphadenectomy and histopathological examination. Identification of sentinel lymph nodes could however lead to an accurate detection of lymph nodes status in gastric cancer. **Material and methods:** We present our experience in determining sentinel node in early gastric cancer using limfophil dye in 27 patients operated for gastric cancer. There are presented the including criteria in the study group, the dye injection method, sentinel node diagnosis and pathologic examination method. **Results:** Identification of sentinel lymph nodes was performed in 27 cases. In one case, it was not possible to identify the sentinel lymph node. In four cases identified sentinel nodes were false negative. In four cases the sentinel nodes were negative at histopathology and immunohistochemistry, and in 18 cases sentinel nodes were positive in witch, 2 cases had micrometastases only confirmed by immunohistochemical methods. **Conclusions:** Determination of sentinel lymph nodes is a simple and economical method that could improve the management of patients with gastric cancer. Applying the sentinel node techniques identification in gastric cancer does not change the strategy of regional lymphadenectomy during surgery; may lead instead to changes in postoperative gastric cancer staging, increasing the number of patients who may benefit from adjuvant chemotherapy. Staining lymph nodes in vivo and ex vivo improves lymphatic status determination. This work was partially supported by UMF Tg-Mures, project frame: POS-UMFTGM-CC-13-01-V01, No 1512013, cofinanced by Studium foundation from Tg-Mureş.

**Keywords:** gastric cancer, sentinel lymph node, lymph nodes metastases

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### LYMPHADENECTOMY ANALYSIS IN GASTRIC CANCER

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**Background:** Lymph nodes metastases remain an important prognostic and predictive factor for gastric cancer development, therefore, optimizing identification and their removal technique are urgently needed. The correct staging of gastric cancer is necessary to examine at least 15 lymph nodes. In gastric cancer, the number of lymph nodes examined and the number of invaded lymph nodes have a prognostic value, determining the type of adjuvant therapy. **Material and methods:** We retrospectively reviewed the cases of gastric cancer operated in the clinic, in 2013-2014 between. Cases were studied according to the operations performed and by identifying the sentinel lymph node relative to the number of lymph nodes examined. **Results:** During the study were operated 74 cases of gastric cancer. In 36 cases we performed total gastrectomy and subtotal gastrectomy in 38 cases. In 27 cases the sentinel lymph nodes were determined. Lymphadenectomy less than D1 was carried out in 12 cases, D1 in 22 cases, D1+ in 25 cases, D2 in 10 cases and D3 in 5 cases. D2 and D3 lymphadenectomy were made only in cases in which the sentinel nodes were determined. **Conclusions:** In gastric cancer, the number of lymph nodes removed is depending on surgeon. The most commonly performed lymphadenectomy was the D1. The sentinel lymph node identification led to the extended lymphadenectomy. This work was partially supported by UMF Tg-Mures, project frame: POS-UMFTGM-CC-13-01-V01, No 1512013, cofinanced by Studium foundation from Tg-Mureş.

**Keywords:** gastric cancer, lymph nodes metastasis, sentinel lymph node, lymphadenectomy

## UNUSUAL AGGRESSIVE MALIGNANT PHYLLODES TUMOR - CASE REPORT

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**Background:** Compared to the breast adenocarcinoma, Phyllodes tumors tends to affect a younger population, with a different management based on histological findings. The incidence is 1:100.000 cases (58% benign formes, 12% unspecified histological type and 30% malignant, 20% with metastasis) **Material and methods:** We present the case of a 59 years old female, with a malignant phyllodes tumor, unusual aggressive variety, affecting, in evolution, both breasts and with endo-thoracic (pleuro-pulmonary) extension. Surgery consisted of a simple right breast mastectomy and after only one month, left breast radical mastectomy (Halsted procedure) and right breast radical mastectomy (Madden operation) due to bilateral extension. We covered the parietal defect with a slipped abdominal flap, followed by a local endo and exothoracic recurrence witch reclaimed re-excision. **Results:** Postoperative evolution was affected by complications caused by cutaneous-subcutaneous abdominal flap necrosis, and exo and endothoracic relapse after only 1 week, followed by signs of acute respiratory failure. **Conclusions:** Unusual aggressive nature of breast phyllodes tumors remains a challenge for both (patient and surgeon) and the radical procedure remains, probably, the best choice.

**Keywords:** Phyllodes Tumors, Unusual aggressive, Endo and exothoracic recurrence

## INTERSPHINCTERIC RECTAL RESECTION – SURGICAL TECHNIQUE USING LIGASURETM

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**Background:** Using the LigaSure™ devices in oncological surgery for low rectal tumors facilitates sphincter preservation. The aim of this paper is to present a surgical technique which can change the approach of this disease. **Material and methods:** The key points of the resection technique, using LigaSure™ (LigaSure Impact and LigaSure Small-Jaws), are presented, highlighting its advantages, if oncological principles are respected. The study was conducted under the framework of the research grant "Sphincter saving procedures in female patients with low rectal cancer - a comparative study on the efficiency of LigaSure™ and mechanical sutures devices" (nr.:13136/23.09.2014), financed by: S.C. Three Pharm S.R.L. Targu-Mures and developed by Targu-Mures University of Medicine and Pharmacy and supported by the Sectoral Operational Programme Human Resources Development (SOPHRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/133377. **Results:** Reduced operating time, accessibility in "difficult" anatomic spaces and efficient hemostasis, intra and postoperative, are the prerogative of this technique. **Conclusions:** Intersphincteric rectal resection for low rectal neoplasms can be the most efficient alternative from the oncological and functional point of view, being favored both by the patient and by the operating surgeon.

**Keywords:** low rectal cancer, intersphincteric resection, LigaSure™

## RISK AND BENEFITS OF MULTIVISCERAL RESECTIONS IN GASTRIC CANCER SURGERY

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**Background:** Multiorgan resections in gastric cancer surgery belong to advanced stages in cases of tumor invasion or metastasis (T4, respectively M1). In surgical practice we often have to decide if the benefits justify the risk. **Material and methods:** We conducted a retrospective study over a period of 10 years (2004-2013) of patients with gastric cancer operated in Surgical Clinic I Mures County Clinic Hospital. Patients were divided into two groups: group A, patients who underwent different types of gastric resection and group B, patients who underwent additional resection of one or more organs associated to gastrectomy. We compared the in-hospital morbidity and mortality between the two groups. **Results:** Of the 281 gastric cancer patients, 36 were submitted to multivisceral resections (12.81%). Among these 29(80,55%) were men and 7(19,44%) women. The median age was 62,62 y.o. The additional resected organs were, in order of frequency: spleen 17 cases, pancreas (tail, body) 8 cases, liver 9 cases, colon 2 cases, transverse mesocolon 1 case. The other 245 patients, 174(71,02%) men and 71(28,97%) women with a median age of 63,4 y.o. were submitted to different types of gastric resections. While in patients with univisceral resection we recorded 52 cases with postoperative complications (17.02%), in patients with multivisceral resections we have registered 10 cases (22.22%). The difference is statistically significant ( $p < 0.05$ ). Complications recorded were, in order of frequency: fistulas, occlusion, generalized and localized peritonitis, bleeding, wound complications, cardiovascular, pulmonary. Hospital mortality was in the first batch of 4.89% and 5.55% in the second with no statistical significance. **Conclusions:** There is a higher risk of developing postoperative complications after multivisceral resection in gastric cancer, but it does not significantly increase hospital mortality rate. Although palliative operations, indications for multivisceral resection in gastric cancer should be adapted to each case and only after intraoperative assessment.

**Keywords:** Gastroenterology, Oncology, Multiorgan resection, Gastric cancer

## LAPAROSCOPIC LUMBO-AORTIC LYMPHADENECTOMY. OUR FIRST EXPERIENCE.

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**Background:** Lumbo-aortic lymphadenectomy is part of the therapeutic arsenal of several cancers, especially the genitals in both women and men. Given the magnitude and the risks of the procedure, there is still debate on its therapeutic value and indications. A correct assessment of lymph nodes in the lumbo-aortic region helps for a better staging of cancer extension and a better therapeutic conduct. It establishes the irradiation field extension which is very important for the patient considering the negative effects of radiotherapy. Laparoscopic or robotic approach although with many advantages conferred by its minimal invasiveness is rarely applied because of intraoperative risks and usually is reserved for surgeons with experience in laparoscopic surgery. **Material and methods:** The author presents a video clip with the case of a young woman with advanced cervical cancer in whom laparoscopic lumbo-aortic lymphadenectomy was performed. **Results:** The procedure lasted 90 minutes. The only intraoperative incident was represented by a minor bleeding from the vena cava that stopped spontaneously by plugging. The postoperative evolution was uneventful. One month later re-laparoscopy for ovarian transposition revealed a minor sero-citrine ascites and no adhesions. **Conclusions:** Aorto-lumbar lymphadenectomy as a diagnosis or therapeutic tool can be performed by laparoscopic approach in save conditions by experienced surgeons in certain cases without massive lymph node metastases. Laparoscopy confers a better operative field view; Compared to the classical open approach it allows a faster healing and discharge of patient with less intra-abdominal adhesions.

**Keywords:** Lumbo-aortic, para-aortic, lymphadenectomy, laparoscopy

## A STUDY OF THE ACCURACY OF FINE NEEDLE ASPIRATION CYTOLOGY IN THYROID PATHOLOGY

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**Background:** FNA is a very important tool in diagnostic and therapeutic strategy in thyroid pathology. Due to the high sensitivity and specificity can prevent unnecessary resections, or on the contrary may indicate intervention in suspicious cases. **Material and methods:** We retrospectively studied 319 patients who underwent FNA for thyroid nodules. We grouped the results according to Bethesda classification, and compared them with those obtained from pathology for the patients who underwent surgery, and with the ultrasound results ad 6 months for the others. **Results:** We obtained complete results for 189 cases. 13.9% were diagnosed as insufficient for diagnosis, 69.3% as benign, 15.2% as atypical follicular lesion of undetermined significance, 1.3% as suspicious for malignancy and 0.3% as malignant. The specificity of FNA was 83.1%, sensitivity 76.47%, positive predictive value of 35.1%, negative predictive value of 96.7%, false positive rate of 16.9%, false negative rate of 23% and the overall accuracy 82.3%. **Conclusions:** FNA sensitivity and specificity are high and facilitates surgical treatment decisions in cases with suspicious thyroid nodules.

**Keywords:** general, endocrin, FNA, thyroid

## THE ANALYSIS OF EARLY POSTOPERATIVE MORTALITY IN COLORECTAL CANCER AT FIRST SURGERY CLINIC , MURES COUNTY HOSPITAL

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**Background:** Colorectal cancer has remained on the fourth place of incidence over the last decades, behind lung cancer, breast cancer and prostate cancer. The onset at an advanced age goes together with an associated pathology that influences therapeutic decisions, immediate and late postoperative mortality. **Material and methods:** We have done a retrospective analysis using the files of a number of 19596 cases admitted to First Surgery Clinic from Mures County Hospital over a period of 10 years (2004-2013), following several parameters: patients age and sex, method of admission, diagnostic and surgical intervention, associated pathology. **Results:** After excluding relapses, other invasive neoplasia of the colon or rectum and transanal procedures we have discovered 600 patients (257 women and 343 men) who were operated for colorectal neoplasia pathology. Out of these we have identified 35 patients (5.83%) who deceased after surgery due to comorbidities or other complications. Early postoperative mortality in the group of patients operated in emergencies (120) was 10.8%, compared to only 4.6% in patients operated following the scheduling (480)(p=0.009 statistically significant). Analyzing two age categories (under and over 60) we have noticed a significant difference (p=0.0057) in postoperative mortality: 0.5% for those under 60 and 5.33% for those over 60. Analyzing the long-term survival we have reached the figures of 34.4% for 10-year survival and 63.9% for 5-year survival. **Conclusions:** Advanced age, especially over 60 years, emergency operations, regardless of the sex significantly increases the risk of postoperative deaths compared to operating according the scheduling.

**Keywords:** GENERAL, COLORECTAL, COLON, CANCER, MORTALITY

## EARLY REINTERVENTIONS IN THE EXPERIENCE OF THE 1ST CLINIC OF SURGERY MURES COUNTY HOSPITAL

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**Background:** Early reinterventions are considered those performed after the complications appeared in the first 10 postoperative days, regardless of the primary condition and type of primary surgery **Material and methods:** We performed a retrospective study

using the database of the 1st Clinic of Surgery over a period of 10 years (2004-2014). The used parameters were: primary operation, postoperative complications, type of reintervention. We analyzed the causes of early reinterventions and the predisposing factors regarding the patient, pathology, indication and surgical technique. **Results:** In our lot we had 59,79% male and 40,21% female patients, with an average age of 56.42 years. The early reintervention rate was 2.97%. The Cause of the early reinterventions in order of their frequency was represented by mechanical, septical, hemorrhagic and ischemic complications, The percentage of early complications was 78.8% after interventions for benign, and 22.2% for malign pathology. In 239 cases the early reinterventions were performed after emergency operations, and in 332 cases after scheduled surgery. The main localization of the postoperative complications in our statistic: small bowel, abdominal wall, soft tissue. The most frequent surgical procedures used in reinterventions were digestive derivations, adhesiolysis, visceral resections, drainage. In a considerable number of cases we found two or more types of postoperative complications. **Conclusions:** We analyzed the causes regarding the patient and the pathology reported to the indication and the surgical technique. From this point of view the study of early reinterventions in a surgical clinic can be a good sign of efficiency. The rate of the reinterventions in our clinic was lower compared with other similar statistics. We can conclude that malignancies doesn't influence decisively the immediate postoperative outcome. There were minor differences related to the postoperative mortality rate after reinterventions regarding the character of the operation (emergency or scheduled surgery) compared to other studies.

**Keywords:** General surgery, gastroenterologi surgery, early reinterventions,, postoperative complications

## BILATERAL PERCUTANEOUS ULTRASOUND GUIDED BILIARY DRAINAGE IN MALIGNANT OBSTRUCTIVE JAUNDICE

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**Background:** Percutaneous biliary drainage (DBP) is a minim invasive interventional technique which intend to decompress the biliary ducts in order to reduce the icteric syndrome to the patients with malignant obstructive jaundice. The procedure consists in introducing via a percutaneous way of a transhepatic drainage catheter in the dilated biliary ducts. The objective of the study was to assess the value of percutaneous biliary drainage in the management of patients with jaundice caused by a locally advanced disease.

**Material and methods:** We present the case of a 56 year old female patient who was admitted in our department with mechanical jaundice. Abdominal ultrasound, CT-scan and cholangio-MRI diagnosed her with a bilateral colangiocarcinoma of the right and left intrahepatic biliary ducts. Due to the important dilatation of the biliary ducts, we decided to perform bilateral ultrasound guided percutaneous biliary drainage. **Results:** Postoperative evolution was favorable, uncomplicated, with rapid reduction of jaundice and significant improvement in quality of life. **Conclusions:** This surgical tehniqe is a minimally invasive intervention which does not require long hospitalization with favorable postoperative evolution, used to selected patients who are not candidades for any other surgical procedure (curative or palliative) in order to improve their quality of life.

**Keywords:** OBSTRUCTIVE JAUNDICE, PERCUTANEOUS BILIARY DRAINAGE,, ULTRASOUND

## MEDIASTINAL GERMINOMA / SEMINOMA – A RARE CAUSE OF PULMONARY HYPERTENSION

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**Background:** The mediastinal tumors are rare entities, with extremely heterogenous clinical signs. **Material and methods:** We report a 35 years old male, with a history of exploratory thoracotomy (lung biopsy - pulmonary infarction, no mediastinal lymph nodes biopsy) and with multiple admissions in internal medicine / cardiology / cardio-vascular surgery units for severe pulmonary hypertension and episodes of heart failure (edema, ascite, bilateral pleural effusion). The CT scan showed the presence of an anterior mediastinal mass with compression on the pulmonary artery branches associated with a left breast tumor. **Results:** The biopsy performed through an anterior mediastinotomy has shown the presence of a primary mediastinal germinoma / seminoma,

the breast lesion being a benign gynecomastia. The patient had a favourable evolution under specific chemotherapy, with a reduction of the mediastinal mass and resolution of the signs of pulmonary hypertension. **Conclusions:** Conclusions. The case is interesting due to the rarity and the atypical clinical evolution. The mediastinal tumors should be considered as a possible cause of pulmonary hypertension.

**Keywords:** surgery, surgery, mediastinal germinoma / seminoma, pulmonary hypert

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## PANCREATIC PSEUDOCYST WITH THE EROSION OF THE SPLENIC ARTERY, SPLENIC AND RETROPERITONEAL HEMATOMA – CASE REPORT

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**Background:** The erosion of the splenic artery is a rare but life-endangering complication of the pancreatic pseudocysts. **Material and methods:** We report a 55 years old female with a history of biliary acute pancreatitis solved by conservative treatment (2 years ago), followed by the development of a pancreatic pseudocyst. She was admitted to our unit for intense abdominal pain and nausea, with a significant drop of the hemoglobine level. CT scan showed a multiloculated spleno-pancreatic cystic lesion with the erosion of the splenic artery. Surgery consisted in spleno-pancreatectomy with partial cystectomy, hemosthesis by "X" sutures of the splenic artery (active bleeding), drainage of the remnant retroperitoneal cavity and cholecystectomy. **Results:** The postoperative course was favourable, excepting a temporary raise of the platelet levels and a pancreatic fistula with spontaneous closure. **Conclusions:** The case is interesting due to the rarity and the imagistic aspects. Large pancreatic pseudocysts have the potential of vascular complications requiring emergency surgery with significant associated morbidity.

**Keywords:** surgery, surgery, pancreatic pseudocyst, splenic artery erosion

## UROLOGY

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### PELVIC LYMPH NODE DISSECTION IN INVASIVE TUMORS OF LATERAL BLADDER WALL. A PROSPECTIVE STUDY WITH PRE-OPERATIVE AND POST-OPERATIVE CT AND HISTOLOGICAL LYMPH NODES CORRELATIONS

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**Background:** Radical cystectomy is the gold standard treatment in muscle invasive bladder cancer. Pelvic lymph node dissection plays an important role in staging the disease. The aim of the study was to analyze the pre-op and post-op lymph node status in singular invasive tumors of the bladder lateral wall. **Material and methods:** A total of 14 patients with singular lateral bladder wall invasive tumor were prospectively enrolled in the study between 1 August 2012 and 31 July 2014. Surgical technique was cystectomy with pelvic lymph node dissection. Exclusion criteria were: multiple bladder tumors, other localizations rather than lateral wall and stage > cT3; 22 patients were excluded. Median follow-up was 10 months (range 5-24). **Results:** Patients characteristics: median age 61 yr (range 55-72), 85.71% were male, 13 patients were ≤ T2, one was T3, 3 were N+ 21.43%, 7 patients had tumor on left wall and 7 on the right wall. Statistical analysis of data showed an increase in T3 stage post cystectomy from 1 case to 5 35.7% (p=0.16), also an decrease in N0 status from 78.6 % to 57.1% (p =0.41) , tumor grade remain unchanged; G3 13 patients (kappa=1). Only 2 contralateral lymph nodes were positive (14.2%), 1 pre-op on CT scan and 1 post-op at histology. Kappa correlation coefficient was 0.63. During the follow-up period 1 patient died at 14 months after surgery due to disease (7.1%), CT scan revealed no recurrence in other patients at the regular follow-up. **Conclusions:** In strictly selected patients with lateral bladder wall invasive tumors and N0 stage pre-operative contralateral PLND could be limited to common and external iliac region plus obturator fossa as was set before in literature. Further randomized trials are needed to clarify this issue in terms of overall survival, recurrence free survival and quality of life of the patients. This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/133377.

**Keywords:** lymph, lateral wall, bladder cancer

### ASSOCIATION OF TWO RARE RENAL TUMOURS – CASE REPORT

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**Background:** According to the literature from histopathological point of view the most common renal tumour is the clear cell carcinoma. In the following we will present a rare case: a combination of two rare renal tumors. **Material and methods:** The patient, B.T., a 40 years old woman, was admitted in our clinic for macroscopic haematuria and lumbar pain on the left side. The patient has no relevant personal pathological antecedents for the current condition. Renal ultrasonography described a parenchymal formation with a diameter of 8 cm in the left kidney upper pole. Doppler ultrasound describes the tumor intensely vascularized, both arterial and venous, with no evidence of renal vein thrombosis. CT scan reveals a tumoral mass with a maximum diameter of 82 mm, occupying the upper renal pole and part of pielocaliceal system in the left kidney, and retroperitoneal infracentimetric adenopathy, without distant metastasis. **Results:** Left transperitoneal radical nephrectomy was performed. The histopathological examination describes a rare coincidence: a combination of two rare renal tumors: oncocytoma (20 mm upper polar nodule) and pT1a chromophobe carcinoma (85 mm upper polar nodule), without lymph node invasia in the examined lymph nodes. According to the oncological commission there is no indication for adjuvant chemo-radio therapy. The follow-up schedule is identical as in the low grade renal cell carcinoma: clinical checkup and ultrasound at 6 months interval, clinical checkup and CT at 1, 3 and 5 years when if there is no evidence of recurrences or metastasis, the patient is considered cured. **Conclusions:** The case presents an

uncommon association between chromophobe carcinoma (malignant) and oncocytoma (benign), two rare tumors. It is important to recognize the chromophobe carcinoma, because its prognosis is better than that of the conventional renal cell carcinoma.

**Keywords:** chromophobe carcinoma, oncocytoma, nephrectomy

## RENAL CELL CARCINOMA WITH BILATERAL ADRENAL TUMOR MASSES: CASE REPORT

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**Background:** Adrenal gland metastasis is headquartered in case of renal tumors. The most common cases are represented by superior renal tumors which involves the ipsilateral gland. There are rare situations when bilateral adrenal gland metastasis is developed from renal cell carcinoma. These patients require oncologic treatment associated with endocrine substitution therapy, having a decreased life expectancy. **Material and methods:** A 64 years old man without any characteristic symptom is diagnosed incidentally by abdominal ultrasound with a right renal cell carcinoma. Computer-tomography (CT) with contrast revealed a right superior renal tumor with tumor masses (inhomogenous aspect- revealing the presence of necrosis, suspected as metastasis) in both adrenal gland. **Results:** Right radical nephrectomy with bilateral adrenalectomy was performed following a Chevron incision. **Conclusions:** Renal cell carcinoma with bilateral adrenal metastasis represents a very rare neoplastic pathology. The urooncologic treatment represented by nephrectomy, and bilateral adrenalectomy, must be followed by an endocrinological substitution therapy. The patient's follow up includes: abdominal ultrasound, CT with contrast enhancement and chest X-ray every 3 months.

**Keywords:** Renal cell carcinoma, Bilateral adrenal metastasis, Right radical nephrectomy, Bilateral adrenalectomy, Chevron incision

## FUSION IMAGING IN MULTIPARAMETRIC MRI FOR PROSTATE CANCER DIAGNOSIS: COMBINING MORPHOLOGIC AND FUNCTIONAL IMAGING

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**Background:** Diffusion Weighted Imaging (DWI) is a newly-introduced functional sequence in the multiparametric MRI protocol of the prostate that promises an enhanced diagnostic efficiency, above that of conventional morphological sequences. Still, its poor spatial resolution can be a potential setback resulting in poor specificity. The DWI/T2 image fusion is a revolutionary imaging technique that combines the functional information of DWI with the clear anatomical one of T2, resulting in new, hybrid images. The aim of our study was to perform a systematic review of the literature in order to obtain a clear view upon the role of image fusions in prostate cancer diagnosis using MRI. **Material and methods:** We performed a systematic review of the PubMed database using specific keywords both directly and using the Medical Subject Headings system. Priority was given to systematic reviews and clinical trials published in the last 5 years. **Results:** The use of image fusions for diagnosing prostate cancer can be divided in two areas of interest: diagnostic multiparametric MRI and the MRI/ultrasound fusions for image guided prostate biopsy. For the DWI/T2 image fusions, results were scarce, to the best of our knowledge only one trial having been published to this date. The reported results were promising, with a sensitivity and specificity values up to 60% and 80%. For the MRI/TRUS fusion, an increased detection rate was found, especially in clinically-significant cancers as well as for index tumor assessment (a 95% concordance in tumor location to the radical prostatectomy specimen). **Conclusions:** Fusion imaging is a complex diagnostic and interventional tool that can enhance both the diagnostic efficiency of prostate MRI alone and increase biopsy precision as part of the MRI/TRUS fusion. **ACKNOWLEDGEMENT:** This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/133377/

**Keywords:** DWI/T2, MRI/TRUS fusion, prostate cancer, MRI, diagnosis

## GREENLIGHT 180W XPS PHOTOVAPORIZATION OF THE PROSTATE: OUR INITIAL EXPERIENCE

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**Background:** The GreenLight 180W XPS photovaporization of the prostate is a revolutionary surgical technique that enables Photoselective Vaporization of Prostatic (PVP) tissue with reduced intraoperative bleeding, better patient tolerance, reduced hospital stay and lower complication rates (like the necessity for transfusion, electrolyte anomalies, erectile dysfunction and retrograde ejaculation) when compared to standard TransUrethral Resection of Prostate (TUR-P). The aim of our study was to present our initial experience regarding this technique in a series of 2 patients. **Material and methods:** Two patients with benign prostate hyperplasia (BPH) patients aged 65 and 71 were enrolled in our study. Their IPSS scores were 16 and 25 with the corresponding prostate volumes of 38 cm<sup>3</sup> and 75 cm<sup>3</sup>. The first patient had a Q<sub>max</sub> of 8ml/sec while the second patient had an indwelling urethral catheter installed for complete urinary retention three weeks before the procedure. PVP was performed using the GreenLight System at our facility under loco-regional (spinal) anesthesia. **Results:** Rigid cystoscopy was performed before the procedure, in order to exclude local complications like lithiasis, bladder diverticula or the presence of a large median lobe. Starting with the right lobe, PVP was performed bilaterally to the surgical prostatic capsule. The procedure was uneventful, with a mean operative time of 90 minutes. Blood loss was kept to a minimum. The urethral catheter was removed the second day after surgery and the patients were discharged. At 1 months follow-up, both patients had no lower urinary tract symptoms (LUTS), with no post-void residue and Q<sub>max</sub> values of 12 ml/sec, respectively 13 ml/sec. **Conclusions:** PVP using the GreenLight 180W XPS system is a feasible practical and efficient technique which can be an adequate substitute for TUR-P in selected patient groups.

**Keywords:** benign prostate hyperplasia, green laser, PVP, outcomes, serie

## TRANSPERITONEAL APPROACH IN SURGICAL TREATMENT OF GIANT RENAL TUMOR. CASE REPORT

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**Background:** Introduction and objectives The incidence of renal tumors showed an increase in the last 10 years. In clinical practice we notice a continuous increase of this pathology in cases of young patients even in advanced stages. The aims of this paper is to present a case of giant right renal tumor associated with an left lumbar inferior ureteral stone by transperitoneal approach. **Material and methods:** Patient M.S., 48 years old was admitted in our service presenting macroscopic hematuria and left lumbar pain. The patient was investigated in several medical services for a left ureteral stone. Further testing (ultrasound, IVU, CT) showed also the presence of a right renal tumor 18x27 cm (T2bN0M0). A right nephrectomy associated with a left ureterolithotomy and left ureteral stent insertion we perform following laparotomy and right subcostal incision. **Results:** The transperitoneal approach allowed an easy access to the right kidney and left ureter. The total intraoperative time was 3 hours and 20 minutes. The tumor weighed 6.9 kg, bleeding was approximately 750 -1000 ml, the patient received 2 units of blood. Drainage tubes were removed within 48 hours. Histopathological findings confirmed the presence of clear cell renal carcinoma, Fuhrmann grade 3. Left ureteral stent was extracted 3 weeks postoperatively. **Conclusions:** The simultaneous transperitoneal approach (subcostal and median incision) permitted the treatment of a giant kidney tumor and ureteral calculus during the same surgical intervention.

**Keywords:** giant renal tumor, ureteral stone, nephrectomy, clear cell renal carcinoma, transperitoneal approach

## THE ROLE OF URODYNAMIC INVESTIGATIONS IN THE MANAGEMENT OF STORAGE URINARY TRACT DYSFUNCTIONS

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**Background:** The aim of this paper is to establish the place of urodynamic investigations in the diagnosis of urinary tract dysfunctions, highlight their importance in the management of storage symptoms. **Material and methods:** We performed a retrospective study over a period of 21 months (January 2013- September 2014) in Mureş County Hospital, Urology Clinic. The inclusion criteria were the absence of the infection, the existence of the lower urinary tract symptoms (storage symptoms) confirmed by micturition diary, and also the existence of urodynamic investigations (uroflowmetry and pressure-flow study). The urodynamic protocol used in these cases consisted of: uroculture (in order to exclude infection), micturition diary, residual urine measured by abdominal ultrasound, uroflowmetry and pressure-flow study. **Results:** We included in this study 42 patients (28 female and 14 male), aged 43.9 years with storage urinary tract dysfunction who accomplished the inclusion criteria. Regarding the symptomatology our findings were the following: urgency, in 37 of the cases, urgency incontinence in 27 of the cases and stress urinary incontinence in 15 of the cases. The urodynamic evaluation of the filling phase proved the existence of stress urinary incontinence in 7 of the cases, in 12 of the cases was demonstrated detrusor overactivity and in 12 of the cases, detrusor overactivity was associated with urgency incontinence, 6 of the cases, mixed urinary incontinence and 1 case with painful bladder syndrome and in 4 cases the urodynamic investigations had no pathological items. **Conclusions:** In the majority of the cases (90%) the pressure-flow study revealed pathological items, which helped us to establish a proper management (conservative or surgical). The urodynamic investigations are indicated in selected cases, the failure of the conservative treatment or the decision of performing an invasive treatment. "This paper was published under the frame of European Social Fund, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/133377".

**Keywords:** urodynamic, storage, urinary dysfunction, incontinence, uroflowmetry

## COMPLICATIONS OF TRANSRECTAL ULTRASOUND-GUIDED PROSTATE BIOPSY—A RETROSPECTIVE STUDY ON 432 CASES

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**Background:** Transrectal ultrasound-guided prostate biopsy (TRUSG-PB) is a screening procedure, easy to perform and widely used in the diagnosis of prostate cancer. It is usually considered a low-risk intervention, although it may be accompanied by different complications, such as disuria, pain/discomfort after biopsy, fever, haematuria, haemospermia, prostatitis, rectal bleeding, urinary retention, urosepsis. Our objective was to establish the rate of complications derived from the use of TRUSG-PB at our institution. **Material and methods:** We retrospectively analyzed the medical records of 432 patients who underwent TRUSG-PB performed in two years period (2010-2011). Indications for the TRUSG-guided biopsies were elevated serum PSA and/or suspicious digital rectal examination. **Results:** Mean age was 69.59 years (21-87 years); mean prostate volume 43.31 cc (25-140 cc); mean total PSA 58.97 ng/ml (0.78-2730.86 ng/ml). In the majority of TRUSG-PB (68.22%) we did not find post-procedural complications. The predominant complications were minor without sequel: mild haematuria (12.19%); rectal bleeding (4.77%); urinary retention (3.09%). 9.32% of the patients developed fever and needed antibiotic therapy, prolonged hospitalization. 2.43% of patients developed urosepsis. **Conclusions:** Our rate of complications was similar to that described in the literature. Most of them were minor and did not require immediate intervention, rarely occurred major complications. TRUSG-PB is generally a safe, well-tolerated diagnostic method.

**Keywords:** Prostate, Biopsy, Complications, Prostate Cancer

## POSTERS

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### COMPARATIVE IMMUNOEXPRESSION OF ETS-1 AND KI-67 IN PRECANCEROUS COLON LESIONS

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**Background:** During the embryonic stage, the Ets-1 transcription factor plays a role in the development of the digestive tract. Expression of this marker gradually decreases during fetal life, and its reactivation in CRC correlates with tumor invasion and presence of lymph node metastases. Our aim was to study the marker Ets-1 to Ki-67 expression in colon adenomas/polyps (A/P). **Material and methods:** We studied 22 hyperplastic polyps (HP) and 7 sessile serrated adenomas/ polyps (SSA/P) and 3 traditional serrated adenomas (TSA) and 26 tubular (TA) and 41 tubulovillous adenomas (TVA) from the archived biological material of the Pathology Department of the Clinical County Hospital of Tîrgu-Mureş, Romania. We performed Ets-1 (Leica Biosystems Newcastle Ltd, clone IG11, 1/200) and Ki-67 (LabVision Fremont, CA, USA, clone SP6, 1/100) immunohistochemistry, using the Dako EnVision system. We determined the percent of positive tumor cells, and included them into three immunohistochemical grading groups (G0, G1, G2) **Results:** The majority of A/P show increased Ki-67 and Ets-1 expression (80.7% and 56.4%, respectively) which correlated significantly with histological type and the grade of dysplasia ( $p < 0.0001$ ). Comparing the expression of these proteins we observed that the majority of TA, TVA and TSA are Ets-1+/Ki-67+, and most of HP and SSA/P Ets-1-/Ki-67-, and Ets-1-/Ki-67+ ( $p < 0.0001$ ). **Conclusions:** Relative to the increased Ki-67 expression in almost all studied A/P cases, Ets-1 expression is more frequent TSA and conventional adenomas. Acknowledgements. The study is supported by the Internal Research Grants of the University of Medicine and Pharmacy, Tîrgu-Mureş, Romania (contract no. 24/11.12.2013).

**Keywords:** colon, adenomas/polyps, immunohistochemistry, Ets-1, Ki-67

### A NEW BORN GIRL WITH MENINGOENCEPHALOCELE AND BILATERAL COMPLETE CLEFT LIP AND PALATE. CASE PRESENTATION

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**Background:** Each year spina bifida and anencephaly, the two most common forms of neural tube defects, occur in 1 in 1000 pregnancies in the United States(1) and an estimated 300 000 or more newborns worldwide(2). The results of randomised trials indicate that at least half the cases of neural tube defects could be prevented if women consumed sufficient amounts of the B vitamin folic acid before conception and during early pregnancies(3, 4). **Material and methods:** A newborn preterm baby girl, small for gestational age with large occipital encephalocel, large cervical-thoracic meningocele and complete cleft lip and palate was admitted to neonatal intensive care unit. The patient was born at 36 weeks of gestation by cesarean section. He weighed 1800 grams, appear vigorous with spontaneous respirations, the 1-minute and 5-minute Apgar score were 7 and 8, respectively. The patients mother was 27 years of age, gravida 3, para 3. Prenatal testing for siphilis, the human immunodeficiency virus was negative. Mother attended only primary school, has a low socioeconomic status, had smoked in the past and hadn't dropped after she conceived, and she received inappropriate prenatal care. **Results:** After the birth the family decline any surgical treatment and decided to institute paliative therapy and comfort measures only. In a meeting with a genetic counselor the patient declined to provide a detailed family history. On the twentysixth day of life, the patient's work of breathing increased suddenly and mottloed skin developed. Epinephrine was administered and positive-pressured ventilation and chest compressions were begun. However, refractory asystole developed, and the patient died early on his twentyseventh day of life. **Conclusions:** Withdrawal of treatment support occurs seldom in the neonatal intensive care units in Romania, and only few studies have examined the process surrounding this event. Improved documentation of the support provided by physician and nurses to parents of dying infants is recommended.

**Keywords:** poster, poster, neural tube defect, withdrawal treatment, neonatal intensive care unit

## SPECKLE-TRACKING ECHOCARDIOGRAPHY IN ASSESSMENT OF RIGHT VENTRICLE IN CHILDREN WITH PULMONARY ARTERIAL HYPERTENSION ASSOCIATED WITH VENTRICULAR SEPTAL DEFECT

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**Background:** Pulmonary hypertension lead to right ventricular dysfunction which has been associated with poor outcome. The objective of the study was to evaluate the role of speckle - tracking echocardiography in assessment of right ventricular function in children with pulmonary arterial hypertension associated with ventricular septal defect compared to conventional echocardiography. **Material and methods:** We evaluated prospectively 24 children (12 with pulmonary arterial hypertension associated with ventricular septal defect and 12 age and sex match controls) using speckle-tracking echocardiography (Q LAB 10.0 software), conventional echocardiography and clinical parameters (6-min walking test). The right ventricular free wall and global longitudinal strain were calculated by averaging three (basal, medial, apical) respectively seven regional peak systolic longitudinal strain. There were also studied the conventional echocardiographic parameters: right ventricular fractional area change, tricuspid annular plane systolic excursion, right ventricular myocardial performance index, left ventricular eccentricity index. **Results:** Right ventricular free wall and global longitudinal strain were significantly lower in pulmonary hypertension children than in controls ( $p=0.0001$  respectively  $p=0.0001$ ). Right ventricular free wall and global longitudinal strain has correlated with right ventricular fractional area change, right ventricular myocardial performance index, left ventricular eccentricity index ( $r= -0.64$ ,  $r = 0.69$ ,  $r = 0.53$  respectively  $r= -0.63$ ,  $r = 0.65$ ,  $r=0.53$  with a  $p<0.05$ ). **Conclusions:** Right ventricular speckle-tracking echocardiography is useful in noninvasive assessment of right ventricle performance in children with pulmonary arterial hypertension associated with ventricular septal defect. **Acknowledgement:** The present study was carried out in the research project no 27/11.12.2013, financed by UMF Tg. Mures

**Keywords:** speckle-tracking echocardiography,, pulmonary arterial hypertension, ventricular septal defect, children

## THE NEED FOR IMPLEMENTING EDUCATIONAL PROGRAMS FOR PATIENTS WITH DISABILITIES

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**Background:** Patients with intellectual and developmental disabilities are part of a particular group of people with special needs, which is more likely to encounter a wide range of challenges regarding community services in general and the access to health care in particular. From the access to implemented curatives protocols perspective, the need for the development of better treatment guidelines is obvious for doctors and even for the caregivers of patients with disabilities. **Material and methods:** Focused on field and online researches were used to explore the special needs of people with intellectual and developmental disabilities. **Results:** It is essential to acknowledge the necessity of studying and implementing the methods of managing and treating this particular group of patients which have a limited ability to maintain a proper oral hygiene and therefore present a greater risk of periodontal and gum pathologies, caries and other dental problems than general population. Untreated oral pathologies may have a major influence on general health status, as well. Because of their limitation they have troubles accepting any dental interventions and require specialized professionals, special resources and some form of behavioral assistance. **Conclusions:** Regarding this aspects, it is important to educate and specialized the doctors who are treating patients with disabilities, the caregivers and society nevertheless, by implementing advanced and graduate education programs which include various trainings in the oral health care of patients with special needs, providing clinical experience under the guidance of experienced professionals trained in special care dentistry. As well as informing programs for general population (e.g. teachers, students), to facilitate the acceptance and integration of people with disabilities.

**Keywords:** THE NEED FOR IMPLEMENTING EDUCATIONAL PROGRAMS FOR, THE NEED FOR IMPLEMENTING EDUCATIONAL PROGRAMS FOR, disabilities, oral pathologies, programs, education

## MUSCULOSKELETAL ULTRASONOGRAPHY IN EXPLORATION OF KNEE INJURIES

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**Background:** According with the literature, the knee is one of most frequently joint exposed to trauma, but also easy to be explored with the ultrasound technique. Using probes with high frequency, we can identify signs of joint components injuries (cartilage, ligaments, meniscus) and presence of collections (bursitis, cysts). **Material and methods:** This study includes a sample of 32 patients with knee injuries, examined between 01 July - 01 October 2014, using a multifunctional ultrasound-GE LOGIQ 7, with a high-frequency linear probe of 9-15 MHz. First examination was for confirming the diagnosis and 13 of patients were re-examined according with their rehabilitation program **Results:** The exploration of knee injuries revealed an increased percent of sprain (first and second degrees), lesions of the meniscus, patellar tendonitis. As secondary signs there were described in the ultrasonography protocols : suprapatellar and infrapatellar bursitis, Baker cysts. All examination allowed an accurate description of the articular cartilage, with a correct grading of the condropathy **Conclusions:** Musculoskeletal ultrasound examination can be an useful tool for knee examination, offering complete information about articular and periarticular injuries, a real help for many specialties involved in the treatment (orthopedics, rehabilitation and sportive medicine). **KNOWLEDGEMENT:** This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/133377 - CRONEX-CD.

**Keywords:** knee, ultrasonography, articular injuries

## TIME COURSE OF FUNCTIONAL RECOVERY OF HIBERNATING MYOCARDIUM – IS ALWAYS WELL ESTABLISHED BY 2 D ECHOCARDIOGRAPHY ?

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**Background:** Among patients with ischemic cardiomyopathy, identification of patients with LV dysfunction which may benefit from early myocardial revascularization is clinically important. **Material and methods:** Case presentation. We report the case of a 57-year-old male presenting in the emergency room for evaluation of several 20-30 minute episodes of chest pain, dyspnea in the last 24 hours. The patient has a history of anterior ST elevation myocardial infarction with thrombolytic therapy 10 years ago, hypertension, diabetes mellitus and dyslipidemia. ECG revealed pathological Q waves in V1-V3 and no other abnormalities. Positive cardiac biomarkers were found (Troponin I 0,3 ng/ml) at presentation. Echocardiographic assessment showed akinesia of the apical third of the interventricular septum, anterior wall and of the apex, hypokinesia of the inferior wall and an ejection fraction of 40%. Coronary angiography was performed revealing a rechannelled calcified thrombus producing a 90% stenosis on the LAD and a critical mid-RCA lesion. The culprit lesion was considered the RCA lesion and successful coronary angioplasty was performed. For the assessment of myocardial viability of the akinetic segments we performed a stress dobutamine echocardiography with myocardial contrast agent and the presence of viable tissue was found in more than 3 segments. Based on this, coronary angioplasty of the LAD was performed. At 1 month follow-up resting 2D echocardiography showed no improvement, but after administration of myocardial contrast agent, significant improvement of the segmental wall motion score was found. **Results: Conclusions:** Myocardial contrast echocardiography can establish the extent of residual myocardial viability and assess resting LV function more accurately than 2D echocardiography. "This paper was published under the frame of European Social Fund, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/133377".

**Keywords:** myocardial viability, dobutamine stress echocardiography, myocardial contrast echocardiography, revascularization

## THE IMMUNOHISTOCHEMICAL STUDY OF ALK (ANAPLASTIC LYMPHOMA KINASE) GENE MUTATIONS IN PATIENTS WITH NON-SMALL CELL LUNG CANCER

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**Background:** The discovery of tyrosine kinase inhibitors (erlotinib, gefitinib) was a new stage in the lung cancer therapy. The therapy with tyrosine kinase inhibitors in patients who have EGFR gene mutations and ALK gene mutations has a positive response rate of 60-70%, and an increase in average survival period of 12 months, much better than in patients who did not have mutations in these genes. **Material and methods:** We introduced in our study 20 patients that were admitted and operated for non-small cell lung cancer, in the 1st Surgical Clinic of the University County Emergency Hospital Mureş. To identify the ALK gene mutations we used immunohistochemical methods. To achieve the specific staining we used anti-ALK antibody (D5F3 antibody). **Results:** In our study, 2 patients (10% of cases) presented ALK gene mutations. The 2 patients had a histology of adenocarcinoma and were non-smoking. In the two positive cases, 1 case presented an intense expression of the immunohistochemical reaction, and 1 case showed a moderate expression. **Conclusions:** The identification of ALK gene mutations in patients with non-small cell lung cancer is beneficial to introduce the concept of individualized cancer therapy in patients with lung cancer, representing a new stage in the therapy of patients with lung cancer.

**Keywords:** anaplastic, lymphoma, kinase, lung, cancer

## CHEMOSENSITIVITY OF ETIOLOGICAL AGENTS INVOLVED IN CATHETER RELATED SEPSIS

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**Background:** Excessive use of antimicrobial agents led to the development of important resistance mechanisms. The aim of the study was to identify the aetiology and sensitivity of pathogen agents isolated from patients with sepsis. **Material and methods:** We have conducted an observational study on 40 patients with sepsis, hospitalised in the Infectious Diseases Clinic from Tîrgu Mureş, over a period of 3 years. The incidence of sepsis and septic shock, the generating infection, the chemosensitivity of the etiological agent isolated from blood cultures, the therapy and patients evolution, have been closely examined. The diagnosis of catheter-related sepsis has been established using quantitative method, by culturing the catheter segments and by using blood cultures in BacT/Alert and Vitek systems. **Results:** Catheter-related sepsis was more often seen in patients over 50 years (62.50%), and children aged 1-16 years (25%). 23 patients were male (57.50%) compared to only 17 female patients (42.50%). The most frequent germs involved in the aetiology of catheter-related infections were Gram positive bacteria, 28 patients (70%) compared to Gram negative bacteria 10 patients (25%) and fungi 2 patients (5%). Analyzing Gram positive bacteria we identify a predominance of methicillin resistant *Staphylococcus aureus* (MRSA) in 14 patients, *Staphylococcus epidermidis* in 7 patients. The Gram negative bacteria class revealed: *Serratia* spp., *Pseudomonas aeruginosa*, *Acinetobacter baumani*. **Conclusions:** Regarding the drug sensitivity of gram positive bacteria was noted an increased resistance of *S. aureus* at antistaphylococcal antibiotics with the maintaining sensitivity to glycopeptids. The sensitivity of gram negative bacteria revealed a resistance of *Pseudomonas aeruginosa* and *Acinetobacter baumani* at fluoroquinolones, ureidopenicilins, carbapenems, maintaining to Colimycin.

**Keywords:** catheter related sepsis, aetiological agents, sensitivity

## THE EFFECT OF IMMERSION AND INTRA-ORAL USE ON THE SURFACE CHARACTERISTICS OF NICKEL-TITANIUM ORTHODONTIC ARCHWIRES

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**Background:** The principle of fixed orthodontic therapy is based on tooth movement, generated by light and continuous forces. Orthodontic archwires are key elements in producing such forces and their clinical selection should take into consideration, both mechanical properties and surface characteristics. The complexity of factors, an intraorally used archwire undergoes, may modify the wires topography. The aim of the present study was to observe the surface characteristics for evidence of corrosion and alteration of as-received, immersed and as-retrieved Nickel-Titanium orthodontic archwires. **Material and methods:** Scanning electron microscopic and optical microscopic analysis were performed on a total number of 20 Nickel-Titanium archwires: 5 as-received, 10 immersed and 5 as retrieved Nickel-Titanium archwires. Immersion solutions included a topical fluoride agent and a soft drink. The wires were incubated at 37 degrees Celsius for 7 days. **Results:** On the as-received archwires, SEM analysis revealed surface irregularities caused by manufacturer process. Following immersion in topical fluoride agent, corrosion changes were more obvious on wires than following soft drink immersion. Pitting corrosion was also observed. Intra-oral use of archwires, for a mean period of 6 weeks, resulted in increased rugosity and obvious signs of fretting and crevice corrosion. **Conclusions:** Changes in wires surface topography caused by immersion and intra-oral use are obvious. Further investigations including differential scanning calorimetry are required in order to elucidate the mechanism of fluor interference at interatomic level.

**Keywords:** orthodontic archwires, Nickel-Titanium, scanning electron microscopy

## THE PREVALENCE OF MALNUTRITION IN CHILDREN FROM MURES COUNTY, ROMANIA

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**Background:** Over the past 20 years, a global decrease in the prevalence of chronic child malnutrition was noticed. In our country, there are no reports regarding the child malnutrition. The objective of this study was to assess the prevalence of acute and chronic malnutrition among children in Mures County. **Material and methods:** This prospective study included a total of 230 subjects evaluated between May-June 2013, in terms of anthropometric measurements (weight, height, mid-upper arm circumference - MUAC). The interpretation of the data was performed using the program Growth Analyser 3.5, using reference curves for Romania. Acute malnutrition was defined as Weight for Height (WFH) Results: According to WFH, acute malnutrition was found in 3.91% of the children, while based on MUAC in 6.09%. The highest proportion of children with acute malnutrition was noticed among girls, for the age group 1-5 years (6.52%) in urban area, respectively for the age group 0-1 years (9.09%) in rural area. There were no cases of severe malnutrition among boys. Chronic malnutrition was found in 14.35% of the children. The highest prevalence of chronic malnutrition were found in the age group under one year (9.09%) and the 15-18 group (8.33%), among girls, in urban areas. In boys, the highest prevalence was found in the rural area, in the age group of 5-10 years (8.93%) and 10-15 years (8.77%). **Conclusions:** Overall, the acute malnutrition was identified in 1 of 25 children, and it was more frequent in girls, for the 1-5 years age group, in urban area. The chronic malnutrition was found in 1 of 7 children and was more frequent in boys, for 5-10 years age group, in rural area.

**Keywords:** malnutrition, anthropometry, prevalence

## RARE CASE OF INTESTINAL EPILEPSY

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**Background:** Most papers published in professional journals in the past 49 years regarding intestinal epilepsy problems make us treat seriously the abdominal connection of epilepsy. **Material and methods:** We present the case of a 49 years old patient with no significant medical history, admitted for abdominal pain crises, located mostly in the hypogastrium, of high intensity, with the character of cramps accompanied by diarrhea, sweating, transient loss of consciousness. These attacks occur suddenly last a few minutes and appear repeatedly. **Results:** Patient did laboratory investigations, abdominal ultrasound, gastroscopy, pelvic examination, which found nothing relevant for diagnosis. Electroencephalogram (EEG)- focal spike and wave discharge with temporal-parietal-occipital localization. **Conclusions:** For digestive complaints can often be similar to those of irritable colon, colon exploration we performed carefully by irigography and discovered the existence of sigmoid diverticulosis. Surely if we had not found relevant electroencephalographic changes we could not sustain the diagnosis of intestinal epilepsy. We introduced anticonvulsant treatment (Carbamazepinum) and follow carefully the patient. In the 2 months of treatment, seizures were not repeated. So called "abdominal brain" and cerebrospinal system must cooperate to maintain physical and mental health.

**Keywords:** abdominal epilepsy, diverticulosis, electroencephalogram.

## GROWING PATTERNS TO PRODUCE "NITRATE FREE" VEGETABLES

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**Background:** Vegetables might contain significant amounts of nitrate, therefore, may pose a health hazard to consumers by exceeding the accepted daily intake for nitrate. Toxicological problems were associated with high nitrate regimen, such as methemoglobinemia, increased risk of gastric cancer, childhood diabetes, teratogenic properties and thyroid suppression. The existence of nitrate free lettuces and other vegetables is important, especially for children and vegetarians who consume large amounts of vegetables. **Material and methods:** Lettuces were grown on different types of nutrient solutions using a hydroponic system. Concentrations of nitrate and nitrite were measured using an HPLC-UV/VIS method. In order to evaluate the nutritional quality of lettuces, chlorophyll content, dried and calcinated mass were also measured. **Results:** Low nitrate content in the nutrient solution resulted in a significant decrease in lettuces' nitrate concentrations (1741 versus 39 mg/kg), however, the beneficial effect was abolished by an increase in the ambient temperature. Nitrate replacement with ammonium led to important decrease of the lettuces' nitrate concentration (1896 to 14 mg/kg) but their survival rate decreased. Replacement of nitrate with nitrite was not associated with a reduction of nitrate concentrations suggesting that lettuces' nitrate reductase is an oxido-reductase enzyme. An economically feasible method to reduce nitrate concentrations was the removal of inorganic nitrogen from the system before the exponential growth phase. This method led to "nitrate free lettuces" (10 mg/kg). The dried mass and calcinated mass of lettuces, used as markers of lettuce's quality, were not influenced by this treatment, but a small reduction (18%, p<0.05) in the fresh mass was recorded. Nitrite concentrations were not influenced in a toxicological important manner by any treatment. **Conclusions:** Results show that it is possible to obtain "nitrate-free" lettuces, in an economically feasible way. This paper was published under the frame of European Social Fund, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/136893.

**Keywords:** lettuce, nitrate, nitrite, hydroponics, HPLC

## THE FREQUENCY OF DENTAL CARIES IN ADULT PATIENTS WITH GASTROESOPHAGEAL REFLUX DISEASE

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**Background:** The aim of the study is to evaluate the frequency of dental caries, in adults patients with gastroesophageal reflux disease. **Material and methods:** A cross-sectional study was performed. The study was conducted between November 2013 and October 2014. All individuals, with ages between 20 and 80 years old, who were referred to Gastroenterology clinic, of the Emergency County Clinical Hospital, in the studied period, were evaluated. All subjects, who agreed to participate to the study, were asked to complete a questionnaire regarding personal information, oral hygiene and dental evaluation. Were excluded from the study the individuals with complete false teeth (superior and inferior removable prosthetic devices). The study included 134 people and based on upper gastrointestinal endoscopy, the individuals were divided in two groups, a group with gastroesophageal reflux disease (71), and a control group (63). Dental evaluation was performed by a dentist blind to the diagnosis of the subjects. Dental caries were evaluated by applying the decayed, missing, and filled teeth index (DMFT index). The statistical significance was defined as  $p < 0.05$ . **Results:** From 71 subjects included in GERD group, 33 (46.48%) were males and 38 females (53.52%) with a mean age of  $44.99 \pm 11.19$  (42, 59.15% from urban area and 29, 40.85%, from rural area). In the control group were included 28 (44.44%) males and 35 (55.56%) females (mean age  $43.84 \pm 9.48$ ) and 29 (46.03%) subjects were from urban area and 34 (53.97%) from rural area. DMFT index in GERD group was  $19.49 \pm 4.28$  and in control group  $18.16 \pm 4.54$  ( $p < 0.05$ ). **Conclusions:** The present study showed that it is no difference between GERD and control group, regarding the frequency of dental caries. **ACKNOWLEDGEMENT:** This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/133377

**Keywords:** Oral manifestations, Dental caries, Gastroesophageal reflux

## AN ADVANCED WEB-BASED ASSESSMENT SYSTEM

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**Background:** For several years, our University uses an online web based assessment system. Introducing such a system improved the student evaluation process, by decreasing the time needed for this activity and providing an objective means of grading the students. The aim of this study was to design and implement a new system, using most recent technologies. **Material and methods:** For implementing the system, we chose the web environment and a Linux hosting with an Apache server and a MySQL database. The code was written in PHP and Javascript, using the CodeIgniter PHP framework and jQuery Javascript framework. **Results:** The new system keeps the basic functionalities, compared to the old one, allowing the user to set up and manage a test. It also brings a new method of organizing the questions into categories, based on tags. Another new feature is represented by the possibility to set up a custom algorithm for response evaluation. **Conclusions:** The new assessment system provides all the functionalities, both the teacher and the student need in order to ensure a fair and objective assessment. **Acknowledgement** This paper was published under the frame of European Social Fund, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/136893

**Keywords:** Educational Assessments, Online system, Internet

## ASSESSING THE STUDENTS' LEVEL OF SATISFACTION WITH ASYNCHRONOUS E-WRITING IN ENGLISH FOR MEDICAL PURPOSES

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**Background:** Second year students in Dental Medicine from the University of Medicine and Pharmacy of Tîrgu Mureş were exposed to technology-enhanced English learning through optional asynchronous blog writing for writing practice extension and optimisation of their writing skill during the second semester of 2013-2014. **Material and methods:** Thirty-six (N=36) students (Hungarian series) were surveyed for their level of satisfaction regarding delivery, content and methods of asynchronous writing in English for Medical Purposes (EMP). The fifteen-item questionnaire based on closed, open-ended and Likert questions included aspects regarding convenience of delivery, strengths, encountered difficulties, and preference of e-learning versus traditional activities. **Results:** Although most students (88.88%) had good class attendance, only 8.3% had used the new technologies before. Novelty of this type of learning may explain why 41.7% contributed 0-30% of the assignments. However, over half of the surveyed students (58.33%) engaged in most of the tasks. Expressed reasons for engagement included external (final grade) but also intrinsic motivation: learning dentistry-related vocabulary, listening to authentic podcasts, improving writing accuracy. Non-engagement reasons were: lurking, tight schedule, outside commitments, lower proficiency and different learning styles. In terms of delivery preference, 55.55% versus 44.4% preferred online and both approaches rather than only class activities. Students' satisfaction with the online materials was prevalently excellent (N =22) and good (N = 11), and only 3 were neuter, while satisfaction with class activity was roughly similar. **Conclusions:** Teachers should experiment with alternative technology-enhanced delivery in order to offer students a chance to further develop their EMP communication skills, to meet more learning styles, and contribute to extended practice. Although some students engaging in online activities may be grade-oriented and prefer reliance on the teacher as facilitator, most students are intrinsically motivated to invest in field-relevant technology-supported language learning activities beyond the class practice.

**Keywords:** English for Medical purposes, blog, asynchronous writing, technology-enhanced learning, student satisfaction

## MENINGORADICULITIS IN A PACIENT WITH DIABETES MELLITUS TYPE 2 – CASE PRESENTATION

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**Background:** Tuberculosis remains one of the major public health problems despite substantial progress in medicine and pharmacology industry. The incidence of central nervous system tuberculosis depends on its prevalence in the community and extra pulmonary presentation is rare. **Material and methods:** We present the case of a 44 years old male patient known for one year with diabetes mellitus type 2, heavy smoker who gradually developed double vision and right palpebral ptosis, difficulty swallowing for solids, hoarseness, followed by right hemicrania and severe pain in the cervical spine with radiation to the right upper limb and paresthesia at this level. At the very beginning when he complained of double vision he was considered as having cranial diabetic neuropathy. Neurological examination on hospital admission revealed no signs of meningeal irritation but a cervical spine sensitivity to percussion, a partial paralysis of oculomotor right nerve (incomplete ptosis, divergent strabismus, limitation of upper verticality movement and adduction), solid dysphagia, hoarseness, myotatic reflexes globally reduced, Babinski sign with intermittence on the left, hypoesthesia on the arm. **Results:** The lab results revealed an elevated serum glucose and a slight hepatic citolysis and excluded infectious and connective tissues diseases. The cerebrospinal fluid was clear and the citologic exam revealed leukocytosis (235/3) with lymphocytosis, negative Pandy reaction. At the microbiological analysis there was no bacterial growth. At the optical microscopy for tuberculosis the Ziehl-Neelsen staining revealed B specimen of Mycobacterium tuberculosis 3 Baar positive. Cranial and cervical MRI exam and cerebral angiography were normal. The patient was transferred to the Department of Pneumology. Under treatment the evolution was favourable. **Conclusions:** Early diagnosis and treatment were essential in order to prevent a permanent neurological sequelae and even a fatal end and the interdisciplinary collaboration was essential. "This paper was

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**Keywords:** Poster, Poster, diabetes mellitus, double vision, Pandy reaction

## IS URINE DIPSTICK RELIABLE IN DETECTING PROTEINURIA FOR DIAGNOSING AND STAGING OF CHRONIC KIDNEY DISEASE?

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**Background:** Proteinuria is a useful tool in diagnosing and staging renal diseases. 24-hour urine is time consuming and subject to errors caused by urine collection. Dipstick test using first morning urine is a rapid, inexpensive method for detecting proteinuria, but no information on its sensitivity or specificity is available for hospitalized patients. The aim of the study was to determine the sensitivity and specificity of dipstick test in a first voided morning urine sample to detect 0.3 g of proteins or greater. **Material and methods:** Two hundred and fifty-five hospitalized patients were invited to collect early morning urine and 24-hour urine specimens. The sensitivity, specificity, positive and negative predictive value of the automated dipstick urinalysis to detect a minimum of 0.3 g of proteins were calculated using as gold standard quantitative 24-hour protein excretion. **Results:** We determined a 95% specificity, 62% sensitivity, with a 90% positive predictive value and a 77% negative predictive value. **Conclusions:** Considering that we found a total of 38% false negative results, automated dipstick urinalysis cannot be used alone for detecting proteinuria for diagnosing and staging of chronic kidney disease.

**Keywords:** DIPSTICK, CHRONIC KIDNEY DISEASE, SENSITIVITY, SPECIFICITY, PROTEINURIA

## PREVENTION OF HOSPITAL ACQUIRED INFECTIONS IN MEDICAL PRACTICE

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**Background:** The main objective of the study was to establish level of instruction and compliance of medical personnel to prevention methods applied for hospital acquired infections (HAI). **Material and methods:** A questionnaire (consisting of 14 questions) was applied for investigating medical personnel from Mures Clinical County Hospital, concerning the access to information and the way of applying prevention methods in the county hospital. **Results:** The personnel is permanently informed by medical education programs, the quality of medical procedures is influenced by the working program, schedules, procedures, protocols, the number of medical workers, the working conditions, and the risk of infections can be reduced by improving the working conditions for the medical staff and permanent educational programs. **Conclusions:** The risk for HAI can be reduced by efficient and permanent educational programs for the personnel, use of protocols and procedures, proper working conditions, sufficient number of medical personnel .

**Keywords:** hospital acquired infections, medical personnel, educational programs

## GASTRO-DUODENAL ULCER IN LOW-DOSE ASPIRIN CONSUMERS

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**Background:** The use of low-dose aspirin (LDA) has continually increased during recent decades. The most important side effects of aspirin consumption are gastrointestinal events. We investigated clinical and histological factors associated with ulcer occurrence

in low-dose aspirin consumers. **Material and methods:** A number of 460 patients treated with low-dose aspirin (75-125 mg/day) who underwent an upper digestive endoscopy between 2010 and 2014 in Medical Clinic III, Tîrgu Mureş were included. Using the medical records for every patient and a structured interview, the following details were recorded: clinical and demographical characteristics: age, gender, digestive symptoms, concomitant diseases, history of peptic ulcer, concomitant drug consumption, alcohol consumption and smoking. We registered endoscopic aspects of gastro-duodenal mucosa. In every patient, a complete set of four biopsies (two from the antrum, two from the gastric corpus) were collected and processed. All these factors were compared in the ulcer and non-ulcer group using univariate and multivariate logistic regression. **Results:** In studied group irrespective of the presence of symptoms, 35% were free of mucosal damage and 16.5% had gastric and/ or duodenal ulcer. The frequency of *H. pylori* infection was 37.2%, 64% of the patients had active or inactive gastritis and 38.4% had premalignant gastric lesions. Ulcers were statistically significant correlated with the histological diagnosis of gastritis (active/ inactive) (OR: 2.16, 95% CI: 1.16-4.02,  $p=0.01$ ), non-steroidal anti-inflammatory drug consumption (OR: 2.94, 95% CI: 1.30-6.40,  $p=0.005$ ), heart failure (OR:2.94, 95% CI: 1.30-6.40,  $p=0.01$ ), stroke (OR:3.58, 95% CI:1.72-7.48,  $p<0.0001$ ), diabetes (OR: 2.18, 95% CI: 1.30-3.65,  $p=0.002$ ) and liver disease (OR: 1.75, 95%CI: 1.06-2.87,  $p=0.02$ ). Concomitant use of anticoagulants or clopidogrel, history of peptic ulcer, age over 70, premalignant gastric lesions in biopsies were not correlated with ulcer ( $p>0.05$ ). **Conclusions:** The most important risk factors for ulcer on endoscopy in aspirin consumers are the inflammation in gastric biopsies, concomitant use of non-steroidal anti-inflammatory drugs and comorbidities

**Keywords:** poster, internal medicine, aspirin, ulcer, gastritis

## ATOMIC FORCE MICROSCOPY APPLIED ON BIOLOGICAL SAMPLES

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**Background:** Atomic force microscope (AFM) can be used for investigation of the mechanical properties of wide variety of biological samples. The three dimensional images of the biological objects and interactions between them can be studied. The simplest known light-driven proton pump, bacteriorhodopsin (BR), was discovered in *Halobacterium salinarum*. In this organism, the purple membrane, a part of the cell membrane, contains only BR in a highly ordered two-dimensional crystalline form. It converts the energy of "green" light (500-650 nm, max at 568 nm) into an proton gradient. **Material and methods:** Purple membrane of *Halobacterium salinarum* was prepared according to the method of Oesterhelt and Stoeckenius, and it was adsorbed from a buffer containing 10mM TRIS and 150mM NaCl at pH = 8.0 to the freshly cleaved mica surface treated with the same buffer containing 10mM CaCl<sub>2</sub>. AFM measurements were carried out with an Asylum MFP-3D head and controller (Asylum Research, Santa Barbara, CA, USA) in tapping/noncontact (AC) mode. **Results:** The effect of different chemicals on the purple membrane was studied with AFM. For example the effect of the indolicidin a cationic antimicrobial tridecapeptide (H-Ile-Leu-Pro-Trp-Lys-Trp-Pro-Trp-Trp-Pro-Trp-Arg-Arg-NH<sub>2</sub>) was observed. **Conclusions:** AFM provides the best tool for investigating the surface structure and mechanical properties of the membrane proteins in their native environment. A great advantage of the AFM technique is that it allows individual molecules to be investigated in great detail.

**Keywords:** Atomic force microscopy (AFM), bacteriorhodopsin (BR), light-driven proton pump

## SELF INJECTION OF FOREIGN MATERIALS FOR PENILE GIRTH ENHANCEMENT AND THEIR COMPLICATION.

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**Background:** The penis size and dimensions appear to correlate directly with physical fitness and sexual prowess. Foreign materials, such as paraffin oil, paraffin balm, mineral oils, silicone and coils have been used to improve penile shaft contour and dimensions. Various dubious establishments offer treatments with foreign material injected directly into the subcutaneous of penis to achieve an increase in girth. **Material and methods:** In a period of 3 years between 2012-2014 in the Clinic Of Urology of Târgu Mureş, we treated 3 cases with self injection of foreign materials. In all cases the injected material was unknown. Related symptoms was: erectile

dysfunction, penile pain, urinary tract disorders. **Results:** In all of the cases we performed the excision of the fibrotic lesions with removing the foreign substance, after the surgical procedure all three patients were able to achieve full erection with normal sexual intercourse with their partners. **Conclusions:** Fibrotic lesions of the penis caused by subcutaneous injection for the purpose of augmentation may have devastating cosmetic and sexual function consequences. The most important step during the cure is to try to completely dissect and remove the foreign substance. Then, if primary enclosure is possible, it should be done or it should be repaired by scrotal flap or full layer skin grafts, which may give satisfactory long-term results. Antibiotic therapy is important in controlling secondary infections.

**Keywords:** foreign materials, self injection, penile

## STUDY OF BLOOD UREA NITROGEN, SERUM CREATININE AND GLOMERULAR PERMEABILITY FOR PROTEINS, AFTER GENERAL ANESTHESIA WITH SEVOFLURANE

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**Background:** The widespread use of sevoflurane as an induction and maintenance volatile agent of general anesthesia demonstrates an increased safety profile. Sevoflurane contact with CO<sub>2</sub> absorbents lead to the occurrence of toxic compounds such as Compound A (pentafluoroisopropenyl fluoromethyl ether) and Compound B (pentafluoro metoxi-isopropanol-fluoromethyl-ether). Among the side effects of Sevoflurane remember the renal toxic effect much discussed in the literature but still unresolved. There is little experience with repeated exposure to Sevoflurane so using Sevoflurane in patients with renal disease, diabetes mellitus and hypertension is not restricted. In previous research we have demonstrated the glomerular protein changes as a result of exposure to Sevoflurane. In the current study we intend to monitor the changes in blood urea nitrogen and serum creatinine after exposure to Sevoflurane. **Material and methods:** We included in our study 90 patients who were anesthetized in the Department of Anesthesiology of the County Mureş Hospital during 01.10.2009-01.10.2014. They had normal values for blood urea nitrogen and serum creatinine and had no preoperative proteinuria. Serum and urine samples were taken preoperatively and at 24 and 72 hours postanesthetic and were analyzed in the laboratory. Proteinuria was determined by spectrophotometry. **Results:** After protein quantitative determination by spectrophotometry and statistical analysis we obtained significant differences by comparing the average preoperative/24 hours total protein ( $p < 0.0001$ ) and 24/72 hours ( $p < 0.0001$ ). There are no significant statistical differences by comparing the blood urea nitrogen at the three intervals ( $p < 0.077$ ) and no statistical changes for mean serum creatinine ( $p < 0.071$ ). **Conclusions:** Changes in glomerular filtered proteins following exposure to Sevoflurane demonstrate its toxic effect on glomerular tubules. Lack of perioperative significant changes of blood urea nitrogen and serum creatinine level demonstrates their irrelevance which is why we recommend determining perioperative urinary protein as a marker of glomerular damage. "This paper was published under the frame of European Social Fund, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/133377".

**Keywords:** Poster, Poster, Key words: Sevoflurane, proteinuria, creatinine, b

## SURGICAL ORTHODONTIC TREATMENT OF DENTAL IMPACTATION USING A TUNNELING TECHNIQUE FOR ANCHORING. CASE REPORT

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**Background:** Impacted teeth represents intraosseous or submucosal retention of a fully developed teeth over the period of eruption, without any possibility or tendency to erupt. Dental inclusion disorder occurs as a result of dental disturbances eruption stages. **Material and methods:** We present a case report, a patient, aged 14 years, who addressed to Clinic of Orthodontics at the University of Targu Mures, with no permanent tooth 1.3. Following clinical examination and imaging data, orthodontist and

OMF surgeon team decided : 1.4 tooth extraction, 1.3 tooth discovery (1.3 buccal impacted), patching a button of traction on the buccal surface and creating a tunnel through new bone alveolus, after extraction of tooth 1.4. **Results:** The tunnel that we created after extraction of 1.4, allowed us to apply the anchoring device on canine (1.3) (on the buccal surface). In the final moment of recovery in the dental arch, teeth 1.3 presented both a gingival sulcus and bone on the facial surface. **Conclusions:** The clinical course of the case that we presented was a favorable one, the teeth was normal aligned in dental arch. Impacted dental treatment is a complex procedure; the treatment needs to have an interdisciplinary approach to obtain best results. Establishing a logical algorithm of treatment plan was the success of restoration of maxillary functions.

**Keywords:** device, eruption, surgery, impacted, tunnel

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**BOOK OF ABSTRACTS**



# ANESTHESIOLOGY AND INTENSIVE CARE MEDICINE

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## THE ROLE OF THE ANGIOPOIETINE 2 FOR SEPSIS DIAGNOSIS

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**Background:** This paper is supported by POSDRU/159/1.5/S/133377. The interest for reliable biomarkers for the diagnosis and the anticipation of the outcome of sepsis rise during the past years. Angiotensin II (ANG2) promotes vessel regression and signaling inflammatory processes. The main objective of this study is to determine the role of ANG2 for the diagnosis and prognosis of the septic patient. **Material and methods:** A prospective randomized study include a number of 74 patient from 1st Anesthesiology and Intensive Care Department of the Tîrgu Mureș Clinical County Emergency Hospital, during January-November 2014. The patients were divided in two groups: septic patients (group S, n=40, 54%) and non-septic patients (group C, n=34, 46%). Positive criteria for sepsis were: 2 positive criteria for SIRS (systemic inflammation syndrome) + PCT (procalcitonin) > 0,2 ng/ml + confirmed infection. APACHE II, SOFA and SAPS II score were also calculated and the serum level of PCT and ANG2 were determined using the ELISA technique. **Results:** The values of ANG 2 were between 1 and 43 ng/ml, with an average of 6 ng/ml for the group C and 10,38 ng/ml average for group S (p=0,021). Positive correlations were found between ANG2 and the following severity scores: SAPS II (p=0,003), SOFA (p=0,025) and APACHE II (p=0,044). A positive correlation between ANG2 and PCT was also found (p=0,001). ANG2 appeared to be specific and highly sensitive for the diagnosis of sepsis: specificity of 65,71 and sensibility of 74,36 (p=0,0003). The death rate in the subjects was high: 75,67% (n=56). ANG2 appeared to be highly specific (AUC: 88.89), but insensitive (AUC:35.71) (p=0,195). **Conclusions:** The critically ill septic patients in our study had high blood levels of ANG2. ANG2, PCT and severity scores correlated well. The specificity and sensibility of ANG2 for sepsis is high, therefore it can be used as a biomarker for the diagnosis and prognosis. This paper is supported by POSDRU/159/1.5/S/133377

**Keywords:** sepsis, angiotensin II, SAPS II, APACHE II, SOFA

## ASSESSING THE STUDENTS' DEGREE OF SATISFACTION REGARDING MEDICAL SIMULATION – THE FIRST STEP TOWARDS CURRICULAR INTEGRATION

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**Background:** Medical simulation is a relatively novel and unexplored area in Romanian medical education. However, its use gains traction in medical faculties around the world and a growing number of studies reveal that it can be a very useful method of medical education, if used properly. Our study aimed to reveal the degree of acceptance and satisfaction of the students regarding this method. **Material and methods:** We assessed the opinion of 706 third year medical students undergoing simulation training in Medical (376 students) and Surgical Semiology (330 students). The feedback forms included 5 fixed-form (with answers ranging from 1=dissatisfied to 5=totally satisfied) regarding simulation procedures and 2 open answer questions in which students were invited to actively provide suggestions for improvement. **Results:** In Medical Semiology students, most of the answers to the fixed questions (ranging from 76.32% to 93.88%) awarded the highest degree of satisfaction (5). The results were similar in Surgical Semiology students, ranging from 82.72% to 92.12%. Most of the lower degree answers and of the students' suggestions concerned technical aspects. **Conclusions:** After one year of activity, simulations are well perceived within the ranks of students and are starting to prove an useful aid in medical education. **Acknowledgement:** This paper was published under the frame of European Social Found, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/136893

**Keywords:** Medical simulation, General presentations, medical simulation, simulation, students

# BIOCHEMISTRY

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## STUDY ON URINARY STONES: COMPOSITION AND FAVORING FACTORS

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**Background:** Urinary stones formation depends on various factors: diet, liquid intake, genetic predisposition, urinary infections, and malformations. We studied data of urine analysis and dietary habits in patients with urolithiasis compared with controls.

**Material and methods:** In the interval from 2009 to 2014 we evaluated a number of 160 patients with urinary stones (study group) belonging to the Marmed and Procardia Medical Units and the Clinic of Urology in Tîrgu Mureș. The control group included 62 patients without urolithiasis. A special questionnaire was used to obtain data on lifestyle, diet and medical history. Macro- and microscopic examination of stones was followed by chemical analysis. The GraphPad InStat program was used for statistical data processing. **Results:** Average age of the study group is 51.48 years $\pm$ 12.86(SD), 54% of them are men, in the control group it is 54.89 years $\pm$ 15.81(SD) ( $p>0.05$ ). Regarding the chemical composition of urinary stones calcium oxalate could be found in 96% of the cases, phosphate in 66%, xanthine/uric acid 17%, cystine in 3%, carbonate in 1%, while the composition is mixed in 73% of the cases. Patients with urolithiasis consume significantly less liquids, under 2 liters per day ( $p=0.018$ ); incidence of urinary infection was significantly higher in the study group ( $p<0.0001$ ). Significantly more patients are taking medications in the study group ( $p=0.0004$ ), some products can favor lithiasis. Average pH of urine was 5.50 $\pm$ 0.75(SD) in the study group and 5.80 $\pm$ 1.00(SD) in the control group ( $p<0.05$ ). **Conclusions:** The highest incidence is in case of calcium oxalate stones, followed by phosphate, in most patients there is a mixed composition. Patients with urolithiasis present numerous factors favoring stones: ingestion of too low amounts of liquids, decreased pH of the urine, and high frequency of urinary infections. The occurrence of relapses could be prevented by elimination of favoring factors, having an appropriate diet, adequate fluid intake and treatment of urinary infections.

**Keywords:** urinary stones, chemical analysis, questionnaire

## ARSA DEFICIENCY IN DIFFERENT DISEASES: CHRONIC KIDNEY DISEASE AND DIABETES MELLITUS TYPE 2

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**Background:** Arylsulphatase A (ARSA) is a lysosomal enzyme that catalyses cerebroside sulphate degradation. The sulfatide is a glycosphingolipid of the myelin membrane, but also present in organs with high sodium transport (kidney, salivary glands) and in the islets of Langerhans. With the progression of chronic kidney disease (CKD) the level of ARSA is also reduced, resulting further progression of the disease and dementia. **Material and methods:** In this study were included 94 individuals. They were divided in four groups as follows: 58 patient with chronic kidney disease, 14 patient with diabetes mellitus (DM) type 2, respectively two groups of 10 and 14 healthy individuals as control group. We followed the variation of their serum ARSA level, as described in the CMCI-Utrecht protocol. **Results:** Based on the analyzed samples in case of CKD there is significant differences between the time spent in the renal replacement therapy ( $p<0.0001$ ) and there was also important difference between the patients and the control group. There wasn't any significant difference between the etiology and the efficacy of the treatment ( $p=0.2144>0.05$ ). We asked the patients to complete a Minimal state exam test (MMSE) and a clock drawing test in order to appreciate their mental status. In case of DM type 2 there was significant difference between the patients and the control group ( $p<0.05$ ). **Conclusions:** These acidic compounds can be found in high concentration in the kidneys, possibly playing role in the body osmotic balance. Our

results suggest a partial deficit of ARSA at patients with CKD, so we can talk about ARSA deficiency as an aggravating factor. A slowly onset dementia appears at patients with CKD. We can talk about ARSA as an aggravating factor in CKD associated dementia too. Our findings in DM 2 seem to enclose a vicious cycle where diabetes mellitus type 2 decreases lysosomal enzyme activity including ARSA.

**Keywords:** Arylsulphatase A, ARSA deficiency, chronic kidney disease, diabetes mellitus type 2, Minimal state exam test

## CARDIOLOGY

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### ONE YEAR FOLLOW-UP OF ECHOCARDIOGRAPHIC PARAMETERS FOR DYSSINCHRONY IN PATIENTS WITH CARDIAC RESYNCHRONIZATION THERAPY

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**Background:** Cardiac resynchronization therapy has been shown to be effective in patients with drug-refractory heart failure and wide QRS complexes. Follow-up visits for these patients usually include quality-of-life questions, six-minutes-walk test, EKG, X-ray and echocardiographic analysis. The aim of our study is to analyze the one year evolution of conventional echocardiographic measurements along with dyssynchrony parameters in patients with cardiac resynchronization therapy. **Material and methods:** We conducted a prospective study on 42 patients with severe heart failure who underwent cardiac resynchronization therapy, provided they fulfilled the recommendations of the European Society of Cardiology. Eleven patients were excluded (seven due to poor acoustic window, two for failing to reach scheduled visits, while two others died). The remaining 31 patients were subjected to serial echocardiographic examinations: prior to device implantation, at 48-72 hours after implantation and at one, three, six and twelve months, respectively. **Results:** In all patients, echocardiographic parameters of atrio-ventricular, interventricular and intraventricular dyssynchrony improved significantly ( $p < 0.05$ ) after device implantation, irrespective of age, sex or underlying condition. Interventricular mechanical delay was maintained within normal values for the next 12 months, in some cases by adjustments of pacing protocols. Septal to posterior wall motion delay showed significant regression ( $p < 0.01$ ) at six and twelve months after implantation, as did the degree of mitral regurgitation. Left ventricular ejection fraction improved gradually and significantly beginning from the first month, mainly by progressive reduction of end-systolic left ventricular volumes. **Conclusions:** In patients with cardiac resynchronization therapy, improvement of echocardiographic dyssynchrony parameters is a process that begins immediately after device implantation, and continues in the next months, expressing the fact that reverse remodeling takes time and sometimes needs pacing protocol adjustments.

**Keywords:** heart failure, cardiac resynchronization therapy, ventricular dyssynchrony, echocardiography

### ROLE OF THE EPICARDIAL FAT TISSUE AS A NEW INFLAMMATORY MARKER IN ACUTE CORONARY SYNDROMES

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**Background:** The aim of the present study was to define the relationship between the epicardial fat tissue (EFT) and acute coronary syndromes, as marker of inflammation in these cases. **Material and methods:** A total of 43 patients (28 male, 15 female, mean age  $61 \pm 9.92$  years) with acute coronary syndrome were enrolled in the study. All patients underwent emergency coronary angioplasty and EFT was evaluated by conventional transthoracic echocardiography. Group 1 included 13 patients low-risk ACS defined based on  $EFT < 7\text{mm}$ , respectively group 2 - 30 patients with high risk ( $EFT > 7\text{mm}$ ). **Results:** Mean EFT volume was  $7.544 \pm 2.003$  mm for the whole study group. Mean EFT was  $8.54 \pm 1.34$  mm in group 1 versus  $5.30 \pm 1.16$  mm in group 2. Correlation analysis between EFT and severity of coronary artery disease, defined as the number of affected lesions did not show any association ( $p > 0.25$ ). Relativ risk factors analysis showed that dyslipidemia was independently associated with the group 2 ( $p = 0.045$ , RR- 2.07, (1.11, 3.87)), contrary to hypertension ( $p > 0.16$ ), smoking status ( $p = 0.5$ ) and obesity ( $p = 0.26$ ). **Conclusions:** The present study demonstrated a significantly increased EFT in patients with ACS and dyslipidemia. Increased EFT is associated with AMI and it may prove beneficial for choosing patients who would need a more aggressive statin treatment approach in terms of risk reduction using echocardiography, which is a non-expensive and readily available tool as a follow-up parameter.

**Keywords:** Cardiology, cardiology, Epicardial fat, Echocardiography, Inflammation, Ac

## NO CORRELATION BETWEEN RESTING ECHOCARDIOGRAPHIC PARAMETERS AND EXTENT OF CORONARY ARTERY DISEASE

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**Background:** Resting echocardiography represents a mandatory and routine evaluation of patients with ischemic heart disease. However, is less known about the value of resting echo data in the estimation of the extent of coronary artery disease. **Material and methods:** We analyzed retrospectively the main echocardiographic characteristics of 108 consecutive patients (37 women, 71 men, mean age 65,1 years) with angina and/or a positive exercise stress test who had significant lesions on coronary angiography (diameter stenosis > 70%). The patients were divided into two groups: (1) patients with uni- or bivascular disease and (2) patients with trivascular and more diffuse disease. Using chi-square statistics (significant difference  $p < 0,05$ ) a series of echocardiographic parameters were compared in the two groups of patients. **Results:** There were no significant differences between the two groups regarding the prevalence of the followings: LVED diameter > 55 mm ( $p=0,22$ ), interventricular septum > 12 mm ( $p=1,00$ ), right ventricular diameter > 40 mm ( $p=1,00$ ), left atrial postero-anterior diameter > 40 mm ( $p=0,08$ ), left ventricular ejection fraction < 35% ( $p=0,07$ ), segmental wall motion abnormalities ( $p=0,11$ ), significant mitral regurgitation ( $p=0,81$ ), significant aortic stenosis ( $p=1,00$ ) or regurgitation ( $p=1,00$ ), gr. 3 diastolic dysfunction ( $p=0,11$ ), systolic pulmonary pressure > 45 mmHg ( $p=0,3$ ). **Conclusions:** Resting echocardiographic parameters do not reflect the extent of coronary artery disease in patients with ischemic heart disease. A normal resting examination should be interpreted cautiously regarding the severity of coronary lesions.

**Keywords:** coronary heart disease, echocardiography, left ventricle

## THE FUNCTIONAL SIGNIFICANCE OF MYOCARDIAL BRIDGES DETERMINATED WITH 3D POLAR MAPPING METHOD

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**Background:** The myocardial bridge is a coronary anomaly characterized by intramyocardial course of an epicardial coronary artery. The aim of our study was to assess the functional significance of myocardial bridges using the Cardio CT 3D polar mapping technology. **Material and methods:** We enrolled 30 patients with myocardial bridges, symptoms of angina and ECG modifications (at rest or during exercise). In all cases we performed Cardio CT angiography and we evaluated the end-systolic and end-diastolic phase of MSCT images, to study the systolic compression in the myocardial bridges. In all cases we performed a 3D polar mapping of wall motion to assess the functional significance of myocardial bridges. **Results:** Three-dimensional assessment of ventricular wall motion using Angio CT post-processing identified a good correlation between the degree of ischaemia, as expressed by the extent of the myocardial area with contraction abnormality, and the location of the myocardial bridge on LAD artery ( $p=0.0159$ ). The degree of myocardial ischemia expressed with amplitude of myocardial segments contraction increased proportionally with depth of intramyocardial segment,  $30.75\% \pm 12.703$  in profound myocardial bridge versus  $17.95\% \pm 8.318$  in superficial bridges ( $p=0.0032$ ). Segmental contraction amplitude was reduced significantly in antero-lateral segments irrigated by myocardial muscle bridges located on LAD  $23.75 \pm 11.140\%$  compared to the RCA or ACX  $11.83 \pm 1.169\%$  ( $p=0.0153$ ). The extension of myocardial ischemia was significantly higher for bridges localized on LAD  $18.625 \pm 4.412\%$  compared to bridges located on the ACX and RCA  $11.5 \pm 1.049\%$  ( $p=0.0006$ ). **Conclusions:** Three-dimensional polar mapping of ventricular contractility using Angio CT is useful for complex assessment of the functional significance of the myocardial bridges. The extent of myocardial ischaemia proved to be well correlated with the location of myocardial bridges and also with their severity.

**Keywords:** functional significance, 3D polar mapping, functional significance

## CARDIOVASCULAR RISK BIOMARKERS AS PREDICTORS OF VENTRICULAR REMODELING FOLLOWING ACUTE MYOCARDIAL INFARCTION

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**Background:** We aimed to assess the correlation between the grade of left ventricular remodeling at 6 months post myocardial infarction and the biomarkers associated with a high inflammatory status, such as the high level of reactive protein C determined at 7 +/- 2 days from the acute myocardial infarction, respectively with the epicardial adipose tissue thickness, measured with 2D echocardiography. **Material and methods:** We included a total number of 92 patients with acute myocardial infarction in the 7th +/- 2nd day postinfarction, who benefited from primary angioplasty revascularization within 12 hours from the onset of symptoms. In all patients we determined the hs-CRP was determined at 7 +/- 2 days from acute myocardial infarction and the epicardial fat thickness (EFT) on 2D echocardiography. The echocardiographic examination was performed on day 7 +/- 2 from the acute myocardial infarction and at 6 months postinfarction, to assess the degree of ventricular remodeling. **Results:** Our study demonstrated that epicardial adipose tissue and the persistence of the inflammation marker in acute myocardial infarction after 7 days post myocardial infarction was associated with a more severe alteration of ventricular function. Six month EF was well correlated with hsCRP circulating levels ( $r=-0.57$ ,  $p<0.0001$ ) and with the EFT ( $r=-0.61$ ,  $p<0.0001$ ). High hsCRP levels (Odds ratio [OR] 2.8,  $p=0.02$ ), and the thickness of the epicardial fat (OR: 6.3,  $p=0.001$ ) were the strongest predictors for ventricular remodeling following an AMI. **Conclusions:** Patients with pronounced epicardial fat and hs-CRP persistence after 7 days of acute myocardial infarction have a poor development: represented by low ejection fraction, ventricular cavity dilatation and the development of a ventricular remodeling at six months.

**Keywords:** biomarkers, ventricular remodeling, epicardial adipose tissue, acute myocardial infarction

## NON INVASIVE EVALUATION OF LEFT MAIN STENOSES USING CORONARY COMPUTED TOMOGRAPHIC ANGIOGRAPHY FOR RISK ASSESMENT IN INTERVENTIONAL REVASCULARIZATION PROCEDURE

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**Background:** The treatment of left main stenoses still represent a challenging area in interventional cardiology and a permanent subject of debates between interventional cardiologists and cardiothoracic surgeons. This location of atherosclerosis process often induce a large ischemical territory and imply a high risk for restenosis, early and late thrombosis. Angio Syntax score (SS) evaluated by classic angiography is an known independent risk predictor for left main angioplasty (PCI) complications and we propose to identify a non invasive equivalent score by coronary computer tomographic angiography (CCTA) to evaluate the complexity of these stenoses. **Material and methods:** This study analyzed 36 patients with left main stenosis, each patient evaluated by coronary-angioCT followed by coronarography and percutaneous angioplasty. Calcium score, the volume of atherosclerotic plaques and the SS derived by angio CT angiography versus classical Syntax score were assessed in all the patients. **Results:** The patient groups according to their Syntax score were - high risk (SS> 33), intermediate (SS 22-33) and low risk (SS<22). **Conclusions:** Preinterventional assesment of left main complex lesions by coronary angio CT could identify the subgroup of patients with high risk for revascularization procedure, and recommend this noninvasive evaluation in the left main revascularization algorithm.

**Keywords:** angioplasty, calcium, coronary computer tomography, syntax score

## CORRELATION BETWEEN OUT-OF-HOSPITAL CARDIAC ARREST AND MORTALITY IN STEMI PATIENTS

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**Background:** Patients presenting with out-of-hospital resuscitated cardiac arrest due to Acute Myocardial Infarction associate higher in-hospital and long term mortality. Revascularisation of culprit lesion, therapeutic hypothermia and optimal intensive care are the most important strategies in reducing the mortality rate. The aim of this retrospective study is to follow the in-hospital and long term mortality rate in STEMI patients presenting with out-of-hospital cardiac arrest. **Material and methods:** In the period of Jan 2013-June 2014 we followed 47 patients presenting out-of-hospital cardiac arrest and indication for emergency coronarography. Average age was 60.95 year, the FMC to needle time was 11.8 hours (708 min) and 14.89% of patients benefited from pre-hospital fibrinolysis. Thirty-four patients suffered the cardiac arrest at home, 6 during the transport and 14 in the emergency room. **Results:** The infarct related artery was LAD in 46.34% of cases, RCA in 29.26%, Cx in 7.31%, while left main or triconary lesions were found in 4.87% of cases. In 12.76% of cases we did not find any coronary lesion with indication of revascularization. Aortic contrapulsation balloon was required in 6.38% of cases for hemodynamic support. After revascularization, 65.71% of patients were transferred in the intensive care unit requiring respiratory support. Average hospitalization time in these patients was 9 days. The in-hospital mortality rate was 38.29% and the 6 month follow-up mortality 44.68%. **Conclusions:** STEMI patients with out-of-hospital resuscitated cardiac arrest present higher in-hospital and long term mortality rate, as well as longer hospitalization time. Prehospital network organization, introducing of therapeutic hypothermia and improving of intensive care treatment strategy is necessary in order to reduce in-hospital and long term mortality in these cases.

**Keywords:** STEMI, cardiac arrest, mortality, primary coronary angioplasty

## IN-STENT RESTENOSIS AFTER PRIMARY PERCUTANEOUS CORONARY INTERVENTION FOR ACUTE MYOCARDIAL INFARCTION

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**Background:** The aim of this study is to analyse the in-stent restenosis (IR), after stent angioplasty in acute myocardial infarction (AMI). **Material and methods:** We studied during January 2008 to October 2009, 184 patients, mean age 51,5, 74% males, 26% females, with AMI who underwent PTCA with stent. 33 patients from this group developed IR during consecutive 6 years (followed-up until December 2013). **Results:** The coronary vessels were opening in 100% of the patients, and the coronary flow was good: TIMI III in 89,67%. Followed up 6 years, IR. appeared in 33 (18%) of the patients with stents. IR is most common (31%) at the age of 61-70, and 3 times more frequent at females. Associated diseases with IR: 61% hypertension, 21% diabetes mellitus, 3% chronic kidney disease, 3% peripheral arterial disease. IR risk factors: 39% dyslipidemia, 31% smoking, 18% obesity. IR occurred in 52% of the cases in Anterior Descending Artery (ADA), in 36% in Right Coronary Artery (RCA), 8% in Circumflex Artery (CXA) and 4% in other coronary arteries. Focal restenosis occurred in 60% of stents and diffuse restenosis in 40%. 28 patients (85%) presented moderate (50-90%), and 5 patients (15%) severe (>90%) IR. Together with IR, took place other lesions in the native coronary arteries: 30% RCA, 27% ADA, 24% CXA and 19% in other coronary arteries. The risk of developing a stenotic lesion is 2 times higher in the free vessel than into the stent. Although all patients received treatment with Aspirin and Clopidogrel, early IR(1-30 days) occurred at 9%, late (30 days-1 year) at 15% , and very late (after 1 year) at 76% of the stents. **Conclusions:** Despite a 18% in stent restenosis, angioplasty with stent implantation in patients with acute myocardial infarction gives ideal conditions for myocardial recovery.

**Keywords:** in-stent restenosis, myocardial infarction, clinical trial

## CORRELATIONS BETWEEN CONTRAST DENSITY GRADIENT ALONG THE CORONARY STENTS AND FUNCTIONAL SIGNIFICANCE OF IN-STENT RESTENOSIS

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**Background:** Evaluating the hemodynamic significance of an in-stent restenosis is a challenging task. The aim of this study was to assess the utility of the attenuation gradient of contrast density along the in-stent restenosis using Coronary CT, as a new marker to evaluate the functional significance of a coronary in-stent restenosis. **Material and methods:** We enrolled 25 patients with in-stent restenosis who underwent 64-slice Coronary Computed Tomography Angiography and we determined the contrast density expressed in Hounsfield units at two levels, proximal and distal to the stent. **Results:** The average contrast density was 88.4 proximal to the stent and 57.4 distal to the stenosis. In those lesions with by >70% in-stent restenosis, the transluminal attenuation gradient was significantly higher as compared to those with <70% in-stent restenosis (5.14 +/-2.7, vs 14.5 +/- 5.4, p=0.02). We also found a good correlation between the contrast attenuation gradient and the degree of in-stent narrowing (r=0.6, p<0.001). **Conclusions:** Assessment of intraluminal contrast density by Coronary Computed Tomography Angiography could be used as a new technique to obtain relevant information about the clinical significance of an in-stent restenosis using a noninvasive approach.

**Keywords:** cardiology, medical imaging, in-stent restenosis, contrast density gradient, coronary computed tomography angiography

## CORRELATIONS BETWEEN ISCHEMIC TIMES AND MORTALITY IN A REGIONAL STEMI NETWORK

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**Background:** The aim of this study was to investigate the correlation between total ischemic times and STEMI mortality in a regional STEMI network in Central Romania. **Material and methods:** We compared total ischemic times and mortality in 416 patients with ST- segment elevation myocardial infarction who presented to a pPCI center (141 patients) or have been referred to a pPCI center from a territorial hospital. The network was divided into 3 regions: region 1 101 cases Results: Despite the different distance to the cathlab, the mortality rates were similar in all the regions in the network: 3.5% in pPCI center, 3.9% in region 1, 3.7% in region 2 and 3.2% in region 3. This was correlated to a quite similar total ischaemic time in all the regions: 340 min in the pPCI center, 344 min in region 1, 369 min in region 2, 366 min in region 3. **Conclusions:** Myocardial ischemic time is powerful determinant of mortality in STEMI patients, independent of the network times. Therefore, reduction of total ischemic time should be the main goal of network organization in STEMI network.

**Keywords:** STEMI, primary PCI, network, ischaemic time, mortality

## NANOPARTICLE-BASED TREATMENT OF CORONARY IN-STENT RESTENOSIS

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**Background:** Nanoparticle-based treatment using balloons coated with antiproliferative substances has been recently proposed for treatment of in-stent restenosis. The aim of this study was to assess evaluate the role of drug-eluting as a new therapeutic strategy for treatment of in-stent restenosis. **Material and methods:** Fifty-one patients with in-stent restenosis were divided in two groups: group 1 -19 patients treated with nanoparticle-coated balloons, group B 32 patients treated with drug eluting stents or classical balloon angioplasty. We followed the MACE rates and the restenosis rates at 6 months and 1 year as assessed by angio CT 64 multislice. **Results:** No MACE was recorded in group 1, while 5 MACE were recorded in group 2. In group 1 Angio CT Multislice analysis did not identify any significant in stent restenosis in group 1, while the in-stent restenosis rate at 6 months was

15,6% in group 2. **Conclusions:** Nanoparticle-based treatment of coronary in stent restenosis using special ballons coated with antiproliferative substances is a new therapy with superior results as compared with traditional methods of treatment in cases with in stent restenosis

**Keywords:** drug eluting ballons, in-stent restenosis, drug eluting stent, plain old ballon angioplasty, Nanoparticle

## ISCHEMIC ALTERNATION BETWEEN LEFT ANTERIOR AND LEFT POSTERIOR FASCICULAR BLOCK

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**Background:** Alternating bundle-branch block is a sign of advanced conduction disturbance in His-Purkinje system, and is considered class 1 indication for permanent pacing. Has, similarly, the alternation between left anterior and left posterior fascicular block a worse significance ? **Material and methods:** We studied a patient who presented at a few minutes interval alternation between Left Anterior Fascicular Block (LAFB) and Left Posterior Fascicular Block (LPFB), and the correlation between these conduction disturbance and his mitral and ischemic disease. **Results:** A 67 years old patient was admitted into the First Clinic of Cardiology for angina pain and cardiac failure. The Echo-Doppler examination showed a severe mitral insufficiency (III degree) by ischemic chordae tendineae of the both anterior and posterior leaflets rupture. Left ventricle was dilated, with depressed contractility (EF 50%), and inferior septum akinetic. Coronarography revealed: severe (75%) Anterior Descending Artery (ADA) stenosis, and subocclusion (99%) of Obtuse Marginal branche (OM) of Circumflex Artery (CXA). ECG at rest revealed: sinus rhythm 75/min, left anterior fascicular block (LAFB), ischemic features (negative T wave) in lateral leads. Spontaneous, and during resting angina, appeared during sinus rhythm, left posterior fascicular block (LPFB) with ischemic features (ST descending and negative T wave) in posterior leads. The patient was operated 5 days after. Mitral valve with Saint Jude prosthesis and ADA and OM CABG were performed. Postoperatively, the patient was hemodynamically stable, and ECG showed sinus rhythm and LAFB without ischemic signs. **Conclusions:** Our case is a rare situation of alternation between LAFB and LPFB in severe myocardial ischemia due to chronic severe coronary stenosis of ADA (responsive for LAFB), and OM (responsive for LPFB). It is an example that fascicular left branch disturbances are often not exactly inoffensive, but also reflect severe myocardial ischemia.

**Keywords:** \*\*\*, \*\*\*, \*\*\*

## INTERVENTIONAL TREATMENT IN A CASE OF INFERIOR MYOCARDIAL INFARCTION SECONDARY OF ACUTE AORTIC DISSECTION TYPE DEBAKEY I

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**Background:** Direct extension of a dissecting flap into the coronary arteries and subsequent coronary malperfusion are one of the mechanisms of acute myocardial infarction (AMI) associated with proximal aortic dissection (AD). Dissection affects the right coronary artery (RCA) more often than the left coronary artery (LCA). Cardiac catheterization is not always a straightforward procedure in patients with AD, due to the presence of intimal flaps. In these conditions, the true lumen may be missed and iatrogenic complications may occur. **Material and methods:** A 56-year-old female was admitted after the diagnosis of acute aortic dissection type DeBakey I at another hospital for emergency surgical intervention. Before surgery a coronary angiogram was performed without clarifying the morphology of coronary arteries. After surgical replacement of ascending aorta with a Dacron prosthesis her hemodynamic and electric state was unstable; EKG recording showed signs of acute inferior infarction. An emergency coronary angiogram using left radial approach was performed and an intermittent occlusion of RCA was observed. **Results:** Primary PCI was successful, with a "direct stenting" of initial segment of RCA with a Cobalt-Chrome bare metal stent 3.5x15 mm, restoring the flow in RCA and remission the ST-T elevation in inferior EKG leads. **Conclusions:** Aortic dissection complicated by AMI is an extremely serious condition. A correct diagnosis is very important before starting any therapy. Emergency imaging techniques help to guide the correct diagnosis. Transthoracic echocardiography is useful as a first imaging test, and may be followed by other tests. AMI due to direct extension of a proximal AD flap is a fatal condition that can be promptly

diagnosed by coronary angiogram or IVUS (where available) Surgical management (local repair or CABG) of dissected coronary arteries during AD is controversial. Direct stenting of the coronary dissecting flap may be an optional bridge approach for critical unstable patients before definitive surgery.

**Keywords:** acute aortic dissection, inferior myocardial infarction, imaging techniques, primary percutaneous coronary intervention

# CARDIOVASCULAR SURGERY

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## A XENOGRAFT HEART VALVULAR CONDUIT - INTRAOPERATORY HEMODYNAMIC PARAMETERS MEASUREMENT

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**Background:** Achieving a pulmonary valve xenograft with no hemodynamic impact. **Material and methods:** In the Tissue Engineering and Regenerative Medicine Laboratory at UMF Targu Mures, acellular scaffolds were created from decellularized porcine pulmonary valves using mechanical, chemical and enzymatic methods. Those were included in a decellularized bovine pericardium conduct and placed in extra-anatomic position between the right ventricle outflow tract and the pulmonary trunk. 7 juvenile sheep about 4-5 months (22-25 kg) were selected as animal model. Right ventricle and pulmonary artery invasive pressures were measured, intraoperatory, before and after the ligation of the native pulmonary trunk. Systemic blood pressure, heart rate and oxygen saturation were also considered. **Results:** The physiologic average of the right ventricle mean pressure was 20.14 mmHg (interval between 17 and 22) and in the pulmonary artery was 23,42 mmHg (interval between 21 and 26). Redirecting the blood flow through the valvular conduit, by ligating the pulmonary trunk origin, did produced similar means: 21,42 mmHg (19 to 23) in the right ventricle and 23,14 mmHg (21 to 26) into the pulmonary artery. The new means are not significantly different from the native values, as shown by the two-tailed p values of the paired t-test (p = 0.06, respectively 0,77, at a 95% confidence level). Arterial blood pressure have maintained between 110-130/70-80 mmHg, heart rate below 100/min and oxygen saturation above 94%. **Conclusions:** Our pulmonary valve xenograft implantation did not modified intraventricular and pulmonary pressures intraoperatory. Systemic blood pressure, heart rate and oxygen saturation were also stable. Long term follow up is necessary to evaluate the xenograft performance.

**Keywords:** Tissue Engineering, sheep, pulmonary, xenograft, invasive pressure

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## TRUNCUS ARTERIOSUS – SURGICAL APPROACH

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**Background:** Truncus arteriosus is an uncommon congenital cardiovascular anomaly, characterized by a single arterial trunk arising from the heart by means of a single semilunar valve. Pulmonary arteries originate from the common arterial trunk distal to the coronary arteries and proximal to the first brachiocephalic branch of the aortic arch. Truncus arteriosus typically overrides a large outlet ventricular septal defect. Prevalence ranges from 0.03 to 0.056 per 1000 live births. No striking sex difference in frequency is observed although most series contain more males than females. Neonates with truncus arteriosus present clinical features of congestive heart failure depending on the high volume of pulmonary blood flow and the presence or absence of truncal valve insufficiency. **Material and methods:** This retrospective study describes our experience in truncus arteriosus based on 14 patients, aged between 6 weeks and 32 months, who underwent surgical treatment between 2005- 2014. 58.33% of the patients were presenting truncus arteriosus type I, 33.33% type II and 1 case (8.33%) type IV. **Results:** Currently surgical management consists of complete repair with closure of the ventricular septal defect, committing the common arterial trunk to the left ventricle outflow tract. In 83.33% of the cases, right outflow tract reconstruction was obtained by placing a cryo-preserved valved conduit. The REV procedure was used in 1 case (8.33%) and aortic arch reconstruction with pericardial patch aortoplasty was performed in 1 case (8.33%). **Conclusions:** In the last years there have been clinically significant improvements in treatment with early repair and now truncus arteriosus is ideally repaired in the neonatal period with low mortality.

**Keywords:** pediatric cardiac surgery, pediatric cardiac surgery, common arterial trunk ,cardiovascular anomaly, con, common arterial trunk ,cardiovascular anomaly, con

## INTERVENTIONAL THERAPY OF AORTIC COARCTATION DURING PREGNANCY

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**Background:** Aortic coarctation is a congenital malformation, characterized by the narrowing of the vessel lumen diameter, right after the origin of the left subclavian artery. The clinical aspect is focused on the high blood pressure in the superior territory, comparatively to the inferior territory of the body. The treatment options are the following: the pharmacological control of the blood pressure, the surgical approach, or the interventional approach. **Material and methods:** This case report presents a 28 years old female patient, pregnant at the present moment, at 25 weeks of gestational age, with a previous miscarried pregnancy and with a systolic blood pressure exceeding 150 mmHg, that could not be efficiently controlled. The echocardiography and angioCT disclosed a severe coarctation of the thoracic aorta. In this clinical context, we opt in favor of the interventional procedure. The patient underwent a percutaneous transluminal angioplasty, a stent being implanted at the level of the descending aorta. **Results:** The result of the procedure is encouraging, without any further complications, with the normalization of the vessel lumen diameters and with a noticeable decrease of the blood pressure in the superior territory arteries ( 120 mmHg). **Conclusions:** The previous data shows that stent angioplasty is a not only an option, but a suitable choice for pregnant women, diagnosed with coarctation of the aorta.

**Keywords:** Cardiovascular surgery, Interventional cardiology, aortic coarctation, interventional therapy, pregnancy

## SURGICAL TREATMENT OF TRASPOSITION OF GREAT VESSELS

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**Background:** Transposition of great vessels is a frequent disease, representing 5-8% of all cardiac malformation, and causing approximatively 25% of the deaths in the first year of life, with cardiac congenital etiology. It is encountered 4 times more often in men than in women. It is characterized by a dual, parallel circulation, which is incompatible with life in the absence of a patent communication between the pulmonary and systemic circulation. As a consequence, a severe and rapidly evolving heart failure develops, mostly because of the unrestricted pulmonary blood flow, but also because the coronary arteries receive unoxygenated blood, resulting in myocardial hypoxia. The pharmacological treatment has a supportive role, until the moment of the surgical procedure. In the first days of life, after the TGV is diagnosed, we will start iv treatment with PGE1, which will maintain a patent ductus arteriosus, and therefore will increase the mixing between the two parallel circulations blood. The arterial switch intervention is considered the gold-standard in the treatment of TGV. **Material and methods:** The present paper aims to outline the surgical experience in treating this disease, in the Cardiovascular Surgery Department of IuBCVT Targu-Mures. Between October 2005 and September 2013 a number of 134 patients diagnosed with transposition of the great vessels were admitted in our service. In 86% of the cases we performed a "arterial switch operation", with a 4,4% mortality rate (4 patients). **Results:** Because this pathology requires surgical intervention during the first 21 days of life, prenatal diagnosis is essential. **Conclusions:** The progress of surgical therapy, improved the life quality of the patients, making it possible for them to have a high degree of social integration.

**Keywords:** Cardiovascular surgery, Surgery, great vessels transposition, arterial switch, congenital heart malformation

## DENTAL MEDICINE

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### PREVALENCE OF DENTAL EROSION AMONG YOUNG SWIMMERS: A PILOT STUDY

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**Background:** Objectives: To assess the prevalence of dental erosion among young competitive polo players and recreational swimmers of a local swimming club in Tîrgu Mureş, Romania. **Material and methods:** Material and methods: A cross-sectional study on dental erosion was conducted including a group of very young competitive polo swimmers aged 9 to 14 years, being trained for an average of 5 years (group 1; n=30), a group of young competitive polo swimmers aged 15 to 20 years, who had been training for an average of 10 years (group 2; n=64) and a group of recreational swimmers aged 10 to 20 years (group3; n=40). Subjects completed a questionnaire focused on the common erosion risk factors and a clinical examination was performed. The Lussi index was used for the assessment of erosive tooth wear. Statistical analysis was performed using Chi-square test. Relative risk (RR) was calculated. The level of significance was set at  $p<0.05$ . **Results:** Results: Dental erosion was found among the polo swimmers in 23.3% of the 9-14 year-olds, in 50% of 15-20 years-olds and in 10% of the recreational swimmers, respectively. All eroded dental surfaces in the 1st and 3rd group were evaluated as grade 1, but in the 2nd group also grade 2 was observed. Significantly more polo players presented erosive lesions compared to recreational swimmers (group1,  $p=0.04$ ; group 2,  $p<0.0001$ ). **Conclusions:** Conclusions: The prevalence of dental erosion was high among the regular swimmers in Tîrgu Mureş and was significantly related to water polo players training period. The results suggests the necessity of preventive measures regarding dental erosion in swimmers.

**Keywords:** Epidemiology, Pilot studies, dental erosion, prevalence, swimming

### PAROTID GLANDS TUMORS - A RETROSPECTIVE CLINICAL AND HISTOPATHOLOGICAL STUDY

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**Background:** Parotid glands tumors (PGTs) are relatively rare. They display a wide variety of histopathological subtypes and different pathophysiological behavior. Salivary glands neoplasms accounts for less than 3% of human cancers, and about 6% of head and neck neoplasms. The purpose of this paper is to present a retrospective study on multiple features regarding PGTs, such as: incidence, age, sex ratio, histopathological and immunohistochemical type, in order to provide further insights on this pathology. **Material and methods:** The retrospective study comprises 89 cases of parotid glands tumors, and was performed in Oral and Maxillo-Facial Surgery Clinic and Histopathology Department of Emergency County Hospital Targu Mures, during 4 years, between January 2010 and December 2013. Twenty-four cases were excluded from the study, those weren't arising in salivary glands tissue. In 65 cases, data regarding the above mentioned features concerning PGT, were collected, analyzed using descriptive statistics and compared with the literature. **Results:** PGTs are most common in: 50-60 years, males (53.3%); on the right side (55.38%). Their occurrence is higher in urban areas (61.53%); but no relation can be found between area of origin and PGT ( $p=0.8041$ ). Pleomorphic adenoma is the most frequent benign PGT, affecting mostly female, 40-59 years old, followed by Warthin tumor, more frequent in male, 50-69 years old. Mucoepidermoid carcinoma prevails among malignant PGTs, followed by squamous cell carcinoma, adenoid cystic carcinoma and acinar cell carcinoma; other histopatological types are less common in parotid glands. Malignant PGTs are found usually in males, over 50 years, with a peak incidence between 60-69 years. Immunohistochemical studies are still in progress and in order to obtain conclusive results, an increased number of cases will be necessary. **Conclusions:** Our results are in accordance with the literature: PGT is a rare pathology; adult males are most affected by; pleomorphic adenoma is the commonest tumor.

**Keywords:** parotid glands tumors, histopathology, immunohistochemistry, retrospective study

## HISTOLOGICAL EVALUATION OF THE EFFICIENCY OF LOW-LEVEL LASER THERAPY ON BONE REGENERATION IN EXTRACTION SOCKETS GRAFTED WITH ALLOGRAFT MATERIAL COVERED WITH RESORBABLE COLLAGEN DRESSING

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**Background:** Our objective was to determine if low level laser therapy (LLLT) can decrease the time between extraction/socket graft and implant placement, by evaluating histological changes in sockets grafted with an allograft material and treated with LLLT. **Material and methods:** Thirty patients had a socket grafted with a particulate allograft material (MinerOss) covered with a resorbable collagen wound dressing. The patients were then randomly divided in two equal groups (n=15), one receiving postoperative LLLT treatment, and the other without postoperative laser treatment served as control. The assessment of bone formation was done in both groups at several time intervals after surgery by histomorphometric analysis. **Results:** The histological results of the side treated with LLLT for 21 days, harvested at 60 days after the grafting showed abundant new bone formation without any sign of inflammation. The same results were obtained in control group no sooner than 120 days post-surgery. **Conclusions:** In conclusion, LLLT and LED photobiomodulation has the ability to speed up the healing time after the grafting in the extraction sockets. Histological evidence suggests that in about 60 days there is new bone formation in the sockets compared to a minimum of 120 days from the non LLLT treated sites. **Acknowledgment.** This paper was published under the frame of European Social Fund, Human Resources Development Operational Program 2007-2013, project no. POSDRU/159/1.5/S/136893.

**Keywords:** laser therapy, bone regeneration, low level laser therapy, bone regeneration, socket

## ORTHODONTIC TREATMENT NEED IN A GROUP OF CHILDREN AND YOUNG ADULTS FROM MURES REGION.

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**Background:** Introduction: Orthodontic treatment depends on the perception of facial and dental aesthetics of both the patient and the orthodontist. **Objectives:** The aim of this study was to evaluate the necessity of orthodontic treatment and dental aesthetic of a group of children and young adults from Mures Region using Aesthetic Component, Dental Health Component of IOTN and Angle's classifications of malocclusion, and to find if there is a correlation between these methods. **Material and methods:** Material and Methods: We selected 140 patients aged between 12 and 25 years who ask for orthodontic treatment. One examiner analyzed intraoral photos and dental casts of the patient in order to determine the AC, DHC and the Angle's class of malocclusion. The results were statistically analyzed. **Results:** Results: For AC we have 38,57% patients with no need for treatment, slight need for treatment have 31,42% of the subjects, 16,43% have severe need for orthodontic treatment and only 13,57% with moderate need for orthodontic treatment. For DHC we have 45,71% patients with moderate need of treatment, 30% with slight need, 12,86% with great need and 11,43% with no need for treatment. For Angle's classification we find 57,97% subjects having Class I; 21,01% having Class II division 1 and 21,01% Class II division 2. The values obtained for this component were analyzed and compared using Chi square test. **Conclusions:** Conclusions: Orthodontic treatment need for the children and young adults from Mures Region is low according to AC component of IOTN, and Angle's classification, and is low to moderate according to DHC component of IOTN. We found a connection statistically significant between AC and DHC, AC and Angle's classification, DHC and Angle's classification.

**Keywords:** index of orthodontic treatment need (IOTN), aesthetic component (AC), dental health component (DHC), Angle's classification, ACKNOWLEDGEMENT: This paper is partly supported by

## SALIVARY FLUORIDE LEVELS AFTER THE USE OF DIFFERENT TOOTHPASTES

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**Background:** Intraoral fluoride (F) retention is of great relevance when evaluating the efficacy of preventive measures for dental caries control. The study was aimed to analyze salivary fluoride as indicator of intraoral F levels after the use of conventional and high-fluoride toothpastes. **Material and methods:** Twenty 20-35-year-old volunteers were included in this double-blind crossover study. Subjects were instructed and randomly assigned to brush their teeth twice daily, during 10 days, with three toothpastes containing: 0 µg F/g (placebo), 1.000 µg F/g (conventional) and 5.000 (high-fluoride) µg F/g. Samples of stimulated saliva were collected at 1 and 12 h after the last use of each dentifrice. The protocol was repeated twice, using the toothpaste not previously used. All samples were analysed in triplicate after buffering with TISAB III (Total Ionic Strength Adjustment Buffer). The fluoride concentrations were determined through millivolt (mV) readings using the direct method by ion-specific electrode (Orion 9609) coupled to an ion-analyser (Orion 720A). For statistical analysis the Mann-Whitney U test and Kruskal-Wallis post-hoc Dunn test were used ( $p \leq 0.05$ ). **Results:** The salivary F concentrations (mean value  $\pm$  SD, µg/ml) measured one hour after toothbrushing were  $0.064 \pm 0.025$  when placebo,  $0.286 \pm 0.253$  when conventional and  $1.118 \pm 1.449$  when high-fluoride toothpaste were used, respectively. Salivary F levels were significantly increased at both 1 and 12 h after brushing with the conventional and high-fluoride toothpastes, when compared to placebo. **Conclusions:** A dose-response relationship was observed regarding F content of toothpastes and those found in saliva. The results suggest that the use of high-fluoride toothpaste is able to significantly increase salivary F levels throughout 12 hours providing cariostatic effect. **Acknowledgement:** The study was supported by "The Borrow Foundation" (UK) through the research grant no 5274/25.06.2010.

**Keywords:** fluoride analysis, fluoridated toothpaste, salivary fluoride

## STUDENTS' PERCEPTION ON THE E-LEARNING PLATFORM – EVIDENCE FROM THE FACULTY OF DENTISTRY, UMF TÎRGU MUREȘ

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**Background:** UMF TgMureș promotes a complex e-learning platform. Through this study we evaluated the Faculty of Dentistry from UMF Tîrgu Mureș students' feedback on this, if they perceive the use of computer educational resources as efficient and if the educational process is supported by the platform. **Material and methods:** We elaborated a 20-item questionnaire that targeted major topics related to the e-learning platform. This questionnaire was filled in by students from the DFUMF throughout the period 1-15 November 2014. Except for the questionnaires, having a large number of questions unanswered, that were eliminated, the rest of them was processed with Microsoft Excel and interpreted. We registered and evaluated the impact of the e-learning platform over the Dentistry Medicine students, as well as the students' feedback on the quality of the learning process. **Results:** The results cannot be inferred on the entire UMF TgMureș platform, but we consider them to be quite relevant tendencies for the targeted segment: Dentistry Medicine students. The analysis of the results has demonstrated that dentistry medicine students interact in different manners with the e-learning platform. They have little experience in working with e-learning platforms and they prefer constant guidance during their studies. 86% of the students signalled that they are not satisfied with the security the platform provides for each user (student/professors). The study evaluates only the students' personal feedback in relation to the quality and efficiency of the platform, and not its efficacy. **Conclusions:** Students' opinions pinpoint to both positive contributions and negative aspects with respect to the e-learning platform. We see an opportunity in taking into consideration some specific items in the questionnaire for they may indicate potentially problematic situations that require solutions for improvement. The delivery of educational resources that better integrate the learning preferences of each student should carefully be taken into account

consideration.

**Keywords:** students, dentistry medicine, feedback, e-learning

## THE "MODIFIED NEW ZEALAND" DESIGN FOR IMPLANT RETAINED OVERDENTURES CASE REPORTS

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**Background:** According to the evidence currently available, the implant-retained over denture is a reliable treatment option for the mandibular complete edentation. The aim of this short presentation is to promote the "modified New Zealand" concept from a neuromuscular point of view. **Material and methods:** We fabricated conventional mandibular prostheses for three edentulous patients. We consequently placed for each of them, four implants in the symphyseal region. Ball attachment abutments retained the supra-implant mandibular prosthesis. We performed the occlusal analysis and equilibration of the implant retained over denture by means of the T-Scan III system. **Results:** We obtained high favorable responses concerning the patient general satisfaction for this treatment approach, about the stability, retention and comfort. **Conclusions:** (a) This prosthetic design has a noticeable impact on the patient's quality of life. Both the "New Zealand" (two implants) and the "modified New Zealand" concepts (four implants) can significantly improve the mandibular complete denture functionality; (b) The neuromuscular approach used for the occlusal analysis gives to the prosthetic rehabilitation an evidence-based feature.

**Keywords:** Prosthodontics, Implantology, Implant-retained overdenture, New Zealand concept,

## STUDY UPON ORAL AND MAXILLO-FACIAL TRAUMAS

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**Background:** Traumas of Oral and Maxillo-Facial region (T-OMF) are one of the main pathology of this region, since the head is very exposed to different traumatic agents (car accidents, aggressions, work, play and sport accidents, even accidents during surgical procedures, etc). Traumatic lesions may interest soft tissues, teeth, jaws, isolated or in various combinations among them, associated or not with other region traumas, some of them can be very severe, rising surgical procedures difficulties and being followed by secondary deformities. **Material and methods:** Study was conducted on admitted patients in Oral and Maxillo-Facial Surgical Clinic Tg. Mures. Different features concerning OMF traumas, such as sex ratio, age, type of traumatic agents, patient's area of origin, association of alcohol consumption, type of traumatic lesions, etc, were considered. Collected data were analyzed by descriptive statistics and compared with the literature. **Results:** Generally, male, 20-40 years old, often association of alcohol consumption, car accidents and humane aggressions, poor economic status, were the resulted highlights features, being concordant with the literature. **Conclusions:** Increased number of traumatic lesions of Oral and Maxillo-Facial region, can be related very often to a poor educational level and economic status, and may represent a social problem, morally, but also regarding health insurance system

**Keywords:** Oral and Maxillofacial Surgery, trauma of oral and maxillo-facial region, statistic

## ASSESSMENT OF DENTAL STUDENT'S KNOWLEDGE REGARDING THE DESIGN OF CONVENTIONAL OVERDENTURES. CRITICAL ISSUES

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**Background:** Conventional overdenture is a complete denture who transmit masticatory forces to the prosthetic mandibular field by a mesostructured represented by natural tooth or dental root. The issue of aesthetics overdentures on natural teeth is extremely important, even more so as this type of restoration is aimed at people with severe edentation, that shows obvious esthetic changes,

sometimes associated with psychical changes, especially if it occurs in young people. Making conventional overdenture requires minimal knowledge of dental students that ensures the treatment success. **Material and methods:** Our aim was to evaluate the students' knowledge level, from both theoretical and practical about how is made classic overdenture. In this regard we have achieved a first questionnaire consists of three simple questions to dental students in three universities of Romania. To the questionnaire have responded 108 students. The final year students of one university were asked to perform practically this type of prosthetic restoration, in a clinical case suitable for this treatment. **Results:** Results showed that the most students (79%) know the basics about overdenture, but they don't have spatial and technological perspective about realisation itself. Of those surveyed, 50% of students do not know the role of the general factors that can ensure success of overdenture or composite dentures. They didn't consider important factors like abutment topography, mounting teeth or the free way space. **Conclusions:** In conclusion, despite the high frequency in practice, this kind of treatment is not available to everyone. Some of the produced errors doesn't influence the wearing of this prosthesis. To improve the student's performance, is recommended the use of educational films.

**Keywords:** dental student's knowledge, dental aesthetic, overdentures design, dental curriculum

## NEW CONCEPTS ON STRESS AND PERIODONTAL DISEASE

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**Background:** The international literature describes several aspects related to this subject but without a main overview and also without a direct application on diagnose and treatment of periodontal disease. However, stress is an important factor involved and confirmed in etiology and physiology of several inflammatory diseases including periodontal disease. The current definition, the new concepts and the empiric scientific models prove how the mechanisms of action leads to emergence, exacerbation, sustaining of periodontal disease, and paradoxically to prevention and amelioration of it. Project is that the stress influences CNC through psychosomatic, physiologic, and endocrine mechanisms, and then through immunologic mechanism leads to significant changes. Our paper presents a review about the present level of knowledge regarding mechanisms of stress and the currently known theoretical aspects. **Material and methods:** A review of the national and international literature was conducted. Study of references from the specialized literature to prove etiology yet not confirmed of periodontal disease. The relationship between stress and periodontal disease do to our hypothesis as function of stress management by the patient can be a positive or a negative factor in the physiology of the vital organs. **Results:** There is a lack of studies and debates regarding the link between stress and periodontal disease. The international literature describes several aspects related to the subject, but without direct application on diagnose and treatment of periodontal disease. Within studies regarding illness and several disease has a dynamic definition being involved in the etiology and maintenance of several inflammatory diseases including periodontal disease. The current theory about the stress mechanism is CATS. **Conclusions:** After a good analysis about the present level of knowledge our paper confirms the latest theory and brings new concepts on the link between stress and periodontal disease. Stress is an important etiological factor for the periodontal disease.

**Keywords:** stress, periodontal disease, CATS

## DEPARTMENT OF COMMUNITY NUTRITION

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### DIETARY SOURCES OF FIBER INTAKE AND ITS ASSOCIATION WITH SOCIO-ECONOMIC FACTORS AMONG ADULTS

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**Background:** The research regarding on the potential health benefits of dietary fiber has received considerable attention in the last several decades. Generally speaking, dietary fiber is the edible parts of plants, or similar carbohydrates, that are resistant to digestion and absorption in the small intestine. The mechanisms of dietary fiber on metabolic health is the changes in intestinal viscosity, nutrient absorption, production of short chain fatty acids and production of gut hormones. **Material and methods:** The objectives were to assess total dietary fiber intake, the consumption habits, the knowledge about food fibres, also to identify the major sources of dietary fiber and to examine its association with socio-economic factors among adults who are working in food industry (namely sugar factory in the little town Ludus, Romania). **Results:** Seven-day estimated dietary records were collected from an employees 27-55 years old (n = 180; 124 men, 56 women). The mean dietary fiber intake (11.6 g/day) was lower than the intake level recommended by the Romanian Dietary Guidelines (25 g per day for women and 38 g per day for men), and the frequency by gender was 64% men and 85% women with fiber intake below the level. The most important fiber sources were bread and cereals (51.5%), followed by potatoes and grains (24.0%), fruits (7.8%), energy-dense and low-nutritious foods (8.4%), and also vegetables (8.3%). Multiple linear regression analyses showed that total fiber intake was associated positively with their education. Engineers and medium education employees did not differ in their knowledge scores about food fibres and the identification of the major sources of dietary fibers, (p<0.0001). Overall, fiber intakes from rich-nutritious foods (vegetables and fruits) were higher in the group of employees with the highest education level. **Conclusions:** These findings suggest that dietary fiber should be promoted to general population and also in programs dedicated to food industry personnel.

**Keywords:** Romanian Dietary Guidelines, fiber sources, dietary fiber, consumption habits, food industry

## ENT (OTORHINOLARYNGOLOGY)

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### THE ROLE OF UPPERAIRWAY RESISTANCE INDEX IN CLINICAL EVALUATION OF PATIENTS WITH OBSTRUCTIVE SLEEP APNEA SYNDROME

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**Background:** The gold standard for diagnosing the patients with obstructive sleep apnea syndrome is nocturnal polysomnography. Evaluation of the severity of the apnea is performed by apnea hypopnea index-AHI value. The Upper Airway Resistance index-UARI was an essential element in assessing the degree of upper airway obstruction. The aim of this study was to analyse the importance of using the upper airway resistance index in the evaluation of patients with Obstructive Sleep Apnea Syndrome.

**Material and methods:** In study were included 151 patients with Obstructive Sleep Apnea Syndrome. Patients were evaluated according to the value of the apnea-hipopnee- and upper airway resistance indexes. **Results:** Between values of UARI and AHI in patients with mild and several Obstructive Sleep Apnea Syndrome was a significant statistically correlation,  $p < 0.05$ . In patients with moderate Obstructive Sleep Apnea Syndrome was no significant correlation between this two parameters,  $p = 0.08$ .

**Conclusions:** Upper airway resistance index with apnea-hypopnea index. represents an essential role in the diagnosis of the severity of Sleep Apnea.

**Keywords:** ..., ..., Obstructive Sleep Apnea Syndrome, Upper Airway Resistance Index, Apnea-Hypopnea Index

# ENDOCRINOLOGY

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## PROPHYLACTIC TOTAL THYROIDECTOMY <sup>?</sup> DISCUSSION IN RELATION TO A CASE WITH MEN-2A SYNDROME (CASE REPORT)

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**Background:** Multiplex endocrine neoplasia type 2A (MEN2A), characterised by medullary thyroid carcinoma (MTC), pheochromocytoma and primary hyperparathyroidism, is caused by germline mutations in the RET proto-oncogene. The age of onset, clinical features, and aggressiveness depend upon the specific germline mutation, so usually a good genotype-phenotype correlation and strong penetrance of MTC is observed. Current guidelines recommend prophylactic near-total thyroidectomy at early age. **Objectives:** We propose to present a case with MEN2A, whose therapeutic management was difficult, regarding the reluctance and low compliance shown by the patient and his entourage. Our second aim is to review the current literature about prophylactic total thyroidectomy, and highlight its benefit. **Material and methods: Results:** Case report. In 2008 the 22-year-old male patient was labelled with essential arterial hypertension, combined antihypertensive medication being initiated. In January 2010 the abdominal CT-scan detected a nodule in each adrenal gland (left: 65x76mm, right: 12mm), and left adrenalectomy was performed, histological diagnosis being pheochromocytoma. In March 2012 the CT-scan showed the right adrenal nodule increased to 50x22mm, and right adrenalectomy was realized, histology showing also pheochromocytoma. The patient did not receive hormonal replacement, and Addisonian crisis, coma, with severe multiorgan failure developed. Substitution with 12.5mg/day prednisone and 0.1 mg/day fludrocortison was initiated, besides other intensive care therapies, the evolution being slowly favourable. In December 2013 diabetes mellitus was diagnosed, as well as an 8 mm hypoechoic left thyroid nodule (superior pole), with calcitoninaemia of 38ng/ml (normal <18.2), and a right inferior parathyroid adenoma on scintigraphy with high PTH and serum calcium level. RET-gene analysis demonstrated mutation on codon 634 (TGC634CGC - Cys634Arg). **Conclusions:** A prophylactic total thyroidectomy is firmly indicated, given that it is recommended before the age of 5-years in case of mutation on codon 634, but the patient refused surgery yet. Family screening for MEN syndrome is also recommended, it was initiated.

**Keywords:** medullary thyroid carcinoma, total bilateral adrenalectomy, Addisonian crisis, primary hyperparathyroidism, RET gene mutation

## EPIDEMIOLOGY

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### HUMAN PAPILLOMAVIRUS VACCINE, KNOWLEDGE AND ATTITUDE AMONG PARENTS OF PUPILS V-VIII, TG.MUREȘ, 2014

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**Background:** Romania is first in Europe in terms of mortality from cervical cancer, 6.3 times more than the average European Union countries. Vaccine against infection with human papillomavirus (HPV) is effective strains 6, 11, 16, and 18 of HPV, which are responsible for 70% of all cervical cancers. HPV vaccination and Babes Pap test reduce the risk of cervical cancer by up to 94%. For a successful vaccination program, it requires a high rate of absorption, accurate information for healthcare professionals and parents. **Purpose:** Evaluation of parents' knowledge about HPV infection and HPV vaccination, the level of information by health professionals and identify barriers in implementing a vaccination strategy. **Material and methods:** It conducted a cross-sectional study using a self-administered questionnaire to parents pupils V-VIII, two randomly selected schools in Tg. Mures. The questionnaire included questions about parents' knowledge regarding HPV infection, attitudes towards prevention of serious diseases, awareness about cervical cancer, awareness of HPV vaccine and intention to benefit from immunization program vaccination against HPV. **Results:** They surveyed about 800 parents. The majority of reported a low level of knowledge about HPV infection or HPV vaccination. For those with knowledge, two main sources of information occurred from friends and books, magazines, brochures specialty. Too few people have received information from the doctor. According to most parents surveyed, the main reasons for not wanting to vaccinate children are afraid of side effects, or do not know details about the vaccine, are poorly informed. **Conclusions:** The level of parental knowledge about HPV infection and HPV vaccination is low, and to implement an effective program to increase the absorption rate of HPV vaccination required educational strategies aimed at involving pupils and parents and family doctor in trouble health education. This paper was published under the frame of European Social Found, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/136893

**Keywords:** HPV infection, Cervical cancer, HPV vaccination, Questionnaire, Parents.

### SAMPLING IN SURVIVAL STUDY - A HISTORICAL CONTROL APPROACH

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**Background:** In malignant diseases the big pharmaceutical companies develop new active principles in order to improve the quality of life and length of survival of patients. Testing these drugs involves a specific approach and requirements for sampling. The calculation of sample size for such studies is challenging. **Material and methods:** The first step in the testing of a new drug is a pilot study regulated by Pharmacopoeia as regards the phases I and II. Based on the results of these studies we have calculated the necessary sample for phase III survival study. Historical control data are used: number of deaths observed (n), number of patients still at risk (YC), median survival (month, MS), hazard rates and statistical parameters imposed (significance level  $\alpha$ , accrual rate, length of the study, hazard rate ratios). We used the method proposed by Dixon & Simon (1988). **Results:** We applied the proposed method for patients with metastatic malignant melanoma. Values considered in the pilot study: observed number of deaths: 137 (n), number of patients still at risk: 0 (YC), median survival (month): 10.1 (MS), hazard rate: 0.66 ( $\alpha$ C). Statistical parameters in the study were: significance level:  $\alpha = 0.05$ , accrual rate:  $r = 3$  (/ month) (inclusion rate), length of the study:  $T = 60$  months (time tracking), hazard rate ratios:  $\alpha = 0.66 / 0.66 = 1$ . The sample size by applying this method varies depending on the time of follow-up: with 60 months follow-up the value is 180 patients, respectively 198 patients taking into account a 10% loss of tracking. With 36 months follow-up the sample size drops to 107, respectively 120 patients. The power of the study between the two approaches, however, is comparable: 0.76 versus 0.73. **Conclusions:** Sampling using historical control is correctly applied in survival studies.

**Keywords:** Epidemiology, Public health, sample size, survival study, historical control

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## SMOKING BEHAVIOR, ATTITUDES, AND SMOKING CESSATION COUNSELING TO PREGNANT SMOKERS AMONG FAMILY PHYSICIANS

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**Background:** Smoking during pregnancy is a major challenge to public health. An understanding of the attitudes of family physician on pregnant smokers before and during pregnancy is essential for the development of effective interventions for smoking cessation. Knowledge of family physicians attitudes towards health education activity, namely the awareness of pregnant smokers about the risks of smoking during pregnancy. **Material and methods:** We used a cross-sectional study based on a self-administered questionnaire to family physicians in Mures County. The questionnaire followed the training of family physicians, their smoking status, awareness of pregnant women about the risks of smoking, the reasons why pregnant women do not wish/wish to quit smoking. **Results:** We interviewed 65 physicians family, 61.5% in urban areas, 72.3% of primary physicians, with a proportion of 67.7% experience in the profession. About 88% consult a week 1-5 women pregnant. Among physicians, 60% had smoked a cigarette at least once, but 20% are smokers constant. The level of knowledge of patients about the risks of smoking during pregnancy is weak (30.8%) to satisfactory (35.4%). According to physicians, the reasons why pregnant women do not want to quit smoking are: 24.6% lack of knowledge about the risks of smoking on pregnancy, 32.3% - low education level, 29.2% - nicotine dependence, 26.1% entourage. On the other hand the reasons why pregnant women want to quit smoking are: 60% - maternal and child health, 18.4% - higher costs for cigarettes or family support, 20% ambition. **Conclusions:** The study allowed us a more complete understanding of the relationship family physician-pregnant smokers with important practical implications for smoking interventions in order to help stop smoking and provide health benefits for mothers and their children. Research reported in this publication was supported by the Fogarty International Center and the National Cancer Institute of the National Institutes of Health under Award Number R01TW009280-01.

**Keywords:** smoking, pregnant women, questionnaire, family physician

## GASTROENTEROLOGY

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### EPIDEMIOLOGICAL ASPECTS OF THE PRENEOPLASTIC AND NEOPLASTIC LESIONS OF THE ESOPHAGUS

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**Background:** The incidence of adenocarcinoma of the esophagus has dramatically increased during the last 2 decades. A major risk factor for adenocarcinoma of the esophagus is gastro-oesophageal reflux disease. In this study we studied preneoplastic and neoplastic esophageal lesions epidemiology with emphasis on esophageal adenocarcinoma. **Material and methods:** We conducted a retrospective study in patients with endoscopically and histologically confirmed diagnosis of esophageal cancer or Barrett's esophagus from January 1, 2006- December 31, 2010. **Results:** The data of our study showed an increased incidence of both esophageal adenocarcinoma and Barrett esophagus in the studied period of time, but epidermoid carcinoma remains the prevalent histology in our area. Epidermoid carcinoma/adenocarcinoma ratio decreased from 3.33/1 in 2006 to 1.33/1 in 2010. Regarding gender distribution, we observed a high predominance of males with a male/female ratio of 7.45/1. The median age at diagnosis in esophageal cancer was  $61.69 \pm .9.57$  years, and was higher for esophageal adenocarcinoma,  $65.75 \pm 9.60$  years. Young age (<50 years) was statistically significantly correlated with the development of epidermoid carcinoma ( $p < 0.05$ ), while advanced ages (> 70 years) were significantly associated with the development of esophageal adenocarcinoma. (Odds Ratio: 3.714, 95% CI: 1.328 to 10.387). Lesions in the lower third of the esophagus was statistically significantly associated with esophageal adenocarcinoma ( $p < 0.0001$ ) (Odds Ratio: 33.44, 95% CI: 7.241 to 154.51). Barrett's esophagus also shows an increasing incidence, the application of new diagnostic methods (chromoendoscopy with methylene blue) raising its rate of histological confirmation. **Conclusions:** Esophageal adenocarcinoma incidence has increased, but the most common histological form in our area remains epidermoid carcinoma.

**Keywords:** esophageal adenocarcinoma, Barrett esophagus, epidermoid carcinoma

## GENETICS

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### RS13181, RS238406 AND THE RISK OF ACUTE MYELOID LEUKEMIA

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**Background:** DNA repair mechanisms preserve the genome integrity by avoiding mutations in key cell cycle regulatory genes, which in turn are responsible for a variety of cancers. Variants of the xeroderma pigmentosum group D (XPD) gene are known to be associated with a lowered DNA repair capacity and a higher susceptibility for malignancies, such as acute and chronic leukemias.

**Material and methods:** We used a case-control study to test the association between rs13181 and rs238406 polymorphisms in the XPD DNA repair gene and the risk of acute myeloid leukemia in a Romanian population. For this purpose, 102 patients previously diagnosed with acute myeloid leukemia and 153 healthy volunteers with no history of malignancy were enrolled. Genotypes were determined by polymerase chain reaction - restriction fragment length polymorphism (PCR-RFLP) technique. **Results:** In case of the rs13181 polymorphism, the frequency of the heterozygous A/C in the patients group was found statistically significant compared to the healthy controls ( $p=0.005$ ,  $OR=2.211$ ,  $95\%CI=1.273-3.839$ ). By comparative analysis of the patients and control groups, we observed that although the mutant genotype C/C was not associated with the risk of acute myeloid leukemia ( $p=0.217$ ), the coupling of heterozygous and mutant homozygous was statistically significant ( $p=0.006$ ,  $OR=2.08$ ,  $95\%CI=1.237-3.498$ ). The rs238406 polymorphism was found not to be statistically associated to acute myeloid leukemia, neither by comparing the heterozygous C/A nor the mutant A/A homozygous in the two groups ( $p=0.330$ ,  $p=0.17$  respectively). **Conclusions:** The results of our study show a very probable association between the rs13181 XPD DNA repair gene polymorphisms and the risk of acute myeloid leukemia development. **Acknowledgment:** This work was supported by Internal Research Grants of the University of Medicine and Pharmacy Tîrgu-Mures, Romania, Project no. 19/11.12.2013.

**Keywords:** XPD rs13181, XPD rs238406, acute myeloid leukemia

### GST GENE POLYMORPHISM AND THE RISK OF AML IN ROMANIAN PATIENTS

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**Background:** Glutathione S-transferases (GSTs) are metabolic isozymes involved in the detoxification of xenobiotic substrates. They are encoded by GST genes and have a major role in protecting tissue against reactive oxygen species. GSTM1, GSTT1 have been reported to be implicated in a number of cancers, as a result of an increased vulnerability to carcinogens and environmental toxins. **Material and methods:** The purpose of the study was to investigate the relationships between GSTM1 and GSTT1 gene polymorphisms and the risk of AML. Genotyping of GSTs was based on a multiplex-polymerase-chain-reactions assay in 100 AML patients and 321 controls. **Results:** AML patients carrying null GSTM1 genotype had a 2.308 fold risk of acute myeloid leukemia relative to those with a non-null genotype ( $p<0.0001$ ). Furthermore, the presence of GSTT1 null genotype was also significantly associated with the risk of AML development ( $p<0.0001$ ). **Conclusions:** Our findings suggest that GSTM1 gene polymorphisms have an important role in the development of acute myeloid leukemia. **Acknowledgment** This work was supported by Internal Research Grants of the University of Medicine and Pharmacy Tîrgu Mures, Romania, Project no. 19/11.12.2013.

**Keywords:** GST gene polymorphisms, Acute Myeloid Leukemia, risk

## POLYMORPHISMS OF DNA REPAIR GENE XRCC1 IN MALIGNANT LYMPHOMA PATIENTS

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**Background:** DNA repair genes, such as XRCC1 rs1799782 and rs25487 are a very effective defense mechanism against DNA damage, caused by endogenous and environmental agents. Variants of these genes and differences in repair capacity between individuals are associated with a number of malignancies. The XRCC1 gene is implicated in both single-strand and base-excision of damaged bases, caused by endogenous and exogenous oxidants. The objective of the present case-control study was to investigate the association between the genetic polymorphisms of the XRCC1 gene and the risk for malignant lymphoma in a population from central Romania. **Material and methods:** The study population comprised of 101 patients with malignant lymphoma, 49 (48.51%) subjects diagnosed with Hodgkin's lymphoma and 52 (51.49%) cases presenting non-Hodgkin's lymphoma, and 202 healthy controls with no malignancy history. Multiplex polymerase chain reaction-restriction fragment length polymorphism (multiplex-PCR-RFLP) was used for genotype identification. **Results:** The XRCC1 rs1799782 Trp/Trp variant genotype had a higher frequency in the patients group, compared to the control population ( $\chi^2=22.679$ ,  $p=0.001$ , OR=0.133, CI=0.053-0.335). With regard to the XRCC1 rs25487 Gln/Gln mutant gene, a higher incidence was also observed in the study population, compared to the healthy individuals ( $\chi^2=22.679$ ,  $p=0.001$ , OR=7.535, CI=2.984-19.030). By comparing the wild type rs1799782 Arg/Arg and rs25487 Arg/Arg genotype frequencies in both patients and control group, no statistical significant difference was found. **Conclusions:** Our study incriminates XRCC1 rs1799782 and XRCC1 rs25487 variant genotypes as plausible risk factors for malignant lymphoma.

**Keywords:** XRCC1 rs1799782, XRCC1 rs25487, malignant lymphoma, Hodgkin's lymphoma, non-Hodgkin's lymphoma

# GYNECOLOGY

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## THE SENTINEL NODE BIOPSY BY LAPAROSCOPIC APPROACH IN GYNECOLOGICAL MALIGNANCIES. INITIAL EXPERIENCE.

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**Background:** In the last three decades the surgical management of cancer experienced significant changes, the tendency being to perform operations as less extensive and less invasive. In this respect the concept of sentinel lymph node biopsy has gained more ground being successfully applied in breast cancer, malignant melanoma and other cancers. Sentinel node biopsy avoids the unnecessary ablation of regional lymph nodes, it can be performed by minimally invasive approach thus preventing associated extensive lymphadenectomy morbidity, but also allows a more accurate diagnosis and not adversely affects the survival rate. Pelvic sentinel node dissection has proven to be a viable method in gynecologic cancers. Thus in early vulvar cancers, negative predictive value approaches 100% and in endometrial and cervical cancers it is about 90%. Based on results of recent studies, pelvic sentinel lymph node dissection has been proposed as a method of diagnosis optimization and detection of lymphatic metastases and micrometastases in early stages of genital cancers. **Material and methods:** The authors present a video clip with their initial experience in laparoscopic approach in the detection and sentinel node dissection in a case of cervical cancer in a young patient. First, two cc of blue dye have been injected in the both sides of cervix and then the patient was prepared for laparoscopic approach in Trendelenburg position. Four trocars have been used. Highlighted by the blue coloration, the external iliac and obturator sentinel lymph nodes were easily detected, dissected and removed. **Results:** The procedure lasted about 35 minutes and there were no intraoperative incidents recorded. Postoperative evolution was uneventful. Histopathological result was negative. **Conclusions:** Sentinel node dissection by laparoscopic approach using blue dye is a simple, easy and reliable procedure. It should be applied more widely because it can relieve many patients from complications of unnecessary lymphadenectomy and contributes to a better staging of uterine cancer.

**Keywords:** sentinel lymph node, laparoscopy, uterine cancer

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## LAPAROSCOPIC OVARIAN TRANSPOSITION BEFORE PELVIC IRRADIATION. CASE PRESENTATION

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**Background:** It is well-known that pelvic radiation therapy for various malignant diseases (cancers of the uterus, rectum, lymphomas and others) can affect the ovaries leading to loss of ovarian function. Usually used doses of 42-58 Gy are much higher than those that can induce loss of ovarian function (4-20 Gy). Removing the ovaries outside of irradiation field may offer the chance of preserving reproductive function in young women and reduce the rate of early hormonal insufficiency. Transposition of the ovaries to 3 cm above the pelvic inlet reduces the absorbed dose by the ovaries at 1-10%. The first transposition technique of the ovaries into the paracolic gutters was described in 1958. Ovarian transposition by laparoscopic approach is a procedure commonly applied in abroad hospitals but rarely from us. **Material and methods:** It is presented a case of a young patient with cervical cancer who underwent laparoscopic ovarian transposition. A video clip about the surgical technique is presented. Although there are several different surgical techniques, the transposition in the paracolic gutters, method with the widest acceptance, was applied in our case. **Results:** Although the patient was operated in history for pelvic sentinel node biopsy and lumbo-aortic lymphadenectomy, laparoscopic approach was very easy due to lack of postoperative adhesions. The duration of surgery was 35 minutes without special intraoperative incidents. The patient was discharged the day after surgery. **Conclusions:** Maintaining quality of life by preserving ovarian function in premenopausal women who have to undergo pelvic radiotherapy treatment is a very

important aspect but unfortunately rarely offered to these patients. Ovarian transposition in paracolic gutters by laparoscopic approach is a relatively easy procedure. The greatest concern should be the preservation of ovarian vascularization. This procedure should be applied more widely and further investigations are necessary to assess the ovarian function after this type of procedure.

**Keywords:** Ovary, Transposition, Cancer, Pelvic, Radiotherapy

# HEMATOLOGY

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## MAINTENANCE TREATMENT WITH RITUXIMAB IN PATIENTS WITH INDOLENT LYMPHOMAS

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**Background:** Rituximab plus chemotherapy induction followed by rituximab maintenance is the standard of treatment in follicular and other indolent lymphomas. A significant number of patients have increased progression free survival compared to no maintenance therapy patients. **Material and methods:** A retrospective study was performed, analyzing the patients treated in the Hematology Department of the Internal Medicine Clinic 1 since the introduction of maintenance treatment with rituximab every 8 weeks in 2012. A number of 27 patients were identified, 15 with follicular lymphoma, 3 with ganglionic marginal zone lymphoma, 4 with lymphocytic lymphoma and 5 with splenic marginal zone lymphoma. **Results:** Follicular lymphoma were grade III in 2 patients, grade II in 4 patients and grade I in 9 patients. 19 patients (70.3%) were in complete remission after the induction chemoimmunotherapy. A median of 9 maintenance cycles (3-12) were administered at the time of analysis. No conversion to complete remission were observed during maintenance in the 8 patients with partial response at the end of induction. Two patients had a diagnosis of a second neoplasia during treatment with rituximab. The incidence of herpes zoster reactivation was 29.6%. **Conclusions:** All patients that completed the maintenance therapy are free of treatment and all are alive. 70.3% are maintaining complete remission. A long survival is expected in these patients.

**Keywords:** rituximab maintenance, indolent lymphomas, retrospective study

## HYGIENE

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### TOBACCO CONSUMPTION AT THE HIGH SCHOOL PUPILS FROM THE REPUBLIC OF MOLDOVA

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**Background:** Determination of the incidence of smoking among high school pupils from rural localities. **Material and methods:** The study included 10 high schools from the Republic of Moldova, which included interviews with 732 pupils from IXth to XIIth form. From the total number of pupils 419 are girls and 313 boys. The investigation was conducted anonymously and it included items related to tobacco consumption by pupils. **Results:** Our study indicates that 12,2% (51) of the girls and 61,1% (191) of boys who was questioned smoked during their life at least one cigarette entirely. From the total number of pupils who smoked a whole cigarette for the first time 23,7% (78) did this at the age of 15-16 years-old. There smoked regularly at least one cigarette every day for 30 days 2,1% (9) girls and 19,8% (62) boys. The largest share of age at which pupils regular smoke at least one cigarette per day is the age of 15-16 years-old 24,8% (28) pupils, age 17-18 years-old - 17,7 % (20), at the age of 9 years-old - 8,8% (10). It was found that from all pupils who smoke, 22,9% (22) pupils are smoking 2-5 cigarettes per day, 16,7 % (16) smoke less than one cigarette / day and 3,1% (3) pupils smoke more than 20 cigarettes/day for the last 30 days. **Conclusions:** In the Republic of Moldova, the largest share of the earliest age at which high school pupils begin to smoke and smoke regularly is the age of 15-18 years-old. The most frequently smoke boys than girls.

**Keywords:** pupils, high school classes, cigarettes, smoking

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### THE KNOWLEDGE OF PUPILS FROM VIITH - XIITH FORM ON HEALTHY NUTRITION

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**Background:** WHO Regional Office for Europe recently declared that 300 million of people worldwide are obese. About 20-25% of children and 40-45% of adolescents are affected on a global scale. **Material and methods:** In a sample of 1237 pupils of VIIth-XIIth form from 10 high schools from rural localities of the Republic of Moldova, were assessed the sanitary-hygienic knowledge about their diet, using the questionnaire method. **Results:** A frequency of 90.9% of surveyed pupils knows that they have to eat 3-4 times/day. 68.7% of pupils consider that for being healthy they have to limit the salt in the food. They have declared that the following foodstuffs are unhealthy like coca-cola - 71.4%, chips/snacks - 72.2%, hamburgers/donuts/hotdogs - 68.1%, pizza - 43% of the pupils. Academic disciplines that inform them about healthy eating are biology - 57.4%, civic education - 54.9% and class hour - 39.5%. As sources of information on healthy eating they mentioned: parents and grandparents for 73.7% of pupils, teachers - 52.2% and nurses 50.3%. **Conclusions:** Pupils knowledge related to daily diet are at a high level, but their knowledge about healthy and unhealthy foods have some gaps. The main source of information and food education is the family.

**Keywords:** pupils, nutrition, hygiene, eating habits

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### FOOD CONSUMPTION BY PUPILS FROM RURAL LOCALITIES FROM THE REPUBLIC OF MOLDOVA

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**Background:** Food quality is dependent on the diversification of foodstuffs included in the individual's daily ration. The failure of

this principle can cause various pathologies. **Material and methods:** We studied in 2014 the daily frequency of consumption of the main food groups, in a sample of 1233 pupils of IXth-XIIth class from rural localities of the Republic of Moldova, using the questionnaire method. **Results:** The teenagers had consumed on the day preceding the questioning cereals and bakery products - 99.2% pupils, fruits - 86.7%, cooked vegetables - 72.6%, meat dishes - 72.1%, potatoes - 50.3%, dairy products - 46.9%, raw vegetables - 44.7%, eggs - 25.3%, fish - 19.4%, raw fruits juice - 14.8%, legumes - 12.5%. From those investigated 52.6% have consumed food with high fat content. Regarding the food groups present in the menu we registered a satisfactory level of consumption by the pupils for cereals and bakery products, fruits, cooked vegetables and meat dishes; relatively satisfactory - the consumption of dairy products, raw vegetables and potatoes; unsatisfactory level for the consumption of eggs, fish and legumes. **Conclusions:** We sustain the idea that it is important to constantly evaluate the risk factors related to the inadequate diet at teenagers and to implement efficient community intervention in order to prevent nutrition related diseases that can occur.

**Keywords:** pupils, foodstuffs, nutrition

## ADAPTATION OF ASPIRA ONLINE PROGRAM AND ITS PILOT STUDY

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**Background:** Given the large number of teens who smoke and considering that educational institutions offer the most promising framework for the introduction of measures to prevent and stop smoking in this age group, the University of Medicine and Pharmacy of Tîrgu Mureș initiated and developed the ASPIRA project to be implemented in the high schools of Tîrgu Mureș. The project was conducted by our team in both Romanian and Hungarian, based on an intervention developed by specialists at MD Anderson Cancer Center in Houston, USA. This is the first time that such a software was implemented in our country. The methodology of the program was to provide a computer-aided intervention with attractive content targeting students who familiar with information and communication technology. **Material and methods:** Prior to carrying out the research and completing the five modules that include tests, videos and interactive games, the ASPIRA online program was tested on a group of schoolchildren and students (N=120). Questionnaires were completed considering the opinions of young people and the functionality of the software. **Results:** The vast majority of participants (90.8%) reported a good or very good impression about the ASPIRA program. Every fourth person found that it included some parts which were too long; two-thirds believed that the information presented was suitable for ninth grade students, aroused their attention and interest. Technical errors or problems regarding the functionality of the software were reported by 12.5% of participants, while the majority (56.6%) believed that the granting of raffle prizes would motivate students to participate more seriously and on a larger scale. **Conclusions:** As a note, we state that high school students and boys were more critical, expressing their opinions about the software more freely. The findings and suggestions were considered by the researchers to improve the online ASPIRA program.

**Keywords:** tobacco research, smoking prevention, ASPIRA online program, youth opinions

## USERS' PERCEPTION OF LANGUAGE AND CULTURAL BARRIERS IN A TRANSLATED COMPUTER ASSISTED SMOKING PREVENTION PROGRAM

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**Background:** Computer assisted smoking prevention programs are increasingly popular for multiple reasons but developing such applications require an interdisciplinary team. A possible solution for extending globally the use of such programs could be the translation of existing applications in the native language of the target group. The aim of this study was to assess the perceptions regarding language and cultural barriers among students involved in the "ASPIRĂ" smoking prevention program. **Material and methods:** "ASPIRĂ" is the Romanian/Hungarian version of a smoking prevention program created at MD Anderson Cancer

Center, Houston. A total of 120 school and university students accessed individually a section of the program in the IT laboratory and completed subsequently a questionnaire. Proportions were calculated using Open Office Calc v. 4.1.1. **Results:** 76.67% of the participants had little or very little difficulty in understanding the messages presented by the English speaking characters; for 50.83% of the participants the translated subtitles were helpful or very helpful, while 25.83% of them did not need the subtitles at all. As far as the speed at which the subtitles were displayed, 82.91% of the respondents said that it was suitable and could read the translation without difficulty, 11.97% said the succession was too rapid to follow easily and 5.13% could not read the subtitles in their entirety. One third of the participants believed that the program would be easier to understand if the foreign language speaking characters would be replaced by indigenous characters. Only 7.50% of the participants thought that the program included content that was not appropriate for the local culture. **Conclusions:** Language and cultural barriers did not have the potential to reduce in a significant manner the effectiveness of the tested program.

**Keywords:** smoking prevention, program translation, language/cultural barriers

## ASPECTS OF PREGNANT WOMEN TRYING TO QUIT SMOKING

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**Background:** Smoking is a major problem worldwide and in Romania, and when smokers are pregnant the implications upon their health and the unborn child are major. To streamline our actions on pregnant women, with the intention of convincing them to quit smoking, it is very important to identify their causes and knowledge about the ways that could lead to cessation. Assessment of the characteristics of smoking pregnant women and their relation to and knowledge about the methods that could lead to stop smoking in order to provide the necessary support on smoking cessation. **Material and methods:** We used a cross-sectional survey in 2013 based on a questionnaire consisting of 109 questions, applied to newborn mothers from Gynecology I and II in Tg.Mures city. **Results:** Of the 1278 women surveyed, 29.8% smoked regularly before pregnancy, 43.3% of these continued to smoke during pregnancy, 52.8% reduced the number of cigarettes during pregnancy, and 42.3% had tried to quit smoking but didn't succeed. In those who have tried to quit smoking methods used were: abrupt 11.5% and 15.3% ambition or upon willpower. The most common reasons why women have failed to quit smoking were related to entourage 12.8%, 10.2% lack ambition, or even by lack of desire to 11.5%. Of women smoking in pregnancy, the most worrying aspect is that only 1.8% asked for professional help to quit smoking. **Conclusions:** Frequency of women who have tried to quit smoking during pregnancy is important but not enough and their knowledge has to be improved also. We must achieve an efficient community intervention on women who are smoking during pregnancy, to reduce this risk, thus avoiding future health problems for both the mother and the fetus. Research reported in this publication was supported by the Fogarty International Center and the National Cancer Institute of the National Institutes of Health under Award Number R01TW009280-01.

**Keywords:** smoking cessation, pregnancy, intervention

## THE EFFECT OF DIETARY OMEGA-3 FATTY ACIDS ON SERUM TRIGLYCERIDES

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**Background:** Hypertriglyceridemia (with the serum triglyceride levels above 150 mg/dl or 1.69 mmol/l), associated with obesity, with or without hypercholesterolemia and a risk for type 2 diabetes is considered an epidemic risk factor. Omega 3 fatty acids lower serum levels of triglycerides; eicosapentaenoic and docosahexaenoic acid may be used as monotherapy or associated in therapy with fibrates or nicotinic acid in patients with hypertriglyceridemia. In young patients with moderate hypertriglyceridemia an association between dietary measures and the use in therapy of omega-3 fatty acids is preferred. **Material and methods:** An observational study was conducted in three general practice offices on 24 young patients aged 35-45 years with an age mean of 42.81 ± 6.32 years who presented serum triglyceride levels of 252.30 ± 33.14 mg / dl, but the total cholesterol levels were below 220 mg / dl (value considered normal, but at the limit). Patients were prescribed a mixture of eicosapentaenoic and docosahexaenoic acid ethyl esters,

in doses of 3g / day, with a moderate calorie restricted diet (normo protein diet, high glucidic diet and moderately hypolipidic diet). **Results:** Analysis of serum triglycerides was repeated after 3 months from the starting of the treatment. Patients' serum triglycerides values decreased to  $152.65 \pm 24.38$  mg / dl. This decrease is statistically significant ( $p < 0.005$ ) and they were switched to therapy with fibrates. **Conclusions:** In young patients with hypertriglyceridemia associated with hyper cholesterol sometimes the use of omega 3 in therapy has advantages. It is an alternative to treatment with statins and fibrates, their side effects have additive risk especially in combination. This paper was published under the frame of European Social Fund, Human Resources Development Operational Program 2007-2013, project no. POSDRU/159/1.5/S/136893.

**Keywords:** oral presentation, oral presentation, triglyceride, hypertriglyceridemia , eicosapentae

## COMPERATIV SECONDHAND SMOKE EXPOSURE AMONG 1 YEAR IN TARGU MURES UNIVERSITIES

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**Background:** The pollutants generated by the cigarette come from the chemical process of burning organic matter or combustion of tobacco and paper. Combustion processes generates thousands of pollutants, some of which are in the gas phase and others in the form of small particles named particulate matter. Particle pollution - especially fine particles - can get deep into the lungs and cause serious health problems. Numerous scientific studies have linked particle pollution exposure to a variety of health problems.

**Material and methods:** The study was carried out as a longitudinal study, in 2013 and 2014, at two Universities in Targu Mures, using a PM2.5 measurer. Locations were chosen, where students and staff study, work and breathe. The study was timed in didactical period, measuring an average of 2 hours. At the medical University(A) at the end of 2013 and early 2014 was made a smoke workshop, informative course and two student science conference, where was presented tobacco-free researches, but non-medical university(B) did not. **Results:** Results In 2013 at medical University(A) we found two points in both measuring time and one point in single period, that had average normal exposure concentration overpassed(eg.staircase  $10,513\mu\text{g}/\text{m}^3$ , SD 0,189, ground floor  $0.768\mu\text{g}/\text{m}^3$ ,SD0,232).The university made rules against tobacco, after a year we repeated the measurements only 3 points had overpassed and with lower average(eg.ground floor  $0,30\mu\text{g}/\text{m}^3$ , SD ,004). At same time we made measurements at non-medical University(B), where also have overpassing average and it did not reduced after a year. **Conclusions:** Conclusions Anti-tobacco policy made progresses against second hand exposure smoking, this way also Pm2.5 average is lower. Students smoke awareness led to better non-smoking policy.

**Keywords:** smoke, tobacco, pm

## INFECTIOUS DISEASES

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### ERYTHEMA CHRONICUM MIGRANS. NOT ALWAYS AN EASY DIAGNOSIS!

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**Background:** Erythema chronicum migrans is a common early manifestation of Lyme disease. The aspect is a typically circular, outwardly expanding erythema. It does not represent an allergic reaction like the majority of skin lesions caused by insect bites, the lesion being due to local spread of the spirochaete. The lesion appears in 1-36 (average 9) days after the bite. About 90% of the patients develop ECM at the site of inoculation. Of patients ultimately diagnosed as having Lyme disease, about 50% recall a tick bite. Untreated lesions clear, usually within a few weeks, but the duration may vary between 1 day and 14 months. **Material and methods:** We will present a case series of patients who presented different clinical aspects of ECM. The diagnosis was sustained by the presence of an erythematous patch, history of tick bite, positive Ig M antibodies for *Borrelia burgdorferi* and remission of the lesions after antibacterial treatment. **Results:** We observed a quite polymorphous clinical aspect of ECM. A correlation between these clinical appearances and the time that passed from the tick bite to the manifestation of the skin lesion was noticed. **Conclusions:** Erythema chronicum migrans has different clinical aspects.

**Keywords:** Lyme disease, *Borrelia burgdorferi*, chronic migratory erythema, clinical aspects, tick bite

### FIXED DRUG ERUPTION: CLINICAL, HISTOPATOLOGICAL AND DERMATOSCOPIC FEATURES

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**Background:** Fixed drug eruption is characterized by round, oval erythematous plaque (plaques) with discrete margins, even bullae in severe cases, that recurs at the same site, as the result of systemic exposure to a causative drug; it can resolve with or without hyperpigmentation. The lesions most often develop within 30 minutes to 8 hours after the ingestion. Coloration varies from red, scarlet, dusky brown to a greyish hue, as the lesion heals. **Material and methods:** We report a case series of patients with fixed drug eruptions. The diagnosis was sustained, in each of the cases, by the appearance of an erythematous patch or plaque, that recurs at the same site, every time after ingesting the causative drug. We also relied on histopathology and made use of dermoscopy to elucidate the diagnosis and to better observe the changes. **Results:** Fixed drug eruption is a type of allergic reaction involving both the skin or the mucous membrane. Most fixed drug eruptions are due to NSAIDs including ibuprofen, sedatives including barbiturates, benzodiazepines, and some antibiotics; many other drugs can cause fixed drug eruptions. It can develop on any part of the body, but the most common sites involved are the limbs, trunk, palms, soles, or the penis. The most important prevention method of a new occurrence is the avoidance of the causative drug. In order to avoid it, one must first identify it. Patch tests would be useful in these cases. **Conclusions:** Efforts should be done in identifying the causative drugs when dealing with fixed drug eruptions.

**Keywords:** histopathology, dermoscopy, fixed drug eruption, coloration, features

## HAND-FOOT-MOUTH DISEASE IN AN ADULT -CASE REPORT-

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**Background:** Hand-foot-mouth disease is an acute infectious disease affecting mostly the children, being characterized by papules, herpetic lesions, even blisters on the hands, feet or oral mucosa, fever and sore throat. Children under 5 years of age are generally susceptible to the disease, this being uncommon in adults. It is caused by enteroviruses, among which Enterovirus 71 and Coxsackie virus A16 are the most frequent causative agents, transmitted through the fecal-oral route or via respiratory droplets. **Material and methods:** We present the case of a 40 year-old immunocompetent male who presented in our Clinic with multiple papules and vesicles on his palms, feet and mouth, the rash being preceded by fever a couple of days before. He also states having a child that presented a similar rash on his palms and soles, with fever, without odynophagia, 5-6 days before. We therefore sustain the diagnosis of hand-foot-mouth disease clinically, due to characteristic lesions in typical sites, lacking the possibility of isolating the virus from swab of vesicles. Under symptomatic treatment, antiviral and local antibiotic therapy the lesions resolve. **Results:** Hand-foot-mouth disease, a common mild, short-lasting viral infection is quite frequent among children under 5 years old, but rare in adults. Stress, fatigue, close contact with a hand-foot-mouth disease patient seem to contribute to the illness. After an incubation period of 3-5 days, the signs of infection appear. **Conclusions:** Although easily to diagnose on its clinical appearance, sometimes it may pose problems, raising questions over the diagnosis: ~~XXXX~~it hand-foot-mouth disease or just a herpes simplex infection; or even a polymorphous erythema?~~XXX~~In these cases, isolating the virus form swab of vesicles would be of great help. Usually a mild illness, sometimes can cause more serious infection.

**Keywords:** hand-foot-mouth disease, Enterovirus 71, Coxsackie virus A16, children, adults

## HIV AND CEREBRAL TOXOPLASMOSIS – A DEADLY COMBINATION?

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**Background:** Cerebral toxoplasmosis is a severe disease characterized by focal neurologic signs, seizures, headache, confusion, fever, with guarded prognosis, which appears in HIV positive patients with severe immunodeficiency. The prognosis can be improved by using appropriate etiologic therapy and HAART (highly active antiretroviral therapy). The aim of this study is to compare the cases of cerebral toxoplasmosis in HIV positive patients, which evolved favorably, with the fatal ones. **Material and methods:** A retrospective chart review was performed during a 10 year's period (2003-2013) using the data of HIV positive patients with cerebral toxoplasmosis admitted in the 1st Infectious Diseases Clinic of Tg. Mureş. Demographic data, symptoms, neuroimagic changes, laboratory analyses, therapy and outcome were noted. 21 patients were found, 52.38% of which had favorable outcome, and 47.61% died. **Results:** No statistically significant differences were found between the patients with good outcome and those with fatal outcome regarding the gender (although fatal cases were more frequent in men), age, T CD4+ lymphocyte count, presence of specific antibodies, symptoms, adherence to HAART (although the patients who survived were more adherent), the presence of single or multiple cerebral mass lesions, and the specific therapy of toxoplasmosis, although patients receiving trimethoprim-sulfamethoxazole (TMP-SMX) associated with clindamycin had a better survival rate than those receiving TMP-SMX monotherapy or pyrimethamine monotherapy. ( $p > 0.05$ ) **Conclusions:** Despite being a severe disease, cerebral toxoplasmosis in HIV positive patients can be treated effectively using a combination therapy, and associating HAART. The adherence of the patients to therapy is mandatory in order to obtain favorable response. The limitations of this study are related to the low number of subjects, since cerebral toxoplasmosis in HIV positive patients has become a rare disease in the HAART era.

**Keywords:** cerebral toxoplasmosis, HIV, survival, HAART, adherence

## MORTALITY AND HELICOBACTER PYLORI INFECTION AMONG HIV-POSITIVE PATIENTS WITH DYSPEPTIC SYMPTOMS

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**Background:** Helicobacter pylori infection is frequently associated with dyspepsia in the general population. Objectives. To assess the relationship between the presence of Helicobacter pylori and mortality among human immunodeficiency virus (HIV)-infected patients with dyspeptic symptoms and to establish the main causes of death in this category of persons. **Material and methods:** We performed a retrospective, analytical, case-control study, on a 5-year period (2009 - 2013), upon two groups of HIV-infected patients with dyspeptic complaints: group A, composed of 21 deceased patients, group B - 70 survivors. All patients were tested for Helicobacter pylori infection. Statistical analysis was performed using GraphPad Prism 6 program - Chi2 and t student tests. **Results:** Death rate among HIV-infected dyspeptic patients was 23.07%. The main causes of death in this category were pulmonary and extra-pulmonary tuberculosis, intestinal cryptosporidiasis, central nervous system lymphoma, Pneumocystis jirovecii pneumonia and liver cirrhosis. We did not find statistically significant association between Helicobacter pylori infection and patients' outcome ( $p = 0.3204$ ). Poor outcome was associated with low CD4+ T-cells count ( $p < 0.0001$ ), absence of antiretroviral treatment ( $p = 0.0002$ ) or poor adherence to therapy ( $p < 0.0001$ ) and hepatitis B or C virus coinfection ( $p = 0.0316$ ). **Conclusions:** The main causes of death among HIV-infected patients with dyspeptic complaints were extra-digestive opportunistic infections. Helicobacter pylori infection did not significantly influence mortality in this category of persons.

**Keywords:** Helicobacter pylori, human immunodeficiency virus, mortality

## SCREENING FOR DETECTION OF HUMAN IMMUNODEFICIENCY VIRUS INFECTION - WHY IS IT SO IMPORTANT ?

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**Background:** The UNAIDS has settled a target to reduce to zero the number of new HIV infections, AIDS related deaths, to stop the discrimination of HIV positive patients. In order to achieve this target it is important to discover the infected persons as early as possible. The aim of this study is to evaluate the newly discovered HIV positive patients monitored in the 1st Infectious Diseases Clinic of Tg. Mures. **Material and methods:** A retrospective cross sectional study was performed using the data of newly discovered HIV patients during the last 36 months. 58 patients were found. Demographic data, route of transmission, reasons for testing, clinical-immunologic stage, HIV viral load, T CD4 lymphocyte count were noted. HIV viral load and T CD4 lymphocyte count of the patients discovered HIV positive by screening was compared with the values of symptomatic patients. Mann Whitney test was used for statistical analysis. **Results:** The mean age of the patients was 27 years, 33 were male and 25 female. The route of transmission was sexual in 41 cases, unknown in 16 cases, perinatal in one case. 33 patients were discovered HIV positive by screening, 25 were symptomatic. The clinical-immunologic stage of the patients in the screening group was A1-2: 24, B1-2:5, C1-3: 4, of the symptomatic patients was A2: 1, B1-3: 9, C2-3: 15. There was a significant difference regarding the T CD4 lymphocyte count (screened patients: 519 cells/mm<sup>3</sup>, symptomatic patients: 310 cells/mm<sup>3</sup>,  $p = 0.0008$ ) and the HIV viral load (screened patients: 50280 copies/ml, symptomatic patients: 462000 copies/ml,  $p = 0.0002$ ) between the two groups. **Conclusions:** Our results underline the importance of screening in order to diagnose early the HIV positive patients, with high T CD4 lymphocyte count and low level of viral load. These patients have a better response to antiretroviral therapy, fewer associated illnesses, better quality of life and prognosis.

**Keywords:** screening, HIV, diagnosis

## AIDS/NON AIDS COMORBIDITIES - CHALLENGES IN THE MANAGEMENT OF THE HIV-SEROPOSITIVE PATIENT

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**Background:** Progresses achieved in the management of the HIV-seropositive patient have shown remarkable results, they have increased the hope of life and life quality. Nevertheless, the patient infected with HIV is still vulnerable to multiple health problems, non-AIDS comorbidities: diabetes mellitus, dyslipidemia, lipoatrophy/lipodystrophy, bone affection, kidney affection, neurocognitive disorders. **Material and methods:** We present the case of a patient diagnosed with HIV infection more than 10 years ago, with an evolution of the HIV infection controlled by complex antiretroviral therapy (ARV), who has accumulated multiple comorbidities generated by the chronic HIV infection and/or by the antiretroviral therapy (TARV). **Results:** The patient of 25 years old has been diagnosed with HIV infection in 2002, clinical and immunologic stage C3. She has been through several ARV patterns and although since 2006 she has shown immune restoration and undetected ARN-HIV viremy, develops aseptic necrosis of the femoral head (ANFH), osteopenia, extensively-drug resistant pulmonary tuberculosis caused by *Mycobacterium tuberculosis* (XDR) resistant to antituberculosis antibiotics, major depression. The patient's management who has been diagnosed with HIV infection in an advanced stage (TCD4 =4 cells/mm<sup>3</sup>, viremy ARN-HIV:11200 copies/ml) during the evolution needed complex clinical and paraclinical investigations imposed by the her multiple subjective and objective complaints, assisted by a multidisciplinary team: endocrinologist, orthopedist, pneumologist, psychologist/neuropsychiatrist, infectious disease specialist. The therapy of the multiple comorbidities has also arisen the issue of drug interactions with ARV therapy. We notice the control of the HIV infection through combined ARV therapy, lymphocytes TCD4>500/mm<sup>3</sup>, undetectable ARN-HIV, and the association of multiple comorbidities: osteopenia, documented by osteodensitometry in the annual dynamics, dosage of vitamin D, aseptic necrosis of the femoral head with double prosthesis, XDR pulmonary tuberculosis, neurocognitive affection in intermediate degree and major depression confirmed by the psychometric tests Beck Depression Inventory: (12 points), HIV dementia scale (9 points). **Conclusions:** The management of the HIV-seropositive patient imposes, currently, a multidisciplinary team. AIDS-Associated comorbidities emphasizes the importance of early detection of HIV infection and the instauration of a personalized ARV therapy.

**Keywords:** AIDS, comorbidities, bone disease, tuberculosis

## ETIOLOGICAL AND THERAPEUTIC FEATURES OF ACUTE ENDOCARDITIS

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**Background:** Endocarditis is an endovascular disease cardiovascular structures, disease can be challenging both diagnostic and therapeutic. In Romania, the incidence of acute endocarditis remains high, with an average of 3.4 cases per 100,000 persons/year in the last decade. The study objectives were to assess the clinical, paraclinical, etiologic, therapeutic, identifying risk factors and establish a protocol for diagnosis and treatment respecting Duke diagnostic criteria. **Material and methods:** We conducted a prospective study that included 20 patients hospitalized for a period of one year. The etiology was based on positive blood cultures and acute phase reactants. Identification of vegetation localization was performed using transthoracic and transesophageal echocardiography. **Results:** The most affected age group was between 58-68 years, male gender predominated in 60% of cases; 55% of patients were from urban; definite endocarditis was established in 70% of cases. The etiologic agent most frequently involved was *Staphylococcus aureus*, location endocarditis occurred in 18 patients (90%) of the native valve, 12 patients (60%) lesions were present in the aortic valve. Surgery was required in 85% of cases and deaths were recorded in 15% of cases. **Conclusions:** Gram-positive cocci were the most frequent etiologic agents involved in the etiology of acute endocarditis. Undiagnosed and untreated endocarditis properly in time remains a disease with high lethality.

**Keywords:** endocarditis, etiologic agents, diagnosis, treatment

## INTERNAL MEDICINE

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### ROUTINE PSA SCREENING-FRIEND OR ENEMY?

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**Background:** Prostate cancer screening through checking of the PSA level has been a controversial topic. At first it was recommended for men aged 50 and over, evidence showing a decrease in mortality after implementing this test. But more recent studies have shown small or no reduction in mortality through this screening and harms related to subsequent evaluation and treatments, some of which may be unnecessary. **Material and methods:** We present the case of a 64 year old male patient, with a history of 2nd type diabetes mellitus on oral antidiabetic drugs, 3rd grade mitral regurgitation, secondary valvular cardiomyopathy and pulmonary hypertension, who is admitted to the cardiology department for palpitations and possible angina. He also accused important weight loss (approx 20 kg in 6 months), fatigue, loss of appetite, decrease of muscle strength and pain of the scapulo-humeral and hip joints. He was transferred to our department for further investigations, due to elevated ESR, LDH and alkaline phosphatase. **Results:** We considered **autoimmune conditions** (lupus, rheumatoid arthritis, polymyositis), which were infirmed by negative antibodies, **multiple mieloma** (which was also infirmed by total protein result and immunogram) and **solid tumor** (which was later confirmed by CT scan: end-stage prostate cancer with bone metastases). **Conclusions:** The patient had never had a PSA check before, and when we finally became the result, it was astounding: 4020 ng/ml. Although the PSA screening is currently controversial and no longer recommended (in the U.S. and Canada), we believe the patient would have had better chances, had he been screened earlier.

**Keywords:** prostate cancer, screening, PSA

### LEFT INTERNAL JUGULAR AND SUBCLAVIAN VEIN THROMBOSIS - RARE CAUSE MANIFESTATION

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**Background:** Objective: To present the case of a 36 year old woman with a history of chronic autoimmune Hashimoto's thyroiditis (since 2012), on substitutive medication with 200 µg of L-Thyroxin daily. She had an episode of polyserositis (pleural effusion, pericarditis, ascites) in her recent history, along with elevated ds anti-DNA antibodies, which led to a suspicion of SLE. She was admitted to our clinic with an ultrasound confirmed thrombosis of the left internal jugular and subclavian vein, to clarify the etiology. **Material and methods:** We started the investigations in order to rule out an autoimmune cause with secondary antiphospholipid syndrome or a paraneoplastic cause. **Results:** We couldn't confirm with repeated antibody assays an autoimmune disease with or without secondary antiphospholipid syndrome, or a paraneoplastic cause. **Conclusions:** We interpreted the thrombosis in the context of the autoimmune thyroiditis. The particularity of the case lies in the unusual association of autoimmune thyroiditis and DVT. The patient had a favorable evolution under oral anticoagulation and substitutive medication with L-Thyroxin (which we could reduce to 150 µg daily), achieving total recanalisation of the left subclavian vein and partial recanalisation (>80%) of the left internal jugular vein in the course of one year.

**Keywords:** left internal jugular and subclavian vein thrombosis, Hashimoto's thyroiditis, autoimmune disease, antiphospholipid syndrome

## 5 MHZ CW DOPPLER TECHNIQUE AND THE VENOUS PHOTOPLETHYSMOGRAPHY IN THE SCREENING OF PATIENTS WITH CHRONIC VENOUS DISORDERS

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**Background:** The aim of this study was to provide an account of 2 tests, with an outline of their usefulness and limitations and indications of which patients should be subjected to the tests and when of what clinical decisions can be made. **Material and methods:** PPG is a non invasive technique that can detect local changes in the blood content of tissues. The principal application is to study blood flow and blood volume changes in the skin. A probe that consists of a light source and a light-sensitive diode is positioned on the skin. The backscatter of light detected with the light-sensitive diode is affected by changes in the number of red blood cells in the dermis. Red blood cells absorb maximum light in the sitting or standing position when the pressure is high and the veins are full. Continuous-wave Doppler ultrasound is a useful method of detecting reflux at the saphenofemoral and saphenopopliteal junctions. It has become routine in outpatient clinics for screening because it is quick, inexpensive, and noninvasive. Expectations that it would be useful for detecting and localizing incompetent thigh and calf perforating veins were proved false by several studies in the 1970s. The Duplex Doppler is considered the golden standard of the diagnosis. The prospective study 30 patients: 20 venous diseases: gravamens with clinical symptoms 10 control persons: without gravamens, with minimal clinical symptoms. The average of age: 69.45 ± 8.15 age-experimental group 31.8 ± 16.6 age-control group **Results:** There were significant differences between the control group and the patient suffering of venous pathology, about the subcutaneous refill time Left foot 15,2±10.2 sec versus; 23,9±7.9 sec Right foot 11,7±8.6 sec versus; 27,7 ±11.1 sec **Conclusions:** The Photoplethysmography in combination with CW Doppler 5 MHZ is a new modern technique, easy to use it makes possible the usage of preclinical diagnosis in venous insufficiency.

**Keywords:** cardiology, internal medicine, medicina interna, Clinica Medicala IV, anul V med. gen

## PROGNOSTIC AND SURVIVAL ANALYSIS IN PATIENTS WITH CHRONIC MYELOID LEUKEMIA, IN THE TKI ERA - SINGLE INSTITUTION REPORT

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**Background:** Since the introduction of tyrosine-kinase inhibitors (TKI) a significant improvement of survival for patients with chronic myeloid leukemia (CML) patients has been noted, Different prognostic scores for the best available therapy choice are used. **Material and methods:** A cohort of 39 CML cases (26 men) newly diagnosed and treated between 2004-2014 (observation time 120 months) was retrospectively analysed. Chronic, accelerated and blastic phase were diagnosed for 34(87.18%), 2(5.13%) and 3(7.69%) patients respectively. First-line TKI were imatinib for 33(84.62%) and nilotinib for 3(7.69%) patients. The patients were diagnosed, followed and evaluated according to European Leukemia Net criteria. Prognostic parameters and scores at diagnostic were evaluated. Survival analysis (overall survival OS, events-free survival EFS and progression-free survival PFS) using Kaplan Meyer method was performed. **Results:** Median age at diagnosis was 59 years, 29(51.28%) >50 years. Median values for spleen size-cm maxim distance from costal margin, platelets count, blood basophils%, eosinophils% and myeloblasts% were 7cm, 445000/mm<sup>3</sup>, 6% (82.05% >3%), 2% and 2% respectively. Sokal and Hasford prognostic scores were superposable for 79.49% cases. OS of patients in chronic phase was 79.5% at 5 years. OS for patients treated with second-line TKI was 57.2% at 2 years. EFS of patients with imatinib and dasatinib therapy at 5 years was 67.29%. PFS in patients with imatinib therapy was 45.79% at 5 years, median 46 months. TKI were well tolerated with very few grade III/IV side reactions. Problems concerning patients adherence at therapy was noted. T315I mutation was documented for 1 patient only. **Conclusions:** TKI therapy added a dramatic shift in the management, survival and quality of life of CML patients. To achieve these goals it is critical to properly monitor and optimally manage patients.

**Keywords:** chronic myeloid leukemia, prognostic, survival

## ENDOSCOPIC TREATMENT OF UPPER DIGESTIVE VARICEAL BLEEDING – CONSIDERATION ON 50 CONSECUTIVE CASES

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**Background:** Upper digestive variceal bleeding is one of the most common complication of advanced liver cirrhosis and endoscopic hemostasis is the method of choice. **Material and methods:** We have studied 50 patients with upper digestive variceal bleeding who performed endoscopic hemostasis between 01.01.2013 and 01.11.2014. The method of hemostasis was esophageal variceal ligation (EVL) or sclerotherapy. Were taken in count demographic data, cirrhosis etiology, grading of esophageal varices, usage of Blackmore balloon, the method of endoscopic hemostasis, the number of ligation rings, early rebleedings, need for surgery, adherence and need for endoscopic follow-up. **Results:** Mean age was 57,36±2,61 years, gender 84% men and 16% women, 96% grade 3 and 4% grade 2 varices. Bleeding from varices were noticed in 6%. Temporary Blackmore balloon hemostasis was performed in 54%. EVL was performed in all patients, success rate was 76%; number of ring used was 6,1±1,83. EVL and concomitant sclerotherapy was necessary in 10%. Early endoscopic reintervention due to rebleeding was performed in 24%. One patient was referred to surgery. Mortality was 22%. Adherence to follow-up sessions was 34% and late rebleeding was 20%. **Conclusions:** Endoscopic treatment is effective in a large number of patients; high rate of temporary hemostasis is an indicator of lack of resources; the mortality remains high; despite this fact, adherence of follow up program is low.

**Keywords:** esophageal, variceal, bleeding, endoscopic, therapy

## GLUTEN SENSITIVE ENTEROPATHY AND IRON DEFICIENCY ANAEMIA

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**Background:** In adults, gluten sensitive enteropathy frequently is oligosymptomatic, in some cases the only clinical symptom is iron deficiency anaemia, difficult or impossible to treat by oral iron substitution therapy. Chronic diarrhea often is missing. If diagnosis is not made properly, unnecessary, in some cases expensive and stressful investigation are made for years. The impact of missing diagnosis and of the long series of investigations upon the quality of life of these patients is considerable. **Material and methods:** We studied cases of iron deficiency anaemia admitted to our Clinic or referred to our Ambulatory. Confirmed gluten sensitive enteropathy cases were noted. We also focused on those cases where the cause of iron deficiency was not found, but celiac disease was not excluded. **Results:** Between 2011- 2013, we had 72 cases of iron deficient anaemia. Cases with chronic diarrhea were excluded. Etiology of anaemia was found in 59 cases, 6 patients were diagnosed with gluten sensitive enteropathy. We had 13 cases where the cause of iron deficiency was not found, but these cases did not finish the complete investigation panel, for different reasons. We don't know how many of them suffered of subclinical gluten sensitivity. **Conclusions:** Gluten sensitive enteropathy is a frequent, and easy to miss cause of iron deficient anaemia in adults, iron absorption test can be a simple, useful test, which has to be part of our initial investigation panel in these patients.

**Keywords:** iron deficient anaemia, chronic diarrhea, gluten sensitive enteropathy

## MAXIMIZING THE AMOUNT OF DEPOSITED PARTICLES DURING A SEVERE ASTHMA ATTACK USING THE STOCHASTIC LUNG MODEL

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**Background:** The aim of this study was to use a computerized lung model to simulate the deposition of inhaled particles in the human airways during a severe asthma attack, in order to find the combination of breathing- and particle-related parameters which

leads to the highest deposited fractions in the target areas of the airways. **Material and methods:** A stochastic lung model was used to simulate the deposition of 1 nm - 100 µm particles during a severe asthma attack in bronchial generations 9-16. Breathing parameters were chosen to reflect the use of a therapeutic inhalation device, with a 10 s symmetrical breathing cycle and 2000 ml tidal volume. To maximize the deposited fraction in the target areas, further simulations were carried out changing the tidal volume (750-3000 ml), the length of the breathing cycle (2-20 s) and the length of breathing pause following inhalation (0-10 s). **Results:** The highest deposited fraction of 51.50% in bronchial generations 9-16 was obtained in the case of 0.01 µm particles, this value being almost 5 times higher compared to the highest deposition of 3-6 µm particles currently used in inhalation devices (11.81% in the case of 5 µm particles). Modifying breathing-related parameters did not lead to significant increases in the deposited fractions in the investigated region. **Conclusions:** Deposition fractions in the therapeutically important areas of the airways may be up to 5 times higher in the case of 0.01 µm particles, compared to particles currently used in the treatment of asthma bronchiale. **Acknowledgement** This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/133377.

**Keywords:** asthma, modelling, stochastic, inhalation, particles

## PREDICTIVE FACTORS FOR THE MALIGNANCY OF GASTRIC ULCERS

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**Background:** The gastric neoplasm, when examined by means of conventional endoscopy, may present itself under ulcerative form, similar to the endoscopic aspect of gastric ulcer. The difference between them can only be established by histopathologic exam. It is a known fact that, as a rule, large gastric ulcers are malignant, but there are few studies regarding gastric ulcers of reduced dimensions. **Material and methods:** The purpose of the study: is to identify the presence of certain predictive factors for the malignancy of gastric ulcers, which could allow a faster detection of gastric neoplasia. We have effected a retrospective, descriptive study, using the endoscopic data of patients investigated in the Gastroenterology Clinic in the period 01.09.2011 - 31.10.2014, with whom we have detected gastric ulcers with dimensions of no more than 1 cm. **Results:** We detected 73 gastric ulcers, out of which 17(23%) were malignant 13(76,45%) identified at the first endoscopy accompanied by biopsy sampling, and 4(23,55%) identified at the control endoscopy and the repetition of biopsy sampling. As for the location of the gastric ulcers, we obtained statistically significant correlations between the antral position and the presence of gastric ulcer (  $p=0,0001$ ,  $RR=10,321$ ,  $IC=1,523-69$ ), between the gastric cancer and the location in the corpus in the lesser curve ( $p=0,001$ ,  $RR=7,247$ ,  $IC=2,952-17,957$ ). The presence of gastric neoplasia is significantly correlated to smoking ( $p=0,0072$ ,  $RR=1,579$ ,  $IC=1,245-2,049$ ), and the usage of NSAID is correlated to the presence of gastric ulcer ( $p=0,003$ ). Regarding the symptoms, we detected the association between dyspepsia ( $p=0,005$ ,  $RR=1,346$ ,  $IC=1,086-1,668$ ), anemia ( $p=0,0139$ ,  $IC=0,4882-0,8093$ ) and gastric cancer. **Conclusions:** Patients who smoke, with dyspepsia and anemia, diagnosed by endoscopic means with gastric ulcer located in the corpus in the area of the lesser curve, present a higher risk of developing a malignant condition.

**Keywords:** gastric ulcer, malignant, endoscopy

## PREDICTIVE FACTORS OF ANTIVIRAL TREATMENT RESPONSE IN CHRONIC VIRAL HEPATITIS B AND C

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**Background:** Viral hepatitis B and C is one of the great problems of infectious pathology due to the high incidence of acute infections, the risk of chronicity, severity of chronic infections and the costs of these diseases. The aim of this study was to evaluate the rates of biological and virologic response and identify predictive factors for favorable response to antiviral therapy in patients with chronic hepatitis B and C. **Material and methods:** Presented study is a combined prospective and retrospective study conducted in the Gastroenterology Clinic of the Mures County Hospital from 01 March 2012 - 30 July 2014 on a group of 40 patients: 31 patients with HCV and 9 patients with HBV, each following specific antiviral treatment. In the studied groups was

pursued to identify the predictive factors of a favorable response to antiviral treatment. At the end of treatment and 24 weeks post-treatment were followed biological response (BR), virologic response, sustained biological response (SBR) and sustained virologic response (SVR). **Results:** In our group of patients VR rate was 64.5%; RVR rate was 17%, the breakthrough rate was 13% and nonresponder rate was 37%. At the end of follow-up SVR was obtained in 41.9% of cases, and the relapse rate was in 9.7% of cases. The study group without steatosis and body weight **Conclusions:** Predictive factors of a favorable response to antiviral therapy in patients with HBV are represented by higher serum levels of ALT and HBV-DNA, and older age. In patients with HCV, the absence of liver steatosis and weighing less than 75 kg are predictive factors for obtaining an SVR.

**Keywords:** Hepatitis C, hepatitis B, predictive factors, sustained virologic response

# MICROBIOLOGY

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## RECOMBINANT AAV2 PRODUCTION – A GLANCE IN LABORATORY TECHNIQUES AND APPLICATIONS

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**Background:** Adeno-associated virus 2 (AAV2) is a ubiquitous and non-pathogenic human parvovirus with a lifecycle consisting of two stages. In the absence of a helper virus such as Herpes-simplex virus type 1, Adeno- or Papillomavirus, AAV2 enters a latent infection, preferentially integrating its genome in chromosome 19. Productive AAV2 replication requires the presence of a helper virus. AAV2 has become one of the most promising vector for gene therapy applications. Here we describe a highly efficient purification procedure for recombinant AAV2 production using non-ionic Iodixanol gradients. **Material and methods:** 293T human embryonic kidney cells were co-transfected with a recombinant (r)AAV vector plasmid and a packaging plasmid that provides the AAV rep and cap genes as well as the adenovirus helper genes (pDG). At 48-72h after co-transfection and incubation at 37°C in a 5% CO<sub>2</sub>-95% air atmosphere, the cells were harvested, and rAAV particles were isolated by Iodixanol density step gradient followed by filtration. The viral titer was assessed by real-time PCR. Three different rAAV vector stocks were produced: rAAV-GFP-Rep, rAAV-GFP-Neo and self-complementary (sc)AAV-GFP. **Results:** Reporter gene (EGFP) expression upon was confirmed at 24 h after transfection by using an inverted fluorescence microscope. Vector titers were in the range of 10<sup>10</sup> genome containing particles (gcp)/ml for rAAV-GFP-Rep and rAAV-GFP-Neo, and 10<sup>11</sup> gcp/ml for scAAV-GFP. **Conclusions:** The titers obtained for different rAAVs using this method were high. rAAV preparation was successfully implemented in a biosafety level 2 laboratory. The vector stocks produced will be used for gene delivery and expression and for basic research, in particular to study the interactions between AAV, its helperviruses and the coinfecting cell.

**Keywords:** Adeno-associated virus 2, Virus isolation, Viral vectors

## EVALUATION OF FLUCONAZOLE AND VORICONAZOLE SUSCEPTIBILITY OF CANDIDA SPP. ISOLATED FROM THE ORAL FLUID OF HEALTHY ADULTS

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**Background:** Evaluation of species distribution and antifungal susceptibility profile of *Candida* spp. isolated from the oral fluid of healthy adults. **Material and methods:** During March-April 2014, samples of oral fluid were collected from 100 healthy adults, by oral rinsing with 10 ml sterile saline in the morning, before the oral hygiene. After the samples were centrifuged, 10 µl from the sediment were inoculated on Sabouraud agar, and incubated for 48h at 37°C. Each colony suggestive for *Candida* was identified to the genus and species by conventional methods of diagnosis (chromogenic media, API ID32C). Susceptibility to voriconazole and fluconazole was assessed by antifungal disk diffusion method, according to CLSI M44-A2 standard. **Results:** *Candida* spp. was identified in the oral cavity in 57% of the tested subjects. Only one type of *Candida* spp. was identified in each sample. Of the 57 isolates, 52 (91.22%) were *C. albicans* and 5 (8.77%) *Candida* non-*albicans*. Twelve strains (21.05%) presented sensitivity towards both of the tested antifungals; one strain (1.75%) presented sensitivity to voriconazole and intermediate sensitivity to fluconazole. The rest of 44 strains (77.19%) were resistant both to fluconazole and voriconazole. **Conclusions:** *Candida albicans* was the most common species of *Candida* isolated from the oral liquid of healthy adults; a significant proportion of isolates were resistant both to fluconazole and voriconazole.

**Keywords:** *Candida* spp., oral fluid, antifungal susceptibility

## NEONATOLOGY

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### RETROSPECTIVE ANALYSIS OF ANTIBIOTIC RESISTANCE IN ELBW PRETERMS HOSPITALIZED AT THE NEONATAL INTENSIVE CARE UNIT (NICU) OF THE EMERGENCY COUNTY HOSPITAL OF TG-MURES

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**Background:** Infections are an important source of morbidity and mortality among ELBW preterms. The authors were interested to determine the incidence of bacterial infections/colonization and evaluate the antibiotic resistance pattern in our neonatal intensive care unit. **Material and methods:** This retrospective study was carried out on 190 ELBW premature newborns, born at or transferred to the Neonatology I Clinic of Emergency County Hospital Tg-Mures, between 01.01.2009 and 31.12.2013. We examined blood culture, throat culture, gastric aspirate culture, coproculture results, which were analyzed according to Gram stain, biochemical properties, and antimicrobial sensitivity testing using Gram positive and Gram negative antibiotic discs, based on the isolated species, than the results were reported as sensitive (S), intermediate (I) or resistant (R). **Results:** The most common organism to be isolated were as follows: *Serratia marcescens*(42.35%), *Acinetobacter baumannii*(38.52%), *Pseudomonas aeruginosa*(30.34%), coagulase negative *Staphylococcus* (23.21%), *Klebsiella pneumoniae* (18.32%), *Enterobacter* spp. (12.22%), *E. coli* (14.61%). Other organisms isolated included: *Candida albicans*, *Alcaligenes faecalis* spp., *Streptococcus agalactiae*, *Enterococcus faecium*, and *Staphylococcus haemolyticus*. Treatment was administered according to the clinical symptoms and antibiotic susceptibility. **Conclusions:** Nosocomial colonization and/or infection are facts in the NICU. Clinical manifestation and outcome did not follow exactly the type of species detected. There is an urgent need of developing guidelines for antibiotic use and prevention measures especially for the high risk population in the NICU, in order to stop the spread of multidrug resistance strains.

**Keywords:** preterm, infection, antibiotic testing

# NEPHROLOGY

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## THE ROLE OF ULTRASOUND IN THE EVALUATION OF INCIDENTAL RENAL LESIONS

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**Background:** The purpose of this study was to investigate the frequency and clinical relevance of incidental renal findings at abdominal ultrasound in a healthy population exposed to chemical agents. **Material and methods:** We performed an abdominal ultrasound in 300 healthy subjects working in the chemical industry. The examination was performed using a Philips HD11 machine, with 3,5 Mhz convex array transducer, in grey scale, color Doppler and Power Doppler mode. Concerning the kidney we evaluated the morphology and measured kidney dimensions and parenchymal index. **Results:** Subjects had ages between 26 and 60 years old, with a mean age of 42,6 years old and a female/male ratio of 3/1. Abnormalities were found in 73,33% of the patients, 19,09% being renal changes. The most common finding was urolithiasis in 12 patents, followed by 10 cystic lesions. Other lesions found include congenital malformations, pielocaliceal stasis, Bertin column hypertrophy, angiomyolipoma and hydronephrosis. **Conclusions:** Patient acceptance was high because ultrasound is a non-invasive, non-irradiating method. The examination lead to abnormal findings in the majority of the subjects but most of the changes had no clinical relevance and didn't need any treatment. The large number of changes can lead to unnecessary costs for follow-up tests that is why only selected patients should be further evaluated.

**Keywords:** Occupational Medicine, Radiology, ultrasound, kidney, incidental lesions

## OCCUPATIONAL HEALTH

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### A MODEL FOR SCHOOL HEALTH-EDUCATION

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**Background:** Background: Health education, a tool for health promotion within the primordial and primary prevention aims to give information and ensure knowledge and understanding of health issues. **Material and methods:** Material and methods: Within the Public Health and Health Management discipline from the Unniversity of Medicine and Pharmacy from Tîrgu Mures: VI. class medical students, IV. class nurse-students and II and III. class nutrition-students gave each -according to their curriculum- one hour health-education lesson in secondary school. These activities were done in different Romanian districts, according to the students' provenience. There were presented a variety of topics, choosed by the students. **Results:** Results: Since 2006 our students gave 2700 hours of health-education lectures, reaching hereby 81.000 pupils. Based on the feedbacks from teachers and scholars, this activity fulfilled a need and deficiency in pre-university education. **Conclusions:** Conclusions: We consider, this program has to continue as these lessons have a gap-filling role, enabling pupils to explore their values and attitudes and therefore to make well-informed decisions regarding their health.

**Keywords:** health education, primary prevention, medical stud

### COLOUR BLINDNESS INDUCED BY OCCUPATIONAL EXPOSURE TO A MIXTURE OF ORGANIC SOLVENTS

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**Background:** Colour vision is very sensitive to many different agents. Recent research shows that occupational exposure to several solvents, metals, and other industrial chemicals can impair colour vision. They usually results in blue-yellow colour discrimination loss, or a combination of blue-yellow and red-green loss. Screening of colour vision loss induced by occupational exposure to organic solvents is realized by means of hue discrimination tests. I applied the Farnsworth D-15 test, what consists of 15 moveable coloured caps. The task involved arranging the caps in a continuous rainbow sequence starting at a fixed reference cap **Material and methods:** we compared the colour discrimination impairment of a group of 8 patients, 6 females, and 2 males, the mean age 36 year, admitted with acute intoxication to organic solvents, in our clinic in 2014.with a control group, form by 8 nonexposed workers. The colour discrimination was tested with the Farnsworth D-15 test. We performed also a visual acuity test. **Results:** Our results shown that 2 persons presents blue-yellow colour discrimination loss, females, and 1 person presents red-green colour discrimination loss among the exposed group. In a control group, we found only 1 person who presents only a red -green discrimination loss-male. We performed a statistical analysis between the two groups, what shows a higher mean value and standard deviation of the Confusion Index in the exposed group, were the mean value was 1,561,and the standard deviation 0,604 versus 1,381 mean value, and 0,563 standard deviation on the control group. **Conclusions:** Results shows that occupational exposure to organic solvents impair colour vision, therefore colour vision testing should be included in the evaluation of early neurotoxicity of chemicals in exposed workers.

**Keywords:** Tîrgu-Mures, UMF, organic solvents,, colour vision, Farnsworth test

### PM 2.5 CONCENTRATION IN ENTERTAINMENT VENUES

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**Background:** Airborne particulates are the deadliest form of air pollution as they are able to penetrate deep into the lungs and

blood stream. They are designated as group 1 carcinogens since they can lead to permanent DNA mutations. There is no safe level of particulates and recent studies had shown that with every increase of 10  $\mu\text{g}/\text{m}^3$  in PM<sub>2.5</sub>, the lung cancer rate rose by 36%. (Ole Raaschou-Nielsen et al. "Air pollution and lung cancer incidence in 17 European cohorts: prospective analyses from the European Study of Cohorts for Air Pollution Effects (ESCAPE)". The Lancet Oncology 14 (9): 813-22) Combustion processes are the main source of PM<sub>2.5</sub> particulates. While outdoor pollution comes mostly from burning fossil fuels, indoor pollution is greatly affected by tobacco smoke. In order to gain insight into locally specific conditions in this study we assessed the PM<sub>2.5</sub> pollution levels in various entertainment venues from Târgu Mureș. **Material and methods:** For the determination of PM<sub>2.5</sub> pollution levels we used the handheld TSI SidePak personal aerosol monitor AM510. We made three almost consecutive one hour sampling in three different locations. The sampling frequency was at least 120 measurements per hour. After aggregating the measurements on a per hour basis we analyzed the temporal changes within the same locations. **Results:** In the European Union the health based standards and objectives for PM<sub>2.5</sub> is set to 25  $\mu\text{g}/\text{m}^3$ . Comparatively, our measurements revealed a 3-5 times higher pollution levels. The temporal trend is the same in all three locations, with pollution levels decreasing in later hours, probably as the number of clients decreases in the venues. **Conclusions:** PM<sub>2.5</sub> concentrations in local entertainment venues are very high. Exposure to indoor smoking represents a health hazard that requires further active monitoring, development and implementation of preventive measures that can reduce risks.

**Keywords:** PM 2.5, air pollution, smoke

## PARTICULARITIES OF CHRONIC INTOXICATION WITH ISOPROPYL ALCOHOL

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**Background:** During the technological process, the employees may be at increased risk of isopropyl alcohol intoxication due to its psychical and chemical properties. The aim of this study was to highlight the temporal effects of a isopropyl alcohol collective intoxication. **Material and methods:** The aim of the research was to highlight the health status of the employees of a factory that deals with the manufacturing of covers for cars and the existing symptoms. We recorded data regarding gender, profession, type and time of exposure, existing symptoms, compliance and protection means both individual and collective. **Results:** All patients had gastrointestinal manifestations due to inhalation of high concentration of isopropyl alcohol found in poorly ventilated room. One of the cases revealed cardiac rhythm disorders. **Conclusions:** If prompt action is not taken in diagnosing and treating people with isopropyl alcohol intoxication there may be fatal consequences.

**Keywords:** isopropyl alcohol, intoxication, alcohol

## BODY-PLETHYSMOGRAPHY ROLE IN EARLY DIAGNOSIS OF RESPIRATORY DISEASES

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**Background:** Investigation of ventilatory lung function using full body plethysmography provides important data regarding the status of patients. To assess the possibility for early diagnosis of respiratory diseases. **Material and methods:** We performed a retrospective study on a group of 300 patients who were admitted to the Occupational Medicine Department for performing full body plethysmography. We recorded data regarding gender, age, height, weight, respiratory symptoms, treatment used and exposure to respiratory hazards. **Results:** 90% of the 300 cases were early and correctly diagnosed with a respiratory disease by measuring DLCO (diffusing capacity of the lungs for carbon monoxide), TLCO (transfer factor of the lung for carbon monoxide), residual volume and also Raw (airway flow resistance), which wouldn't have been possible by spirometry. **Conclusions:** In comparison with spirometry, full body plethysmography has proven more effective in early diagnosis of respiratory diseases by initiating an adequate treatment at an early stage.

**Keywords:** spirometry, body plethysmography, residual volume

## THE DETERMINANTS OF OCCUPATIONAL DISEASES AND MEDICAL / VOCATIONAL REHABILITATION

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**Background:** The aim of this work was the analysis of the determinants at normative-legal and community-family levels regarding the rehabilitation of persons with diseases from occupational environment. The patient with occupational diseases and disability is the person whose prospects of securing, retaining and advancing in suitable employment are reduced at the same time the space and work process is flexible and adapted to the individual. **Material and methods:** There was organized a complex research with quantitative and qualitative multistep. The objects of research were official data of the National Bureau of Statistics, Republican Committee of Occupational Diseases during 1998-2013 years; the National Council of Disability and Work Capacity Determination, Questionnaires of patients with disability (no. 100). **Results:** We have notices the change of the ratio of employees in branches of the national economy. The rate of persons employed with conditions not corresponding to the sanitary-hygienic norms, has increased three times (from 1.48% to 4.98%). There was a significant decrease in the incidence of occupational disease of 12-15 times. Among the patients predominated: male sex, rural residence, specialized secondary education level, employment seniority 23.51 (SD = 9.135; p <0.001). There was elaborated a scale of the determinants, which can influence the reinstatement in employment: 1st place were "employees of public institutions"; 2nd - patients aged under 45; 3rd and 4th "support at work - present" and "family support - present". **Conclusions:** The research the legal basis for 1) development of a national program on labor employment of disabled people, with occupational diseases; 2) creation of complex service system of medical, vocational, social rehabilitation.

**Keywords:** medical / vocational rehabilitation, diseases of the occupational environment, employees

## ASSESSMENT OF THE MUSCULOSKELETAL DISORDERS RISK OF THE OFFICE EMPLOYEES USING RULA METHOD

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**Background:** Musculoskeletal disorders SDs are an increasing healthcare issue globally and the most frequent health complaint by workers, also the second leading cause of disability. Computer workstation usage leads to health risks, one of them are MSDs. RULA is a screening method developed to detect work postures or risk factors that deserve further attention, based on RULA employee assessment worksheet. Aim: Correlation between poor ergonomic conditions and the development of MSDs at the healthcare system office workers **Material and methods:** Bibliographical-feasible, analytical-comparative and experimental methods. **Results:** At the study participated 33 workers, 10 workplaces need further investigation and may require changes; 18 require changes and investigations soon; 5 - immediately. The most frequent problems are the static position, 32 examined persons are spending 4-6 hr on the computer every day. 5 people are spending more than 2 hours on the computer without getting up. Another problem is the unsuitable chairs or working tables for the anthropometric characteristics of the workers. Because of that 12 employees have a high risk score for the wrists and 18 for the lower arms. 4 people catch a high score for the trunk and neck position. From the oral interviewing of the workers, 23 of them accuse upper back pain, 16 said that are tired after 4 hr of work at the computer, 11 want to change office furniture. **Conclusions:** RULA is fast, easy and cost-efficient screening tool that assesses biomechanical and postural loading on the body. The method has a strong focus on posture, but a weak one on force, repetition and duration.

**Keywords:** ergonomics, musculoskeletal disorders, ergonomic method RULA

# OPHTHALMOLOGY

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## CHOROIDAL MELANOMA IN ADULT PATIENTS – INCIDENCE, TREATMENT AND EVOLUTION

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**Background:** Choroidal melanoma is the most common intraocular tumor in adults. **Purpose:** To assess the incidence, treatment and outcome of patients with choroidal melanoma. **Material and methods:** We conducted a retrospective, observational study over a period of five years, in which we included patients diagnosed with melanoma in TgMures Ophthalmology Clinic. Evolution was revealed by imaging techniques. **Results:** of all diagnosed melanomas, 3 patients received brachytherapy at the Ophthalmology Clinic of Debrecen; some refused radical surgery, especially elderly patients; in cases with extensive tumors, over 10 mm diameter, eyeball enucleation was mandatory. **Conclusions:** Due to the late stage of choroidal melanoma, modern brachytherapy treatment is suitable in a small number of cases. In elderly patients there was a very low tendency of increase without local and regional metastasis.

**Keywords:** Ophthalmology, Ophthalmology, brachytherapy, choroidal melanoma

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## STUDY FOR EVALUATING THE EFFICACY OF INFERIOR LACHRYMAL PATHWAY OCCLUSION IN PATIENTS WITH DRY EYE SYNDROME

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**Background:** Dry eye syndrome is a condition with serious problems of diagnosis and treatment. **Aim:** to evaluate the efficacy of inferior lachrymal pathway occlusion in patients with dry eye syndrome. **Material and methods:** We conducted an experimental study on two groups of patients with ocular sicca syndrome and rheumatoid arthritis (group I - group II). Each group consisted of 10 patients with ocular surface damages: 2 patients with conjunctivitis sicca, 3 patients with superficial punctate keratitis, 3 patients with filamentous keratitis, 2 patients with corneal ulcer. Group I received medical treatment. Patients in group II have associated medical treatment with collagen implant temporary plugs in the lower lachrymal punctum. We followed the subjective complaints and changes in the tear film before intervention and 2 weeks after insertion. **Results:** After 2 weeks, subjectively, in group II, patients reported a significant decrease in ocular sicca symptoms intensity and the need to instill tear replacement therapy. We recorded statistically significant differences between the two groups of modified Schirmer test values ( $p=0.0125$ ) and no statistically significant differences ( $p=0.1088$ ) in the tear film break time. **Conclusions:** Implantation of collagen temporary plugs in the lower lachrymal punctum, in combination with other methods of treatment is particularly useful in the management of ocular sicca syndrome. Visual acuity depends on the presence of tear film integrity on the ocular surface and by blocking the excretion pathway result in delayed clearance of the tear and increase the amount of tears on the corneo-conjunctival surface.

**Keywords:** Ophthalmology, Ophthalmology, dry eye, punctum plugs, ocular surface

## ORTHOPEDICS

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### ANTERIOR KNEE PAIN AFTER HAMSTRING TENDON ANTERIOR CRUCIATE LIGAMENT SURGERY

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**Background:** To observe the incidence of anterior knee pain in patients who undergone hamstring reconstruction for ACL surgery.

**Material and methods:** Seventy-two consecutive patients who had undergone arthroscopically assisted hamstring ACL reconstruction were reviewed at minimum follow-up of 2 years. The intensity, frequency and severity of the anterior knee pain experience during activities of daily living, sports stair-climbing and kneeling was recorded with the VAS, IKDC scale. The location of pain and any sensory changes was recorded. **Results:** Three percent of the patients experienced spasm that cause limitation with daily activities, 6 % during sport or work, 4 % with kneeling and 5 % with prolonged sitting and stairs. The pain was not specifically related to the incision for tendon harvest and drilling of the tibial tunnel. Areas of sensory changes were identifiable over the front of the knee in 50 % of the patients, and of these, 75% demonstrated sensory change in the distribution of the infragenicular branch of the saphenous nerve. **Conclusions:** Anterior knee pain after hamstring surgery for ACL reconstruction is rarely a cause for limitation of the daily and sport activities and the patients should be counselled properly.

**Keywords:** Section, Oral presentation, ACL-SMT-PAIN

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### FINITE ELEMENT ANALYSIS AFTER L5/S1 INTERVERTEBRAL FUSION

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**Background:** The L5/S1 intervertebral fusion it changes the statics and the movement of the whole vertebral column. Because this part occupies the middle part of the body, in standing position it defines the statics of the whole body, from the point of support to the trunk-shoulders-heads position. **Material and methods:** After preliminary investigations (comparison of healthy patients with patients suffering of L5/S1 spondylolisthesis) we followed the fusion of this part how influences the statics of the whole body. Using different angled intervertebral cages we followed the biomechanical changes, the position of the shoulder in proportion to the point of support. **Results:** Based on the measurements, in this part of the vertebral column, every degree of the cage makes a change of 1 cm in the position of the shoulders. With different type of materials we get different results. Restoring the correct statics reduces the shearing stresses and restoring the center of gravity of the body reduces the load of the articulations. **Conclusions:** Using the adequate intervertebral cages, a correct position can be achieved, correcting the statically problems.

**Keywords:** spondylolisthesis, intervertebral fusion, intervertebral cage, vertebral column

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### KNEE ARTHROPLASTY: WITH OR WITHOUT PATELLAR COMPONENT?

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**Background:** Knee arthroplasty is used when there is irreversible damage to the articular cartilage of the knee. It involves implanting a bicompartmental (femoral and tibial components) or a tricompartmental (femoral, tibial and patellar components) prosthesis. It is a very invasive and costly operation, so our objective was to evaluate the necessity of the patellar component. **Material and methods:** During this study the authors included 39 patients: in 27 cases we used tricompartmental prosthesis, while the other 12 received only the bicompartmental components, using patellar resurfacing technique. Patients were evaluated

preoperatively and postoperatively using the IKDC Score and the KOOS. Also the authors evaluate the radiological outcomes postoperatively. **Results:** The authors found that there is little to no difference between the two groups regarding mobility and complication, however patients with bicompartimental arthroplasty complained of less pain in the first 3 months postoperatively and also the radiological signs were the same in the two groups. **Conclusions:** We found that arthroplasty without patellar component - being a less invasive procedure - is better not only in terms of pain management, but there is also less hemorrhaging, shorter intraoperative time is considered, revision is easier and also it is better financially, both for the patient and for the medical facility too.

**Keywords:** knee arthroplasty, patellar component, pain, radiological

## CLINICAL STUDY OF ACL RECONSTRUCTION USING HAMSTRING TENDON GRAFT FIXED WITH BUTTON AND BIOABSORBABLE INTERFERENCE SCREW

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**Background:** One of the most frequent sports-related injuries is the anterior cruciate ligament (ACL) tear, and is usually treated with one of the well known ACL reconstruction surgery techniques. Two main types of autograft are used for ACL reconstruction - the autologous bone-patellar tendon-bone graft (BPTB) and the hamstring tendon graft - and for the fixation of the graft many surgeons use bioabsorbable aperture interference screws and/or button. **Material and methods:** We retrospectively reviewed the records of the 170 patients on which the same team of 2 surgeons have performed arthroscopically ACL reconstructions with semitendinosus and gracilis graft at our clinic during 2011-2014. The fixation was with button in the femur and with bioabsorbable interference screw in the tibia. After the surgery the patients were clinically and MRI evaluated. The clinical evaluation was performed at 2 weeks, 1,3 and 6 months and on this time they were performing a specific recovery program. **Results:** This article illustrates the clinical results after our reconstructive technique and some complications caused by the biomaterials. A small number of patients suffered inflammatory reactions in the neighboring soft tissues and in the bone structure. **Conclusions:** Bioabsorbable interference screws are a common choice among surgeons. However some of their disadvantages, such as undesirable biological response of the neighboring tissues, even though rarely appear, when this happens the patients' recovery might be compromised. This paper is supported by the CRONEX-CD contract nr. POSDRU/159/1.5/S/133377, proiect cofinanțat din Fondul Social European prin Programul Operațional Sectorial Dezvoltarea Resurselor Umane 2007-2013

**Keywords:** Clinical anatomy, Biomaterials, ACL, HAMSTRING MUSCLES, BIOABSORBABLE SCREW

## EFFECTS OF TOURNIQUET ON EARLY REHABILITATION OUTCOMES IN PATIENTS UNDERGOING PRIMARY TOTAL KNEE ARTHROPLASTY

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**Background:** Pneumatic tourniquet application is still a common practice in total knee arthroplasty (TKA) surgery despite being associated with several adverse effects. The primary aim of this study was to evaluate the effects of tourniquet inflation pressures application on clinical and functional outcome, knee range of motion (ROM) and to investigate whether tourniquet time influences the risk of postoperative complications after TKA. **Material and methods:** We evaluated prospectively sixty patients with unilateral primary TKA. They were randomized into a tourniquet group (n = 30) and a non-tourniquet group (n = 30). All operations were performed by the same surgeon, with a follow-up period of one year. The primary outcomes were functional and clinical outcomes, as evaluated by Knee Society Score (KSS), Knee Injury and Osteoarthritis Outcome Score (KOOS) and Visual Analog Scale (VAS). The following postoperative complications were recorded: hematomas, skin necrosis, superficial and deep wound infections, vein thrombosis, nerve injuries, cuff pressure injuries. **Results:** Patients in the non-tourniquet group had a better functional and clinical outcome from surgery to week 12, according KSS and KOOS. No difference between groups was detected at the 6-, 9- and 12-month follow-ups. Postoperative pain and analgesic consumption were less when a tourniquet was not used. In the non-tourniquet group intraoperative blood loss was greater, but no transfusions were required after surgery. Complications after

TKA surgery were higher in the tourniquet group. **Conclusions:** We conclude that primary TKA without the use of a tourniquet results in faster recovery in terms of better functional outcome and improved knee ROM in the early period of rehabilitation. Furthermore, reduced pain and analgesic use were registered and no intraoperative difficulties were encountered. Tourniquet application at lower inflation pressures might minimize the complications of tourniquet use and the patients can gain more rapidly early functional mobility. Tourniquet time over 100 minutes increases the risk of complications.

**Keywords:** Knee, Arthroplasty, Tourniquet

## HYALURONANS AND CORTICOSTEROIDS IN THE LOCAL TREATMENT OF EARLY STAGES OF KNEE ARTHROSIS – SHORT TERM RESULTS

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**Background:** The intra-articular administration of hyaluronic acid and corticosteroids are both widely used in the treatment of knee osteoarthritis. The aim of our study was to compare the efficacy of hyaluronic acid intra-articular injections (single dose administration or three weekly administrations) alone, or with additionally administered corticosteroids for the treatment of knee cartilage degenerative lesions and osteoarthritis. **Material and methods:** The study involved 60 patients affected by cartilage degenerative lesions or early knee osteoarthritis. The patients were divided into 3 treatment groups of 20 each. The first group was treated by three intra-articular injections of high-molecular weight hyaluronic acid administered weekly, the second group received three injections of high-molecular weight hyaluronic acid administered weekly, in association with one injection of corticosteroid, while the third group was treated by a single dose of high-molecular weight hyaluronic acid. All patients were evaluated prospectively at enrollment and at the 2 and 6 month follow-up visits. For clinical evaluation we used the International Knee Documentation Committee score (IKDC) and the Visual Analog Scale (VAS). **Results:** We had no patients lost to follow-up. IKDC and VAS scores were improved in all of the groups. At the 2 month follow-up, all the patients showed similar improvement, but we recorded better results in case of the association of corticosteroid administration. At the 6 month follow-up, better results were observed in the groups that received three doses of hyaluronan, with no differences in case of corticosteroid association. **Conclusions:** The three weekly administered injections showed better efficacy compared to the single dose injection in reducing pain and symptoms, and functional recovering. The association of a corticosteroid gave an immediate pain relief, but the differences were not maintained on the longer term. For reaching definitive conclusions, long term studies on larger patient groups are still needed.

**Keywords:** knee osteoarthritis, hyaluronan, corticosteroids

## MID-TERM RESULTS OF CEMENTLESS TOTAL HIP ARTHROPLASTY USING THE MEDIALISATION TECHNIQUE

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**Background:** Surgical treatment of the dysplastic hip is a challenging endeavour for the orthopaedic specialist. One of the proven procedures for this is the medialisation of a cementless acetabular component in total hip arthroplasty. **Material and methods:** We studied a number of 214 consecutive patients with hip dysplasia treated in our facility between January 2007 and December 2012 that underwent total arthroplasty with a cementless endoprosthesis implanted using the medialisation technique (239 hips). Patients were evaluated clinically and radiologically both pre- and postoperatively and at the follow-up visits. **Results:** Mean age was 45 years (34 to 52) and the mean follow-up period was of 4.1 years. Based on the Crowe classification, we found 77 patients with type I hip dysplasia, 90 patients with type II, 69 with type III and 3 patients had type IV dysplasia. The mean value of the WOMAC score was 83 points preoperatively, decreased to 48 points at 6 months postoperatively and to a mean of 37 points at the last follow-up. Radiological evaluation showed a mean medialisation value of 3 mm from the Kohler line. The mean percentage of the cup surface that was placed medial to the Kohler line was of 23% (15-40%). In 8 cases (3.3%) the prosthesis broke through the medial wall of the acetabulum. The hip centre of rotation was medialised by a mean of 13 mm (8-19), while the mean abduction

angle of the acetabular component was 44° (35 to 45°). None of the cases needed revision arthroplasty up to this point. Our radiologic evaluation showed the presence of less than 2 mm wide radiolucent lines in 2 cases - on the outer and mid thirds of the acetabular component. **Conclusions:** The medial protrusion technique is relatively simple and convenient, as it can reduce operating time, while also providing a stable fixation of the acetabular component.

**Keywords:** total hip replacement, medialisation, cementless total hip arthroplasty

## RESULTS OF SURGICAL TREATMENT FOR HABITUAL SHOULDER DISLOCATION

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**Background:** The shoulder is the most commonly dislocated joint in the body. In cases of previous shoulder dislocation, patients are more prone to redislocation, which usually occurs because the tissue does not heal properly and/or because the tissue stretches out and becomes more lax. We present our long term results after the surgical treatment of habitual shoulder dislocation in 47 patients (51 shoulders), operated on between January 2005 - October 2014. **Material and methods:** Patients were treated using the Matty Magnusson, Eden-Hybinette, Putti-Platt and combined surgical techniques. Patients were followed for an average of 6 years postoperatively. Mean age was 42.5 years at the time of surgery. Preoperatively and at the follow-up visits, patients underwent physical examination, X-ray evaluation (Samilson-Prieto) and we used the Visual Analogue Scale (VAS) for subjective evaluation of outcomes. We also used the Constant score for evaluating the results. **Results:** The values obtained for the Constant score were of 78 points for the Putti-Platt intervention, 73 for the combination of the Putti-Platt and Eden-Hybinette techniques, 70 for the Eden-Hybinette alone, and 62 for the Matty Magnusson operation. Redislocation was observed in 14% of cases, and late arthritic changes were detected in many cases, but we found severe arthritis in only 2. **Conclusions:** Based on our results, we concluded that the Putti-Platt and Matty Magnusson techniques were offer the most reliable results. Still, the outcomes of the Putti-Platt operation were not as good as the results reported in the literature for the Bankart procedure.

**Keywords:** Shoulder dislocation, habitual, long term

## GENDER DIFFERENCES IN SUBJECTIVE OUTCOMES AFTER ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION

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**Background:** Anterior cruciate ligament (ACL) rupture is the most frequent ligamentous intra-articular injury of the knee, and ACL reconstruction is one of the most often performed procedure in orthopaedic surgery. Although some studies have looked at specific gender differences in terms of risk factors and incidence, to date the information about gender differences in the results of ACL reconstruction are still scarce. The aim of our study was to evaluate the gender differences in patient-reported outcomes after arthroscopic ACL reconstruction. **Material and methods:** We included 25 female and 25 male patients that underwent ACL reconstruction in our Institution between January 2012 and January 2013. The two groups were similar in terms of age, BMI and prelesional activity level. All patients underwent arthroscopically assisted single-bundle ACL reconstruction using hamstring autografts. The graft was anatomically placed using the "femur-first" technique. Femoral fixation was achieved using an extracortical button (XO Button™, ConMed Linvatec) while for tibial fixation we used a bioresorbable interference screw (Matryx®, ConMed, Linvatec). Postoperative rehabilitation was based on the same protocol in both groups. For subjective evaluation we used the International Knee Documentation Committee Subjective Knee Evaluation Form (IKDC) and the Visual Analogue Scale (VAS), preoperatively and at the 6 and 12 month follow-ups. **Results:** Pain scores as reported by using VAS were similar for the two sexes, both preoperatively and at the later follow-ups. We found differences between the IKDC score preoperatively and at 6 months postoperatively, with worst scores in female patients (mean difference 5.8, 95% confidence interval). IKDC score results were similar in the two groups at 12 months postoperatively. **Conclusions:** Female patients had worse IKDC scores preoperatively and at 6 months post-surgery, but the subjective outcomes were similar in both sexes at 12 months postoperatively. Our study highlights the need for gender specific outcome measures after ACL reconstruction.

**Keywords:** ACL reconstruction, subjective, gender

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## PREDICTORS OF EARLY OUTCOME AFTER TOTAL HIP ARTHROPLASTY

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**Background:** The acetabular cartilage surface wear out is a very common disease. The most effective way to treating the hip joint osteoarthritis is the complete hip arthroplasty, which greatly alleviates the pain and improves the movement. Technically the well-executed surgery and post-operative rehabilitation does not always provide full recovery. There are several factors that can affect the success of the post op rehabilitation. **Material and methods:** With a sample of 90 patients with total hip arthroplasty, we have conducted a prospective observational study, to determinate those internal and external factors that positively or negatively influence the full post op recovery in the shortest time **Results:** After hip replacement, the rehabilitation of the patient is largely determined by his/hers preoperative status, the presence of comorbidities and other influenceable and not influenceable factors. **Conclusions:** Full recovery after total hip arthroplasty is not based only on the surgical technique, but also on many endo- and exogenous predictive factors which influence the rehabilitation outcomes.

**Keywords:** hip arthroplasty, rehabilitation outcomes, predictors, full recovery

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## CORRELATION BETWEEN MAGNETIC RESONANCE IMAGING AND ARTHROSCOPIC FINDINGS IN KNEE LESIONS

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**Background:** Magnetic Resonance Imaging (MRI) is a non-invasive diagnostic method with no known side effects, which has been shown to have a high sensitivity in detecting meniscal lesions (90-96%) and lesions of the anterior and posterior cruciate ligaments (up to 95-97%). Still, for a correct and complete diagnosis, the MRI results must be interpreted in the context of anamnestic data and the objective clinical examination of the patient. The MRI results can support the surgical indication for arthroscopy, which is a minimally invasive intervention that facilitates the visualization, investigation, diagnosis and treatment of intra-articular lesions of the knee. The purpose of this study was to assess the correlation between MRI results and the intra-articular lesions detected by arthroscopy. **Material and methods:** This retrospective study evaluated a total of 60 patients admitted and treated during a 12 months period (between the 1st January 2013 and the 1st January 2014) in the Clinic of Orthopaedics and Traumatology of Mureş County Hospital. As a statistical method, we used the Kappa coefficient, which indicates the degree of agreement between the two methods. **Results:** Anterior cruciate ligament (ACL) lesions were seen on MRI in 40 patients (93%), and it was arthroscopically confirmed in 37 patients (86%). In 34 cases (79.1% of the total of 43) MRI and arthroscopic results were similar. The kappa coefficient shows a high degree of correlation (0.90), which is considered very good. The kappa coefficient was calculated similarly for lesions of the posterior cruciate ligament (PCL) and medial and lateral menisci. In other cases the coefficient could not be calculated due to objective reasons. **Conclusions:** By assessing the kappa coefficient to highlight the correlation between the MRI and arthroscopic diagnosis for knee injuries, we found a statistically relevant correlation between the two methods. This suggests that a correct diagnosis can be determined by both methods.

**Keywords:** knee, intra-articular lesions, magnetic resonance imaging, arthroscopy

# PATHOLOGY

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## CEREBRAL NEUROECTODERMAL CYST. A CASE REPORT

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**Background:** In the literature, epithelial cysts of the brain were reported as having several origins such as neuroepithelial, ependymal, choroid, enterogenous, neurenteric, metaplastic respiratory epithelial, and endodermal. Differential diagnosis is mainly based on their immunoprofile. **Material and methods:** A 58-year-old hypertensive female was hospitalized with two-month history of persistent headache. She has been previously treated with antihypertensive drugs. During hospitalization, despite the specific therapy, the headache persisted and patient died four days after admission. During autopsy a marked leptomeningeal hyperemia, subarachnoid and intraparenchymal brain hemorrhage along with the flooding of the fourth cerebral ventricle, were seen. Concentric left ventricular hypertrophy of the heart and myocardial sclerosis were associated. The patient died as result of hypertensive-related brain hemorrhage. In the posterior cranial fossa, on the left side of the brainstem, a 20x20x15 cm multilocular cystic lesion was also incidentally identified. It was filled with serous fluid and lined by a 0.5-1mm smooth layer that was microscopically proved to be lined by a simple columnar epithelium; focally papillary projections that incorporated psammoma bodies were identified in the cystic wall. The covering epithelial cells were positive for AE1/AE3 keratin, vimentin and S-100 protein, and did not display reactivity for GFAP (glial fibrillary acidic protein) and EMA (epithelial membrane antigen). **Results:** Based on the localization, gross and microscopically aspect, and immunoprofile, the final diagnosis was neuroectodermal cyst of posterior cranial fossa. The immunoprofile facilitated its differentiation from other benign cerebral cystic lesions. **Conclusions:** Neuroectodermal cyst is a rarely incidentally-encountered lesion of the brain. Its localization in the posterior cranial fossa can associate non-specific symptoms; undiagnosed cysts may increase the severity of other associated cerebral lesions.

**Keywords:** pathology, pathology, neuroectodermal cyst, intracranial, posterior cran

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## PEDIATRIC MALIGNANT PHEOCHROMOCYTOMA: A CASE REPORT AND REVIEW OF THE LITERATURE

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**Background:** Malignant pheochromocytomas affecting young people are rare and the prognosis of children with this tumor is not well known. Approximately 20% of pheochromocytomas are found in the pediatric population. **Material and methods:** We report a case of a malignant pheochromocytoma in a 14 year old girl, wich presented a 4 cm sized unilateral adrenal mass. **Results:** On macroscopic examination the tumor was nodular, encapsulated mass with brown-red cut surface. The malignancy was confirmed by using the multiparameter scoring system PASS (Pheochromocytoma of Adrenal gland Scaled Score) and by immunohistochemical findings. In our case the PASS score was >6 and we observed a remarkable decrease in the immunohistochemical reactivity of S-100 protein positive cells, wich helped us to identify the malignant behavior of this tumor. **Conclusions:** Early diagnosis and intervention are important for the successful management of this rare pediatric neoplasm. PASS prognostic scoring is highly predictive of the clinical behavior of pediatric malignant pheochromocytoma. Family screening and long-term follow up is also important.

**Keywords:** malignant pheochromocytoma, pediatric tumors, PASS score

## PRIMARY MEDIASTINAL TUMOR WITH FULMINANT EVOLUTION: CASE PRESENTATION.

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**Background:** T cell committed lymphoblastic lymphoma in pediatric pathology represent only 15% of ALL. Usually involves bone marrow and blood with high leukocyte count, frequently presents like a mediastinal mass with rapid growth. Other possible sites include peripheral lymph nodes, skin, liver, spleen, Waldeyer's ring, central nervous system and gonads.

**Material and methods:** We present a autopsy case of a 1 year girl, who presented with compressive symptoms and with an enlarged, nodular mass in the mediastinum. Clinical examination and CT exam revealed a firm nodule with dimension 60x 65 mm involving the pericardium, the respiratory tract, both lungs and large vessels. A biopsy of the pericardium was performed for the histopathological exam, one day after our patient died. The piece was fixed and processed for microscopic evaluation.

**Results:** On macroscopic examination during the autopsy the mediastinal compartment was replaced by a firm nodular mass partially encapsulated with extracapsular extension of the tumor to the esophagus, respiratory tract, lungs and large vessels. Microscopic exam of the lymph node, liver, spleen, lungs, kidneys revealed a proliferation of malignant lymphoid cells represented by small blasts with finely dispersed chromatin, and variable cytoplasmic ratio. Immunohistochemistry (IHC) was done to ascertain the origin of these cells: these are Tdt positive, they express LCA, CD3, CD99 and are negative at CD10,CD79a. Ki67 proliferative index on malignant cells was approximately 90-95%.

**Conclusions:** Based on morphologic characteristics and the IHC findings our final diagnosis was of T cell lymphoblastic lymphoma. The site of involvement was characteristic in these case, in pediatric protocols these entity is usually treated as high-risk disease. Death was produced suddenly by multi organic failure.

**Keywords:** antigen markers, high-risk disease, lymphoblastic lymphoma

## PEDIATRIC PRIMARY EXTRANODAL LYMPHOMAS WITH UNUSUAL LOCALIZATION: REPORT OF TWO CASES

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**Background:** Primary extranodal non-Hodgkin's lymphoma in genital tract and subcutaneous soft tissue is a rare entity in pediatric pathology. Etiology and pathogenesis of these NHLs are unknown, there might be possible association between chronic inflammation and lymphomas.

**Material and methods:** We report one case of testicular and one case soft tissue lymphoma. The symptoms and the differential diagnosis are also discussed. Case1: A 5-year-old pboy with testicular enlargement was referred to our departament of pediatric surgery. The testicular biopsy showed an homogenous lymphoid infiltrate. The immunohistochemical analysis showed an evidence of massive positivity to CD45 and B-cell markers. 90% of the tumor cells showed intensive positivity to Ki-67 nuclear proliferative antigen, without TdT expression. Case 2: An otherwise healthy, 13-year-old boy presented a relatively well-circumscribed white-yellow, soft tumor mass in thoracale subcutaneous soft tissue. The histological examination showed an inflamatory background with many atypical tumor cells with irregular, pleomorphic vesicular nuclei, prominent nucleoli and many mitotic figures. The tumor cells were LCA, CD3, CD4 positive, without expression of B-cell markers. Ki-67 proliferative index was 50%.

**Results:** Large panels of antibodies was used in order to establish the diagnosis in both cases. Case 1 was diagnosed as B-cell lymphoma, unclassifiable with features with intermediate features between Diffuse Large B-cell Lymphoma and Burkitt-lymphoma. Case 2. was considered Peripheral T-cell lymphoma, not otherwise specified. Large panels of antibodies was used in order to establish the diagnosis in both cases.

**Conclusions:** Primary testis DLBCL in children is very rare, characterized by an increased risk of extranodal, CNS, and contralateral testis recurrence with poor outcome. T-cell lymphomas are challenging childhood neoplasms. These cancers have varying presentations, vast molecular heterogeneity, and inflamatory background creating diagnostic challenges frequend misdiagnosed as inflamatory disease.

**Keywords:** pathology, pathology, Primary extranodal non-Hodgkin's lymphoma, pediater

## RETROPERITONEAL EMBRYONAL RHABDOMYOSARCOMA: CASE REPORT

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**Background:** Embryonal rhabdomyosarcomas are primitive, high-grade neoplasms and affect most commonly children under 5 years. They possess various locations, but are rare in retroperitoneum. **Material and methods:** A 2 year-old girl presented abdominal pain and urinary complaints. Abdominal CT scan showed an inhomogeneous, well defined tissular mass that measured 81x75x96 mm, located in the retroperitoneum, compressing the anatomical neighborhood. A surgical resection of the tumor mass was performed. **Results:** The unoriented surgical specimen was covered by a discontinuous, thin smooth capsule. On the cut surface presented inhomogeneous white-gray elastic lobulated structure with myxoid peripheral areas. Microscopically the tumor tissue showed compact structure, composed predominantly of small and medium sized cells with round and elongated nuclei, with a variable amount of eosinophilic cytoplasm and moderate pleomorphism. These cells were predominantly arranged around vascular spaces, but they also formed fascicles with a storiform pattern. The tumor tissue presented rare clusters of anaplastic cells and frequent mitotic figures (62/50 HPF), and extended into the thin capsule and into the peritumoral, richly vascularized connective tissue. These tumor cells express vimentin and desmin, without CTK, SMA, S100, EMA, CD99, CD117, CD34, NSE positivity. WT1 highlights some of the tumor cells. Ki-67 proliferative index was 80%. LCA highlighted lymphoid elements arranged among tumor cells. The final microscopic finding of the surgical specimen concluded rhabdomyosarcoma, embryonal variant. **Conclusions:** Embryonal rhabdomyosarcomas is less frequent in the retroperitoneum, in this case IHC reactions helped us to include this tumor in prognostically histological categories.

**Keywords:** pleomorphism, storiform, anaplastic, embryonal rhabdomyosarcomas

## THE PREVALENCE OF PREMALIGNANT GASTRIC LESIONS ON TWO LEVEL GASTRIC BIOPSIES

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**Background:** Infection with *Helicobacter pylori* (HP) is the main risk factor that can trigger a cascade of premalignant gastric lesions resulting into intestinal type of adenocarcinoma. The first step in this cascade is represented by the loss of the normal gastric glands that can be followed by metaplastic changes, dysplasia and eventually, the development of malignancies. The aim of this study was to assess the gastric premalignant lesions on two level gastric biopsies. **Material and methods:** It is a retrospective study of 320 gastric biopsies, on two levels, diagnosed in the Pathology Department of the Emergency County Hospital, Tîrgu Mureş. We pursued the types of premalignant lesion, the frequency and extent of these injuries, their correlation with the HP infection and types of gastritis. **Results:** The HP infection, present in 39.4% of the cases, was more frequent in the 5th and 6th decade. Atrophy of normal gastric glands (GA), complete (CIM) and incomplete (IMM) intestinal metaplasia were diagnosed in 73, 100 respectively 99 cases, most frequently in the antral region; 23, 40 and 44 of the cases presented HP infection. Histopathological, AG and CIM were significantly associated with active, respectively inactive chronic gastritis while IIM was significantly associated with inactive gastritis, only. Indefinite for dysplasia type of lesions were observed in 7 cases, while two cases presented mild epithelial dysplasia. **Conclusions:** The results show that the prevalence of premalignant gastric lesions is quite high in a region where HP infection is reduced. The interrelationship between the type, extent and severity of premalignant gastric lesions is an important indicator for clinical surveillance protocols for these patients. **Acknowledgment:** "This paper was published under the frame of European Social Found, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/136893"

**Keywords:** Internal Medicine, Public Health, premalignant gastric lesions, intestinal metaplasia, *Helicobacter pylori*

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## HEPATOBLASTOMA: A CASE REPORT AND REVIEW OF THE LITERATURE

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**Background:** Hepatoblastoma is the most common form of liver cancer in children, although it is a comparatively uncommon pediatric solid tumor. The disease usually affects children younger than 3 years. **Material and methods:** We report a case of pediatric hepatoblastoma in a 2 year old boy, wich presented a 3 cm sized mass in the left hepatic lobe, that underwent chemotherapy prior to the surgical intervention. **Results:** Microscopically, the infiltrative tumor mass in the liver parenchyma was represented by an immature hepatocyte proliferation, arranged in cords, with numerous a capillary sinusoids. This morphological aspect and high mitotic index (10 mitoses / 10 HPF) is corresponding to histological subtype of fetal epithelial hepatoblastoma, mitotically active. Peritumoral lymphovascular tumor emboli were numerous. Tumor cells showed Alpha-fetoprotein positivity, and were negative for CEA, Chromogranin and EMA. At the periphery of the tumor, among tumor plaques, are areas of fibrosis with thrombosed blood vessels (effect of chemotherapy). Remaining liver parenchyma showed micro- and macrovacuolar adipose dystrophy, with chronic inflammatory infiltrate in the stroma, and numerous epithelioid granulomas circumscribed by multinucleated histiocytes, with caseous central necrosis. **Conclusions:** The increased mitotic index and the presence of vascular emboli include this tumor in the high-risk category, being associated with epithelioid granulomas as an effect of chemotherapy.

**Keywords:** Hepatoblastoma, pediatric, chemotherapy, epithelioid granuloma, high risk

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## OSSIFYING FIBROMYXOID TUMOR: A CASE REPORT

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**Background:** Ossifying fibromyxoid tumor (OFT) is a very rare neoplasm in childhood, with cords and trabeculae of ovoid cells embedded in a fibromyxoid matrix, surrounded by a partial shell of bone spicules. **Material and methods:** The 9-year-old female patient presented with a well circumscribed right latero-cervical subcutaneous nodular mass, dimensions 52x22x20 mm, firm, hard, white in colour. **Results:** Microscopy revealed a well circumscribed nodular mass surrounded by a fibrous pseudocapsule. The tumor is composed of lobules of cells with epithelioid morphology arranged in nests and cords, and set in a fibromyxoid stroma. The neoplastic cells are monomorphous with round-to-ovoid nuclei, small nucleoli and a variable amount of eosinophilic cytoplasm. Mitotic activity is less than 2 per 10 high power fields. The lesion contains peripheral bone spicules. The neoplastic cells express Vimetin and S100 protein, focally positive for SMA and Desmin, negative for CD34, CD10 and FXIII. **Conclusions:** Microscopic morphology and performed IHC reactions helped us to diagnose this tumor with uncertain histogenesis, although the preponderance of evidence suggests a Schwann cell origin. The majority behave in a benign fashion, but very rare tumors with histologic and clinical evidence of malignancy have been reported. Criteria for malignancy in OFT are not yet defined.

**Keywords:** ossifying, fibromyxoid tumor, bone spicules, uncertain behaviour, antigen markers

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## PARTIAL NODAL INVOLVEMENT COMBINED WITH IN SITU FOLLICULAR LYMPHOMA: CASE REPORT

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**Background:** Non-neoplastic follicles may be present in lymph nodes involved by otherwise typical follicular lymphoma (FL), or may be also partially colonized by tumor cells (in situ FL). These aspects has been considered to predict for lower stage at diagnosis. **Material and methods:** A 76 year-old women presented with isolated enlargement of left axillary lymph nodes, anemia, weight loss and fewer. Lymph node biopsy was sent for histopathology. Histological and immunohistochemical studies was performed. **Results:** Histological examination of biopsy releved lymphoid hyperplasia, effacement of lymph node architecture by neoplastic follicles, associated with reactive follicle structures in periferic areas. The neoplastic cells were predominantly small, cleaved

centrocytes, with scattered centroblasts. Focally these cells have intrafollicular distribution and were also positive for CD20, CD10, bcl-2 and bcl-6. Based on histopathologic and immunohistochemical findings, the case was completed as FL, grade 1: partial nodal involvement combined with in situ FL. **Conclusions:** In situ component cannot be recognized without bcl-2 staining. The significance of this findings is unknown, but partial involvement associated with in situ component and preserved reactive germinal centres are a strong indicator for a limited disease stage. This finding is of particular importance, because localized FL can be cured with radiotherapy or according to a recent studies, might be left untreated until a relapse occurs.

**Keywords:** in situ follicular lymphoma, limited disease, partial nodal involvement

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## HISTOGENESIS OF INTESTINAL AND DIFFUSE TYPE GASTRIC CANCER

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**Background:** The aim of this paper was to present our experience correlated with literature data in field of histogenesis of gastric cancer (GC). **Material and methods:** In 180 consecutive cases of GC, diagnosed at Clinical County Hospital of Tîrgu-Mureş, Romania, the clinicopathological data (demographic data, localization, histologic type, and stage of the tumor) were correlated with the tumor immunoprofile, based on a panel of 7 antibodies: E-cadherin, Slug-1, vimentin, maspin, bax, p53, and Ki67. The status of p53 gene was also explored. **Results:** In all of the cases, normal gastric mucosa displayed maspin cytoplasmic positivity, while the dysplastic cells presented a maspin nuclear shift. In some of the cases, intramucosal signet ring cell clusters with maspin nuclear positivity were also observed. Maspin expression was lost in 14.5% of the cases and correlated with poorly-differentiated or poorly-cohesive architecture and presence of distant metastases. The epithelial-mesenchymal transition (loss of E-cadherin expression and positivity for vimentin and/or SLUG-1) was more characteristic for poorly cohesive GCs with negative or nuclear pattern of maspin. The well differentiated adenocarcinomas diagnosed in early stages were rather characterized by cytoplasmic maspin and bax/E-cadherin positivity. No correlation between maspin subcellular pattern and survival rate was noted. **Conclusions:** In patients with GC, loss of maspin expression and epithelial-mesenchymal transition indicates a tumor dedifferentiation and a higher risk for distant metastases. This work was partially supported by the team research project POS-UMFTGM-CC-13-01-V01, No 15/16189/2013 funded by the University of Medicine and Pharmacy of Tîrgu-Mureş, Romania, and Studium foundation.

**Keywords:** PATHOLOGY, PATHOLOGY, gastric cancer, histogenesis, maspin, E-cadherin,

# PATHOPHYSIOLOGY

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## CASE BASED LEARNING MEDICINE-A MODERN CONCEPT OF TEACHING AND LEARNING

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**Background:** Evidence Based Medicine (EBM) is currently one of the most spread teaching concepts in the world. On the same lines, teaching and learning based on medical clinical cases becomes very popular and widely accepted in modern medical universities. **Material and methods:** This paper presents a Case Based Learning (CBL) model, which is adapted after the North-American system and successfully applied in the Pathophysiology department with the third year medical students. For a semester, every student will have to make two case presentations, respectively four presentations until the end of the third year. The department's teaching staff is preparing in advance two cases every week, which are going to be analyzed and presented by a team formed of two to four students. The lectures' theme is presented a week before it is discussed during practical works and each student will receive two or more scientific articles from PubMed about the suggested subject for presentation. **Results:** Up until now, each group of students had already presented ten cases. At the end of their presentations, the students that completed the respective project will have to write some hand-outs that are going to encompass the most important information related to their subject; these handouts will be provided to their colleagues, as well as to the teacher. These learning materials will build the base from which the questions for the practical exam are going to be made, for assessing understanding of the theoretical notions presented during the practical works. In this paper there would also be discussed the SWOT analysis of these ten presentations. **Conclusions:** Most of the students prefer this type of learning instead of the classical one in which the teacher presents all the notions, the students are learning the subjects presented and the evaluation is made by an exam held by the teaching staff.

**Keywords:** Case-Based Learning, Evidence Based Medicine, Pathophysiology

## PEDIATRICS

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### LINK BETWEEN MOLECULAR CHARACTERISTICS, CLINICAL PRESENTATION AND TREATMENT APPROACH OF LEUKEMIAS IN CHILDREN

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**Background:** The knowledge of molecular biology features of acute leukemias enables an accurate risk stratification and consequently an appropriate treatment approach. The prognostic impact of the genetic and molecular characteristics of blasts have been known before 2000. Hypodiploidy  $\leq 45$  and the detection of t(9;22) (BCR-ABL p190) or t(4;11) (MLL-AF4) fusion genes renders the ALL patient to the high-risk group, irrespective of other risk factors. **Material and methods:** The BCR-ABL p190, MLL-AF4 and TEL-AML1 fusion genes were assessed among the ALL patients and AML1-ETO, CBFB/MYH 11 (inv 16), FLT3 mutation and MLL-AF4 in AML patients, treated at the Pediatric Clinic of the Mures County Hospital. Test results were correlated with other risk factors such as age at diagnosis, presenting WBC count, gender, blast type, blast immunology and survival. **Results:** A number of 21 ALL patients and 2 AML patients underwent molecular biology testing. Among ALL patients 4 harbored BCR-ABL fusion genes, 2 were positive for TEL-AML1 rearrangement and 15 were negative for the assessed fusion genes. One AML5 patient was negative for FLT3, MLL-AF4 and inv 16 (CBFB/MYH 11) and the other AML2 patient was positive for AML1-ETO (t(8.21)). One of the BCR-ABL positive patients is treated with imatinib and intensive chemotherapy regimen. Both ALL patients with TEL-AML1 fusion gene presented high WBC count but showed favorable outcome until present time, when they are under maintenance therapy. **Conclusions:** Discussion: MLL-AF4 fusion gene appears more frequently in infants and has unfavorable outcome. Ph+ALL has a cure rate of less than 35% in the absence of hematopoietic stem cell transplantation (HSCT). Intensive chemotherapy combined with imatinib has improved survival up to 80%. TEL-AML1 rearrangement has a more favorable prognosis, even in the presence of high leucocyte number. Conclusion: molecular biology features of ALL and AML are important in risk stratification and proper treatment of leukemias.

**Keywords:** Pediatrics, Pediatrics, leukemias, children, molecular biology

### CARDIOVASCULAR MANIFESTATIONS IN CHILDREN WITH THE SYNDROME MARFAN

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**Background:** Aortic dissection and the progression of mitral valve prolapse associated with Marfan syndrome worsens the prognosis of the disease and eventually leads to death at the age of 35-40 for a large number of patients. Purpose: echocardiographic and clinical assessment of cardiovascular manifestations in children with Marfan syndrome being cared for in our service. **Material and methods:** Clinical and echocardiographic 2D and Doppler assessment of 15 children diagnosed with Marfan syndrome associated with mitral and aortic valve lesions, admitted and cared for in the Tg Mures Pediatric Cardiology Clinic between 2013-2014. **Results:** The mean age of children with cardiovascular disease was 7 years old, 11 patients had mitral valve prolapse, 5 patients had moderate to severe mitral insufficiency associated with valve prolapse, 9 patients had significant dilation of the aorta and received treatment with beta-blockers and 5 patients showed both lesions. **Conclusions:** The evolution of cardiovascular manifestations in the case of Marfan syndrome must be carefully observed during childhood as our observations have shown a tendency towards the progression of mitral insufficiency and aortic dilation

**Keywords:** cardiovascular manifestations, children, syndrome M

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## ULTRASONOGRAPHIC FINDINGS IN URINARY BLADDER DISEASES IN CHILDREN

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**Background:** Urinary bladder must be ultrasonographically examined when it is full, but sometimes it is necessary to be examined when it is empty. This presentation aims to assess the contribution of ultrasonography in diagnosing urinary bladder problems in children. **Material and methods:** The authors present a series of cases from Department of Pediatrics, Mures County Hospital, each case is presented and discussed based on ultrasonographic findings and final diagnosis. **Results:** The authors present 6 cases of urinary bladder disease, aged from 6 months to 13 years. The main clinical feature in all cases was dysuria and problems with urination. In each case, ultrasonography was the key of diagnosis, alongside with laboratory tests. **Conclusions:** Ultrasonography is a noninvasive and repetitive method that can bring important information about urinary bladder problems. Sometimes, it can be also used as a valuable instrument to assess evolution of disease.

**Keywords:** pediatrics, pediatrics, children, urinary bladder

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## BONE MARROW APLASIA SECONDARY TO CHEMOTHERAPY - PEDIATRIC CLINIC NO. 2, TG MURES

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**Background:** Haematological malignancies require aggressive chemotherapy treatment, which results in a temporary marrow aplasia. Depending on the underlying disease, duration and severity differs. Our study aims to analyze clinical bone marrow aplasia secondary to cytostatics and their treatment, respectively. **Material and methods:** 8 patients in the hematology-oncology department casuistry of Pediatrics clinic no. 2 of Targu Mures are under observation over a period of 1 year while receiving intensive chemotherapy treatment and clinical and laboratory studies are conducted. **Results:** Case distribution: 3 LAL, 1 LAM, 2 Wilms tumor, 1 Neuroblastoma, 1 Hodgkin lymphoma stage IV nodular sclerosis form. Pathologies related to periods of aplasia: pneumonia, paratuberculous + cutaneous abscess, typhoid perianal abscess, reactivation of herpes infection (shingles), carbohydrate metabolism imbalance. Treatment requires patient isolation with rigorous hygienic-dietary regime, an arsenal of broad-spectrum antibiotics, intravenous immunoglobulin, platelet and red blood cell substitutes, granulocyte colony stimulating factor. **Conclusions:** In acute lymphoblastic or myelogenous leukemia bone marrow aplasia requires a long period of time, rebellious to treatment, whereas in the case of solid tumors post-cytostatic marrow aplasia requires a shorter timeframe and it is easier to correct.

**Keywords:** hemato-oncology, M4, Aplasia, substitution, secondary infections, agres

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## SERUM LEVELS OF LEPTIN AND IGF-1 AND RELATION WITH ANTHROPOMETRIC PARAMETERS AND BODY COMPOSITION IN CHILDREN WITH MALIGNANT DISEASES

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**Background:** Poor nutritional status is a common problem among children with malignant disease. In order to detect changes in nutritional status and body composition this study investigates biochemical and anthropometrical parameters and body composition among pediatric patients with malignant diseases. **Material and methods:** We prospectively enrolled 43 patients divided in 2 groups: study group (23 pts) - patients with different malignant disease and control group (20 pts) - patients with pediatric diseases. Plasma concentration of leptin, protein and IGF-1 were measured in both groups. The anthropometric parameters [weight-W, height-H, body mass index (BMI), middle upper arm circumference (MUAC), tricipital skinfold thickness (TST)] were comparatively evaluated. Body composition (percent of body fat, lean body mass, total body water) was recorded using bioelectrical impedance analysis method. **Results:** Leptin level, proteins and IGF-1 were much lower in the oncological group

compared with controls ( $p < 0.05$ ). Anthropometric parameters in Group I were significantly different from those in Group I only for MUAC ( $p < 0.05$ ). In the study group, FM was much lower ( $15.13 \pm 6.93\%$ ) compared with controls ( $21.65 \pm 10.05\%$ ) ( $p = 0.04$ ) and TBW was much higher ( $61.85 \pm 4.93\%$  versus  $57.4 \pm 7.37\%$ ) ( $p = 0.05$ ). **Conclusions:** This research showed that the pediatric patients diagnosed with malignant disease has a poor proteic status than the control group (serum levels of total protein, leptin and IGF-1 decreased in malignancies). Arm anthropometry, in conjunction with bioelectrical impedance analysis and serum protein accurately characterizes the nutritional disorders at the diagnosis of malignant disease. **Acknowledgment.** This paper is supported by the project 14/30.01.2013: "The assessment of nutritional status in children with cancer", project financed by internal research grants from The University of Medicine and Pharmacy, Tîrgu-Mureş, Romania.

**Keywords:** leptin, IGF-1, anthropometry, body composition, malignant disease

## THE IMPACT OF NUTRITION ON HEALTH IN THE EARLY YEARS

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**Background:** Starting the food diversification of children, parents are responsible for a multitude of factors that can influence in a positive or negative way the health status (physical and mental) of their child. Of these, the most important are: food choices, portion sizes, schedule and quality of the meals, the ambience in which they are served, the financial income of the family, sanitary conditions, education level of parents, attention to physical activity. All these factors listed and analyzed in detail can accurately outline the family and the kind of "parenting" influencing the growth and development of each child. **The purpose** of this study is to identify nutritional mistakes that parents make in their children's nutrition and highlight their possible repercussions on the body of children. **Material and methods:** This is a prospective study performed in the Pediatric Clinic of Targu Mures over a period of 8 months, that aims to identify nutritional mistakes in child nutrition. A sample was analyzed systematically consisting of 165 patients, the data necessary for the study were collected with the aid of a questionnaire composed of a series of questions. **Results:** Smoking status of parents is significant, there have also been recorded cases of pregnant smokers and smoking mothers during lactation. Cow's milk has been used in the diet of 65% of the children, introduced at the earliest age of 2 months. We have identified cases where food diversification was initiated early/late, only 25.2% of parents initiating diversification at six months. The introduction of age-inappropriate food combinations is frequent. **Conclusions:** Unfortunately, there are many parents who do not get involved actively and appropriately to ensure their child's healthy lifestyle, making numerous mistakes, including those of nutrition, which has a major and sometimes irreversible impact on childhood and adolescence.

**Keywords:** Pediatrics, Pediatrics, nutrition, mistake, child

## THE ASSOCIATION BETWEEN INTERLEUKIN-6 GENE – 190 T/C POLYMORPHISMS AND ANTHROPOMETRIC PARAMETERS IN OBESE CHILDREN

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**Background:** The higher prevalence of child obesity has led worldwide in action to promote a healthy lifestyle, education and information, in parallel with continuing research in the field; in Europe, the increasing prevalence has accelerated in recent years. IL-6 190 is known as an inflammatory cytokine and increasingly studied as possible marker of obesity; the polymorphism of IL-6 190 gene establish the producing and level of this protein. The aim of study was to find the correlations between these gene polymorphism and obesity in a children population from Romania, which was not evaluated in children until now. **Material and methods:** 185 consecutively hospitalized patients were assessed in a tertiary emergency pediatric hospital; they were divided by BMI percentile value in two groups: group I, the control group - 98 patients with normal nutritional status, and group II, 87 patients - obese children. The two groups underwent IL-6 190 T/C polymorphism, anthropometric parameters [middle upper arm circumference (MUAC), tricipital skin-fold thickness (TST)] and paraclinical evaluations (leptin, adiponectin, VEGF, proteins, albumins). **Results:** The phenotype CC was observed to be more frequent in obese children [ $p = 0.0001$ ]. By a multivariate regression analyse (with leptin as dependent variable), we found that leptin was dependent of albumin [ $(p = 0.01)$ ]; using the same

statistic analyse, leptin and adiponectin were shown to be independent of IL-6 190 phenotype. MUAC and TST as anthropometric index, and albumins and leptin as biochemical parameters seem to characterize well all three haplotypes (CC, CT, TT) of IL-6 190 T/C gene in obese children ( $p=0.0001$ ). **Conclusions:** In obese children, CC alleles of IL-6 190 gene correlate with anthropometric parameters (BMI, MUAC, TST) and with serum albumine levels.

**Keywords:** Pediatrics, Pediatrics, interleukin-6 gene – 190 T/C polymorphisms, obesity, children

## ANALYSIS OF THE CONTRIBUTION OF RS17817449 SNP IN FTO GENE TO OBESITY IN ROMANIAN CHILDREN

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**Background:** One of the most common maladies is represented by obesity, with a significant increased frequency in the last decade. The linkage between single nucleotide polymorphisms (SNPs) in the first intron of the fat mass and obesity-associated (FTO) gene and some measures of adiposity (anthropometric and metabolic parameters) have already been reported in several studies. FTO gene variants have been associated with higher BMI, BMI z-score, waist and hip circumference; tricipital and subscapular skinfolds; blood pressure; triglycerides, total cholesterol and adipokines in widespread populations (Asians, Europeans, South and North Americans). Knowing that obesity is a polygenic disease, presently the FTO gene is considered to play one of the most important roles. The aim of this research was to look for any association of the rs17817449 SNP in FTO gene with obesity in a group of Romanian children. **Material and methods:** In this research were included one group of overweight/obese children and a group of healthy subjects. Anthropometric parameters and laboratory analyses were performed in all cases. Genotyping of rs17817449 FTO gene polymorphism was performed from whole blood samples using the PCR-RFLP method. Association of the FTO polymorphism with several anthropometric traits and laboratory analysis was investigated. Also we looked for any association of the risk (G) allele with overweight and obesity. **Results:** We didn't find significant associations for rs17817449 SNP FTO gene with obesity and obesity-related outcomes. G allele carriers had higher values for weight, BMI, waist and hip circumference, cholesterol, triglycerides, adiponectine and fasted glucose ( $p > 0.05$ ). **Conclusions:** This study could not replicate the genetic association of rs17817449 SNP of FTO with obesity in children as it was observed in other studies. The explanation could be the small number of cases. Acknowledgements This paper was published under the frame of European Social Found, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/136893

**Keywords:** Pediatrics, Obese, children, FTO gene, obese, child, FTO gene

## PERINATAL RISK FACTORS FOR INTRAVENTRICULAR HEMORRHAGE IN VERY LOW BIRTH WEIGHT INFANTS

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**Background:** Intraventricular hemorrhages (IVH) occur mainly in preterm infants  $\leq 32$  weeks of gestation. The incidence, decreases with advancing gestational age and is influenced by certain perinatal risk factors. Aim: To identify risk factors for IVH in very low birth weight (VLBW) infants. **Material and methods:** the authors collected data prospectively from the Romanian National Registry for RDS from Tg. Mureş regional centre of neonatal intensive care, between 01.01.2011-31.12.2013. All the inborn and outborn VLBW infants were included. Data were analyzed using IBM SPSS Statistics 19.0,  $p$  was considered significant when  $<0.05$  on a CI of 95%. **Results:** 212 preterm neonates with mean gestational age GA of  $29,59 \pm 2,20$  weeks (24-32 weeks) and mean BW of  $1295,47 \pm 368,28$  g were enrolled in the study. 68 of them were diagnosed with IVH (32.07%). VLBW infants with IVH had significantly lower GA ( $p=0.000$ ), BW ( $p=0.000$ ), Apgar score at 1 minute ( $p=0.018$ ). The duration of CPAP support ( $p=0.000$ ), mechanical ventilation ( $p=0.000$ ), and oxygen therapy ( $p=0.000$ ) were significantly higher. Unsignificant correlations were found between IVH and need for resuscitation at birth, CPAP support, barotrauma, apnea of prematurity, periventricular leucomalacia, neonatal sepsis, maternal-fetal infection, and nosocomial infection ( $p>0.05$ ). The need for surfactant administration,

mechanical ventilation, persistent ductus arteriosus (PDA), and retinopathy of prematurity were significantly correlated with IVH ( $r>0.3$ ,  $p>0.05$ ). **Conclusions:** Low BW and GA, birth asphyxia, need for ventilatory support and surfactant administration, longer CPAP support and oxygen therapy, persistent ductus arteriosus, and oxygen therapy, were the recognized as risk factors for IVH in VLBW infants. The results of this study are concordant with the data in the literature.

**Keywords:** Intraventricular hemorrhages, VLBW infants, risk factors

## THE ASSESSMENT OF DISTRIBUTION OF THE METABOLIC SYNDROME COMPONENTS IN A GROUP OF OBESE CHILDREN

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**Background:** Although there is no consensus on the definition and usefulness of the term metabolic syndrome in children, this entity is a constellation of metabolic disorders associated with overweight. Metabolic syndrome (MS) includes increased abdominal perimeter, fasting hyperglycaemia, hypertension or pre-hypertension, low HDL-cholesterol and increased triglycerides. Several authors established different thresholds of these markers in pediatrics. **Purpose:** To identify the components of the metabolic syndrome in a group of obese children. **Material and methods:** The study was conducted in the Ist Pediatric Clinic Tîrgu-Mureş between October 2010-March 2014. We assessed 119 obese patients (BMI above 95 percentile/P), including only patients over the age of 5 years, age limit below which there are no criteria for the definition of dyslipidemia. We analyzed anthropometric indices (expressed as DS and percentile with Growyh Analyser software), biochemical parameters (blood glucose, total cholesterol and fractions, triglycerides) and blood pressure (measured by auscultatory method Korotkow, appreciating values in relation to percentile for age, height and gender, considering pre-hypertension at values above P90 and hypertension at values above P95). We studied the proportion of MS in our group of obese children by three different sets of pediatric criteria: Weiss et al, Cook et al and de Ferranti et al. **Results:** After Weiss-criteria, there were 32 obese children with four of five components for the diagnosis of MS, and 4 with three of five components (totaling 30.25%); by Cook, we detected 41 children with MS (34.45%), 5 of them with four components, and 36 with three components, while applying deFerranti criteria, we recorded 46 obese children with MS (38.65%), 12 having four components and the rest - three components. **Conclusions:** Regardless of the criteria applied, metabolic sdr as combination of several complications was found in over a third of children with obesity. **Acknowledgements** This paper was published under the frame of European Social Found, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/136893

**Keywords:** Pediatrics, Pediatrics, child, metabolic syndrome, obesity

## RAPUNZEL SYNDROME - CASE PRESENTATION

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**Background:** Trichobezoar is a fairly rare disease which is characterized with gastric dilatation or even perforation, occurred after ingestion of hair. This psychological disorder often occurs in people suffering from trichotillomania - the need to pull out the hair (of the head, body). It is a self-destructive behaviour which is stress based. **Material and methods:** The authors wish to present the case of a 10 year old child, who was admitted to the Pediatric Clinic II in Targu Mures with complaints of nausea, persistent vomiting, epigastric pain and abdominal distention. **Results:** A series of analyzes were performed, which disclosed a distended stomach associated with a hiatal hernia, a marked eosinophilia. Gastroscopy is performed which results in the diagnosis of trichobezoar and the patient is directed to the Pediatric Surgery Clinic, where the conglomerate hair is removed through laparotomy. **Conclusions:** The medical and psychiatric consequences of trichotillomania should not be underestimated. Establishing an early diagnosis is very important; it can save the patient's life and prevent recurrences.

**Keywords:** Trichobezoar, Laparotomy, Trichotillomania, Rapunzel

## ANGIOTENSIN-CONVERTING ENZYME GENE POLYMORPHISM IN CHILDREN WITH IDIOPATHIC NEPHROTIC SYNDROME

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**Background:** Idiopathic nephrotic syndrome (INS) is a common renal disease in children. Angiotensin-converting enzyme (ACE) gene insertion/deletion (I/D) polymorphism has been studied as a predictor of clinical response to steroid therapy. Association between ACE I/D gene polymorphism and steroid-sensitive nephrotic syndrome risk in children is still conflicting. Aim: This study was performed to investigate the distribution of ACE I/D gene polymorphism in children with INS, as well as its relationship with patient's clinical response to steroid therapy and to explore whether ACE D allele or DD genotype could become a predictive marker for steroid responsiveness. **Material and methods:** The studied subjects included 50 children with INS (divided into 2 groups according to their clinical response to steroids: steroid-sensitive and non-steroid-sensitive) compared to 100 unrelated healthy children. Each individual genotype was determined using PCR amplification of extract genomic DNA and allele distribution based on size of the PCR fragments. **Results:** Patients with INS had a higher percentage of II and ID genotype than the control group. I allele frequency was significantly higher in INS patients than healthy controls. This higher incidence of the I allele carriers was observed in both the steroid-sensitive and non-steroid sensitive groups. No association between ACE I/D gene polymorphism and the treatment response of steroid in children with INS was found. **Conclusions:** Our data shows that INS is associated with a higher incidence of the ID genotype. This finding suggests that the deletion might be a protective factor and insertion a risk factor for INS. **Acknowledgments:** This paper work was supported by Internal Research Grants of the University of Medicine and Pharmacy Tîrgu Mureş, Romania, contract no 29/11.12.2013

**Keywords:** Pediatrics, Child, ACE gene, nephrotic syndrome, nephrotic syndrome, Children, ACE gene

## A CASE OF WILSON'S DISEASE IN PATIENT WITH GIANT SPLENOMEGALY

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**Background:** Wilson disease is a rare autosomal recessive inherited disorder of copper metabolism that is characterized by excessive deposition of copper in the liver, brain, and other tissues. Wilson disease may be fatal if it is not recognized and properly treated. **Material and methods:** We report a case of an 11 year old boy, who presented in our hospital with abdominal swelling, recurring epistaxis and loss of appetite. These symptoms started 2 years before admission. **Results:** Clinical examination and abdominal echography have revealed a giant spleen exceeding the midline, palpable 10 cm below the ribs. Based on clinical, laboratory and imaging examination the suspicion raises of a chronic liver disease with portal hypertension, hypersplenism. Following the high values of copper and the increase of these values after administrating copper (stimulation test), the diagnosis determined Wilson disease. **Conclusions:** The peculiarity of this case consists of the insidious onset of the disease, with coagulation disorders and giant splenomegaly in a patient with chronic liver damage within the frame of a genetic disease. Wilson disease should be suspected in any patient presenting with: inexplicable cirrhosis, signs or symptoms of hepatitis, chronic active hepatitis, and unexplained persistent elevations of serum transaminases.

**Keywords:** Wilson's disease, cirrhosis, splenomegaly, copper, inherited

# PHARMACY

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## CHIRAL SEPARATION OF OMEPRAZOLE ENANTIOMERS BY CAPILLARY ELECTROPHORESIS

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**Background:** Omeprazole is a benzimidazole sulfoxide proton pump inhibitor (PPI) used in the treatment of different gastric acid hypersecretory disorders. It contains a chiral sulfur atom that form an enantiomeric pair, the S-enantiomer having a slightly greater PPI action and superior metabolic and pharmacokinetic profile than the R-enantiomer. It is used in therapy both as a racemic mixture and pure enantiomer (esomeprazole). **Material and methods:** HPLC methods are usually used in modern Pharmacopoeias for the chiral discrimination of omeprazole enantiomers. Capillary electrophoresis (CE) proved to be in recent years a valuable alternative and complementary method for the more frequently used chromatographic methods. The main advantages of CE in chiral analysis are related to the high efficiency, method development simplicity, low sample, reagent and chiral selector consumption and especially with the high selectivity of choosing and changing the chiral selector. Cyclodextrines (CDs) are without doubt the most frequently used chiral selectors in CE. A complex screening of several native and derivatized, neutral and charged CDs was made in order to establish the optimum chiral selector. **Results:** Several analytical and electrophoretic parameters were evaluated, including buffer composition, concentration and pH, chiral selector type and concentration, voltage, temperature and injection parameters; in order to obtain enhanced chiral resolution and a short analysis time. The optimized system consisted of 50 mM phosphate buffer at a pH - 2.5 with 20 mM randomly methylated beta-CD as chiral selector, temperature at 15 °C, voltage at 20 kV and UV detection at 300 nm. Using the optimized conditions we obtained the baseline chiral separation and established the migration order of the two enantiomers. **Conclusions:** Therefore, the developed method was found to be appropriate for enantiomeric quality control and enantioseparation of omeprazole enantiomers and also for their determination from pharmaceutical preparations.

**Keywords:** Chiral separation, Proton pump inhibitor, Capillary electrophoresis, Cyclodextrines, Stereoselectivity

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## THE INFLUENCE OF SOME ANTIPSYCHOTICS ON RAT LIPIDIC AND GLUCIDIC METABOLISM

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**Background:** The aim of the present study was to determine the effects of risperidone and amisulprid at different doses on glucidic and lipidic metabolism. **Material and methods:** Five groups of white Wistar rats were treated daily for 9 weeks with risperidone 1, 2 or 4 mg/kg body weight, or amisulprid 2mg/kg body weight. Another group received distilled water and served as control group. At the end of the treatment period blood samples were collected and the follow biochemical parameters were determined: serum cholesterol, triglycerides, blood glucose and 25-hydroxivitamine D. **Results:** The values of biochemical parameters treated with atypical antipsychotics were significantly increased (P <0.05) compared to the control group. **Conclusions:** Even though risperidone has a different mechanism of action compared to amisulpride pronounced more significant metabolic effects, which constitute a disadvantage in long-term treatment.

**Keywords:** risperidone, amisulprid, rat, lipidic metabolism

## HOW USEFUL IS THE NOX TEST AS A NITRIC OXIDE BIOMARKER?

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**Background:** Many biological activities were linked with the concentration of nitric oxide in different tissues. Because of the high importance of this endogenous compound, there is an increased interest in finding nitric oxide donors and to identify pathological conditions associated with altered nitric oxide production. Measuring nitric oxide concentrations is extremely important to achieve this objective. Unfortunately, nitric oxide is extremely unstable and very difficult to measure. The following methods are widely used for assessment of the nitric oxide status: nitrite and nitrate test, electron paramagnetic resonance (unsuitable for in vivo applications in the case of humans), nitrated protein assessment. Nitrite and nitrate are usually measured as a sum, method named NO<sub>x</sub> test, after the reduction of nitrate to nitrite which is determined after transformation in an azo dye. In this work we tested if NO<sub>x</sub> test is suitable for detection of an instant release of nitric oxide. **Material and methods:** A validated HPLC-UV/VIS method was used for speciation and measurement of nitrite and nitrate concentrations in rabbit (experimental animals) blood. Following substances were administered to rabbits: blank (hydroalcoholic solution 1.5 ml/kg; iv and ip); phenyl-N-tert-butyl nitron - a nitric oxide production inhibitor (PBN, 100 mg/kg; ip); nitroglycerin - a nitric oxide precursor (0.1 and 1.0 mg/kg; ip) and nitrite (0.25 mg/kg; iv). **Results:** PBN administration significantly increased nitrate and decreased nitrite concentrations, nitrite administration excessively increased nitrate concentrations, while nitroglycerin (1 mg/kg) significantly increased both nitrate and nitrite concentrations. **Conclusions:** NO<sub>x</sub> test has important drawbacks and could not be considered accurate for nitric oxide status evaluation, because the modifications of nitrate concentrations do not follow the changes in the nitric oxide production. Nitrite, on the other hand, proved to be a good in vivo nitric oxide marker. The research was supported by the University of Medicine and Pharmacy of Tîrgu Mureş, Romania, internal grant number 30/11.12.2013.

**Keywords:** nitrate, nitrite, nitric oxide, nitroglycerin, rabbit

## LIFESTYLE OF YOUNG REFLECTED IN THE PATHOLOGY OF THE ELDERLY

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**Background:** Cardiovascular diseases and diabetes are a public health problem in both sexes, especially in the elderly. Lifestyle, reflected in eating behavior, BMI, physical activity in youth is reflected in the pathology of the elderly. The cardiovascular risk and osteoporosis have a different sex distribution, but their prevalence may be predictive correlated with lifestyle of youth. **Material and methods:** Critical analysis of 101 clinical studies published in the literature (2010-2014) using keywords: BMI, cardiovascular risk, clinical studies, allowed the identification of independent quantitative descriptors of cardiovascular risk: physical activity, diet, obesity, sex. Using key words such as BMI, osteoporosis and sex, 132 results were identified in which females were involved and only 3 results for male studies. **Results:** Analysis of studies on the association between diet and cardiovascular risk in Caucasian subjects lead to contradictory results regarding the amount of intra-abdominal fat and cardiovascular risk, including weight loss as a therapeutic measure that is found only in the evolution of type 2 diabetes. Hypoglycemic diet in young women significantly increases HDL cholesterol values in adulthood. In women, the osteoporotic risk is inversely associated with BMI, bone resorption is already significant 2 years before menopause. In prepubertal boys, bone density is dependent on calcium intake before puberty induced hormonal changes. Muscle-bone ratio is sex-dependent in the elderly, concerning bone loss associated with age, BMI is not an accurate predictor, but lean mass. **Conclusions:** Lifestyle of the young is reflected in its pathology in old age including mortality risk or invalidating diseases. BMI is positively correlated with cardiovascular risk in both sexes and negatively with the risk of osteoporosis in women.

**Keywords:** cardiovascular risk, osteoporosis, BMI, diet, lifestyle

## DISSOLUTION CURVE FITTING USING STATISTICAL SOFTWARE

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**Background:** Market software includes a variety of software packages for statistical analysis, e.g. SigmaPlot Systat, DDSolver, etc. These include facilities for fitting dissolution curves. When a statistical software package is chosen, the most important aspects are: facilities offered for the statistics management, statistical functions available for analysis and graphical facilities of user interface. The aim of this study is to reveal the advantage of using the right software for the purpose established in analysis. **Material and methods:** Software used for automated curve fitting analysis: TableCurve 2D®-Trial version (Systat Software Inc.). Discrimination criterion: the adjusted coefficient of discrimination ( $R^2_{adj}$ ). Analyzed data: a dissolution curve and the previous results of analysis with DDSolver as software for identify the best function of time which fit the most appropriately the dissolution curve. **Results:** The dissolution curve was analyzed within a few seconds, by fitting it simultaneous with the approximately 3500 mathematical equations of the automated curve fitting used software. Four kinds of mathematic equations were identified as fitting the best: three very high-order polynomial functions ( $R^2_{adj}= 0.9979$ ); one simple power function ( $R^2_{adj}= 0.9883$ ), one peak function ( $R^2_{adj}= 0.9876$ ), one equilibrium-kinetic function ( $R^2_{adj}= 0.9911$ ). In the previous study, curve fitting was performed by a more complex procedure and it was determined that two equations (of the 37 equations used) have the highest predictability: Higuchi with  $F_0$  ( $F=F_0+k_H \cdot t^{0.5}$ ,  $R^2_{adj}= 0.9844$ ) and Logistic 3 ( $F=F_{max}/\{1+Exp[-k \cdot (t-t_0)]\}$ ,  $R^2_{adj}= 0.9857$ ). These equations are among those identified in the current analysis, namely: simple power function ( $y=a+b \cdot c$ ,  $R^2_{adj}= 0.9836$ ) and the peak function ("Logistic dose response peak"  $R^2_{adj}= 0.9876$ ). **Conclusions:** The analyzed dissolution profile is the result of complex phenomena that occurred during the kinetic process of drug release from the pharmaceutical form. Choosing the right software, the most appropriate kinetic function can be identified in terms of a few seconds.

**Keywords:** dissolution profile, statistical software, fitting curve

## CHARACTERIZATION OF CYTOKINE RESPONSE IN A MONOIDOACETATE-INDUCED RAT OSTEOARTHRITIS MODEL

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**Background:** Monoiodoacetate-induced osteoarthritis is a disease model characterized by focal loss of hyaline cartilage, degradation of collagen matrix, chondrocyte necrosis and reactive synovial infiltration. IL-6 and TNF $\alpha$  are known classically as pro-inflammatory cytokines participating in the development of these inflammatory signs; however, IL-6 was described to generate also anti-inflammatory activity via the membrane-bound gp130 receptor-signaling, and, in some circumstances TNF $\alpha$  may act similarly. Meanwhile, IL-10 has mainly protective effects in osteoarthritis. **Material and methods:** We studied the serum levels of IL-6, IL-10 and TNF $\alpha$  of 30 MIA-induced osteoarthritic Wistar rats along with 9 control animals, which received only a saline injection. The osteoarthritic rats were divided in 3 subgroups: one treated with placebo, a second receiving low-dose meloxicam (0,2 mg/kg), and a third group, to which high-dose meloxicam injection has been administered for 4 weeks. Blood samples were drawn at baseline, after 4 and 8 weeks, the sera obtained were subjected to analysis by XMAP technique on a Luminex 200 platform. **Results:** The serum IL-6, IL-10 and TNF $\alpha$  levels of the control and placebo groups did not change significantly during treatment. We observed a significant decrease of IL-6 in the low-dose group during and a significant increase in the high-dose group during, and most prominently, after treatment. The same, but weaker tendency has been observed at TNF $\alpha$ . No relevant changes of IL-10 have been registered. **Conclusions:** Our findings show that application of low- and high-dose meloxicam generates a divergent IL-6 and TNF response. While low doses appear to be simply suppressive, high-doses might trigger an enhancement of the IL-6 and TNF response with a potential anti-inflammatory role.

**Keywords:** IL-6, IL-10, TNF, meloxicam, osteoarthritis

## OMEGA 3 INDEX VERSUS THE RATIO OMEGA3 / OMEGA6 PREDICTORS IN THE DEVELOPMENT OF CARDIOVASCULAR DISEASE? PRACTICAL DETERMINATION POSSIBILITIES

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**Background:** Among EU countries Romania is on a leading position in terms of both incidence and mortality from cardiovascular causes. In this context omega 3 index or the ratio omega 3 / omega 6 may be biomarkers of cardiovascular disease progression, treatment effectiveness or the establishment of preventive measures in patients at high risk. As the ratio omega3 / omega6 in plasma is not always conclusive, determination of erythrocyte membrane omega-3 index can be a minimally invasive method to determine the composition of omega-3 polyunsaturated fatty acids in membranes. **Material and methods:** Separation of the fatty acids in the erythrocyte membrane involved lysis of the membrane, fatty acids saponification, fatty acid salts hydrolysis and their extraction in the organic phase. It was developed a HPLC-UV method for highlighting the omega-3 fatty acids: eicosapentaenoic and docosahexaenoic acid in erythrocyte membrane. Separation was performed on a Zorbax SB-C18, 4.6 x 250 mm, 3.5 micron. The mobile phase used a 50-0% gradient of mobile phase A: 25% acetonitrile in water with 0.12% acetic acid added to adjust the pH and B: acetonitrile. **Results:** Eicosapentaenoic and docosahexaenoic acids were separated with good resolution at retention time of 16.35 minutes and 19.39 minutes in erythrocyte lysate samples analyzed. **Conclusions:** HPLC UV method allows highlighting, respectively, quantification of small amounts of analyte, however, in the literature there are few studies to determine fatty acids in animal cells. After establishing the validation parameters, this method could be used to determine the omega-3 index in patients with increased risk of sudden death, the effectiveness of treatment after myocardial infarction and secondary prevention of cardiovascular disease. This paper was published under the frame of European Social Found, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/136893.

**Keywords:** omega 3 fatty acids, eicosapentaenoic acid, docosahexaenoic acid, cardiovascular risk, sudden death

## COSMETOVIGILANCE ACTIVITIES IN ROMANIA

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**Background:** Cosmetics are products which are intended to be introduced into or applied to the human body in order to clean, beautify, promote attractiveness or alter the appearance. The legal basis for monitoring cosmetics in the European Union is derived from Cosmetics Directive 76/768/EEC. Reporting serious side effects due to the use of cosmetics has become required in Romania starting from 1 July 2013. In this context, Health Ministry has an obligation to develop legislation for organizing cosmetovigilance system so as to provide: information flow, reporting format, evaluation of the causes and remedies of situations. This study aims to present the current state of cosmetovigilance in Romania, in order to provide arguments for a new direction of development in our university. **Material and methods:** Documentary study. **Results:** Although the cosmetovigilance system (which include: identification, analysis, collecting, reporting and monitoring activities) are expected to involve an association of health professionals (doctors, pharmacists and dentists), manufacturers and consumers, these activities related to cosmetic products are still the responsibility of manufacturers. As part of European Union, Romania should contribute by creating and managing its own network which can be integrate in the European system (intended for exchange of information between states in order to allow harmonization of cosmetovigilance procedures in Europe). **Conclusions:** Creating an integrated center for Romanian cosmetovigilance activities could be an objective of great interest to University of Medicine and Pharmacy from Tîrgu Mures.

**Keywords:** cosmetovigilance, regulations, cosmetics

# PHYSIOLOGY

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## LEFT ATRIAL MOLECULAR REMODELING IN SPONTANEOUSLY HYPERTENSIVE RATS WITH ADVANCING AGE

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**Background:** Atrial molecular remodeling has been incriminated in atrial fibrillation occurrence and maintenance. The aim of this study was to perform a comprehensive molecular analysis of atrial tissue from rats with atrial fibrillation. **Material and methods:** Left (LA) and right (RA) atrial samples were obtained from young, adult, and aging spontaneously hypertensive rats (SHR), and age-matched Wistar-Kyoto (WKY) rats. Expression levels of *Pitx2* were assessed using RT-PCR. Expression levels of other 89 genes known for their involvement in cardiac arrhythmogenicity were studied using TLDA. **Results:** No difference was found in RA *Pitx2* expression between SHRs and WKY rats, regardless of the age of animals. Also, young and adult SHRs presented similar LA *Pitx2* mRNA levels with age-matched WKY rats. The only significant difference was found between aging WKY rats and aging SHRs, the later presenting significantly lower LA *Pitx2* levels ( $26.3 \pm 3.1$  in aging WKY rats vs.  $10.7 \pm 1.7$  in aging SHRs;  $P=0.02$ ). Transcriptomic analysis identified 6 genes with changed expressions in the LA of aging SHRs, encoding for the L-type calcium current, proteins involved in the intercellular coupling, and type VI collagen. **Conclusions:** The occurrence of spontaneous atrial fibrillation in aging SHRs was demonstrated in previous studies. This study demonstrates that these rats also display decreased LA *Pitx2* expressions. Additionally, abnormal expressions of genes encoding for the L-type calcium current, proteins involved in the intercellular coupling, and type VI collagen were also noticed. **Acknowledgment:** This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/133377.

**Keywords:** Experimental model, Transcriptomics, *Pitx2*

# PSYCHIATRY

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## ASPERGER DISORDER

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**Background:** Asperger disorder is merged into the Autism Spectrum Disorder, characterized by significant difficulties in social interaction and behavior, existence of restricted interests and concerns, stereotyped movements, relative preservation of linguistic and cognitive development and low capacity of emotional reciprocity and empathic behavior. Prevalence rates are ranging from 3 to 4/10000 children, it has higher incidence in males, its debut is between 3-4 years of life. The etiopathology is still not clarified, and controverted, genetic factors are considered important in developing the disorder. **Material and methods:** Four children ageing between 11 - 16,7 years were diagnosed with Asperger disorder, conforming to DSM-V and ICD-10, in Pediatric Neurology and Psychiatry Clinique at Tg-Mures. The Raven test has been applied. **Results:** Patients with Asperger disorder are cloddish, without sport ability, awkwardness; they present performance in some fields (mathematic, music, astronomy etc), they have mechanic memory and bizarre, rich imagination. Individuals with Asperger syndrome acquire language skills without significant general delay, but also presume significant abnormalities like intonation and prosody, pedantic and stereotype speech. Verbal IQ is superior to performance IQ. **Conclusions:** Despite of the low incidence, Asperger disorder is a severe disease, with can be progress to acute psychosis at adolescent period and adulthood as well. Frequent the disorder is described as schizoid or schizotypal personality. The treatment is complex, involves special education techniques, psychotherapy in group and of family, neuroleptic medication.

**Keywords:** autism spectrum disorder, childhood, treatment

## ADHD: ETIOLOGY, COMORBIDITIES AND TREATMENT IN CHILDREN

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**Background:** ADHD is a neurobiological disorder with genetic determinism, psychological functions affected are attention, memory and perception also executive functions: organization, planning, working memory, attention. Debut before age 7 years and is more common in boys school from urban areas. Etiopathogenesis has a genetic basis in 80% of cases and 20% in the case of acquired brain disorders, seat of the lesion being in the right prefrontal cortex. Are involved: dopamine in regulation of learning, norepinephrine in maintaining alertness and attention, serotonin in mediating hyperactivity and impulsivity. **Material and methods:** There were followed 42 children hospitalized in the Pediatric Neurology and Psychiatry Clinic Tg-Mures in the period 2013-2014, having age between 7 and 15.9 years, diagnosed by DSM V and ICD-10. There were evaluated epidemiological aspects, comorbidities, etiological factors, social implications and treatment. **Results:** Hyperactive and impulsive type accounted for 43% of cases, the combined 41%, and attention deficit 16% of cases. Etiologic factors involved were: antenatal factors (pregnancy and / or pathological birth or Rh blood group incompatibility, smoking and alcohol consumption during pregnancy, maternal metabolic diseases) 30%, perinatal factors (anoxia, hypoxia at birth evidenced by score Apgar less than 8) 35%, psycho-social factors (family conflict, alcohol consumption, child aggression, neglect, poor economic situation) 21%. The most common comorbidities were: behavioral disorder (38%), epilepsy (17%), mood disorders and anxiety (14%), specific developmental disorders: dyslexia, dysgraphia (12%), disharmonic structure of personality -type antisocial (17%). **Conclusions:** Heritability in ADHD is 60-80%, parents with the disease having 50% chance of having a child with ADHD. The condition persists into adolescence in half of affected children, and 50% of them to adulthood will have antisocial personality disorder, drugs use, alcohol, crime. The most common form is with impulsivity and instability. Treatment is complex consisting in cognitive-behavioral therapy, parent's education, a positive child-parent relationship, child-educator, non-stimulant and stimulant medication, diet.

**Keywords:** ADHD, comorbidity, etiology, treatment

## A REVIEW OF ETHICAL ISSUES IN PATIENT'S ACCESS TO MENTAL HEALTH CARE

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**Background:** Making the ethics to become the basis of health care is a continuous challenge in our days, particularly in psychiatry, where aspects as stigma and discrimination are important. **Material and methods:** A review of articles concerning ethical issues in patient's access to mental health care was done and the findings were compared to the American Psychiatric Association Principles of Medical Ethics in Psychiatry and other official documents published in this regard. **Results:** Important issues in applying the principles in everyday ethics in clinical practice were found in different mental health care units. Some of these issues (compulsory admission, losing civil rights, using mechanical restraints) are regulated in mental health legislation, but issues as limited access to services because of lack of accessibility, lack of referrals from professionals, discrimination, etc are not clear and require some elucidations. **Conclusions:** In many health care units, applying the ethical principles in everyday practice is difficult and there are ethical issues in patient's access to mental health services.

**Keywords:** Medicina Generala, Psihiatrie, ethical, principles, patient, access, psychiatry.

## 10 YEARS FOLLOW-UP STUDY OF MENTAL DISORDERS REGISTRATION IN EMERGENCY DEPARTMENT OF GENERAL HOSPITAL

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**Background:** The frequency of mental disorders in patients asking for help in emergency department of general hospital varies from country to country from 3 to 30% depending of method of screening from mental health problems. In 2004 the mental disorders were detected in 0.31% (77) of total number of consultation, the majority being the suicide attempts (69). The medical system in Romania in lasts years increased the accessibility of population to the emergency department. Objective: To identify the changing in registration rate of mental health problems in a follow up study after 10 years. **Material and methods:** This is an observational study. The evaluation of administrative data will be done in same emergency department, in two points in time 2004 and 2014. The total numbers of consultations, psychiatric diagnosis and of specific diagnosis of suicidal attempts were recorded. **Results:** Historical trends show an important increase between these two points. In 2014 in same period of year were recorded with psychiatric diagnosis 1,84% (190) comparing with 0.31% (77) from a total number of consultation in 2014 respective in 2004. The figures show a significant increase in detection of mental disorders but no significant change in number of suicidal attempts. **Conclusions:** The emergency of general hospital represents the first gate to psychiatric services and the registration of mental disorders is important in improving the quality of these services.

**Keywords:** mental disorder, emergency department, registration, follow-up study

## ALZHEIMER'S DISEASE AND MANAGING STRESS ON FAMILY CAREGIVERS

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**Background:** Alzheimer's disease is a serious condition for the patient and representing a burden for family carers. The request from the family caregivers are multiple: psychological, physical, financial, and social. In the case of mild/moderate, Alzheimer's disease, it is extremely difficult to take care of a person who suffers from this disease. In the present research we sought to identify

the stress experienced by family caregivers of patient with mild/moderate Alzheimer's disease. **Material and methods:** This research was conducted, from april 2014 until octomber 2014, on an number of 78 patients, with mild/moderate Alzheimer's disease at the Mental Health Centre, Tirgu Mures. All family caregivers have received Zarit Interview. Version containing 22 items and is a self-report measure. Each item of the interview is a statement that the caregiver is asked to respond using a 5-point scale from 0 (never) to 4 (almost always). **Results:** After statistical processing of data above, it results in an average of around  $75 \pm 4$  years of age. 43% of carers spend more than 30 hours a week making care tasks. 77% of them are worried about the impact of this burden on the family budget. Over half (53%) of respondents reported that this task has affected their professional activity because they were forced to take extended vacations or even abandon the service. Scores were found to be significantly positively correlated ( $p < 0.01$ ), with moderate stage of disease and stress experienced by family caregivers. **Conclusions:** Family caregivers of patients with moderate Alzheimer's disease, that participated in this study manifested the highest level of psychological distress and perceived stigma while associated with this condition. The moderate stage of the disease, due to the increasing dependence of the patient, the family might consider hiring someone to help at home or may transfer the patient in an institution special care.

**Keywords:** Alzheimer's disease, family caregivers, burden

## PUBLIC HEALTH

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### ASPECTS OF ACTIVE SMOKING IN A GROUP OF PREGNANT WOMEN IN TIRGU MURES

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**Background:** Smoking during pregnancy is harmful to the health of mother and fetus. An important number of women are smokers and a high frequency of them are not quitting smoking during pregnancy. It is important to identify the magnitude of this phenomenon locally. The aim of this study was to assess the level of exposure to active smoking among pregnant women in Tîrgu Mures city. **Material and methods:** We used a cross-sectional survey based on a questionnaire in order to assess smoking-related behavior during pregnancy in a group of 1278 mothers who came for delivery in Mures County obstetrical wards between January 2013 and June 2014. Data were entered into an SPSS database and statistically analyzed. **Results:** 29.81% of women surveyed were smokers prior to pregnancy, and 3.83% have smoked occasionally. From the smokers group 51.18% said they smoked more than 5 cigarettes daily, 5% said they used to smoke more than 20 cigarettes daily, 43.4% of smokers continued to smoke during pregnancy, also 56.6% have quit smoking when they found out that they are pregnant. The incidence of smoking in the group surveyed was 12.91%. 80% of those who had smoked prior to pregnancy resume their habit of smoking after birth. **Conclusions:** By identifying the incidence of smoking during pregnancy, we can evaluate the magnitude of the problem and thus we will applied community interventions targeted to this population at risk in order to reduce the frequency of smokers. Research funding. Research reported in this publication was supported by the Fogarty International Center and the National Cancer Institute of the National Institutes of Health under Award Number R01 TW009280-01. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

**Keywords:** smoking, pregnancy, intervention

### SMOKE FREE UNIVERSITY PROJECT AT THE UNIVERSITY OF MEDICINE AND PHARMACY TIRGU MURES – FIRST PRACTICAL STEPS PREPARING THE IMPLEMENTATION

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**Background:** In Romania, there are no nationally representative descriptive data about tobacco smoking among university students in medical training. Aims To develop and generally implement the smoke free university project in Romania, starting with the University of Medicine and Pharmacy Tîrgu Mures by involving students as volunteers in primary data collection, evaluation, project planning and implementation. **Material and methods:** Our long term intervention project is based on partnership with the university leaders, and the local student organizations. The first step was gaining baseline data about the smoking prevalence, and testing willingness to participate in the smoke free university project. The questionnaire we used was based on Global Health Professions Student Survey methodology with our additional items concerning the projected plans of intervention. The target population was the total actual number of students (n=4,151) of all years and faculties. 76.0% (3,203) participated (71.4% females). We used the IBM-SPSS program for descriptive statistical evaluation. **Results:** There were 143 volunteers recruited for further preventive interventions. The overall prevalence of current smokers was 34.1% (31.6% among females and 40.0% among males). Related to faculties, the prevalence was 33.7% in medicine, 38.7% in dentistry, 29.5% in pharmacy and 33.9% in nursing. With increasing years, the smoking prevalence became higher (1st year 32.0%, 6th year 39.1%). Concerning only the university

compound, every fourth student 26.9% admitted that he/she smoked cigarettes and 5.1% used other tobacco products in the last year. Every fifth current smoker (20.6%) declared that he/she smoked cigarettes inside the university buildings. **Conclusions:** Our study indicates a high prevalence of smoking among students of our university. Every third student is a current smoker, and every fourth smoked cigarettes in the university compound. The first steps of enforcing any smoke free regulations must be consulted previously with our volunteering students. The second step should be gaining support by the whole community.

**Keywords:** Epidemiology, Public Health, smoking, health profession student

## TABAGISM AND SMOKING-RELATED BEHAVIOR IN FIRST YEAR HEALTH PROFESSION STUDENTS

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**Background:** Tabagism is a major public health problem, smoking often becomes a habit at very young age. The aim of the study was to evaluate smoking habits and related behavior of first year health profession students, including their opinion regarding cessation and restriction of tabagism. **Material and methods:** We evaluated 649 first year students at the University of Medicine and Pharmacy in Tîrgu Mureş, including general medicine, dentistry, pharmacy and nurse students, 98,6% of them being less than 24 years old, 75,2% were female subjects. We used a special questionnaire containing 72 questions about smoking habits and opinion regarding tabagism-related aspects. **Results:** 38,8% of the evaluated first year students are smokers, more than one third of them being nicotine dependent (they smoke their first cigarette during the first hour after waking up) and 86,1% of them became a smoker under 18 years of age. We observed a significant difference regarding the desire of smoking cessation between long-term (general medicine, dentistry) and short term studying (pharmacy and nurse) students using the chi-square test ( $p=0,0216$ ); the majority of the students in the last group (83,4% girls) prefer to continue smoking. 73,8% of the students tried smoking before, and 38,6% of those who tried had their first tobacco-related experience before 15 years of age. From all students 17,1% are former smokers who quit tabagism, more than half of them recently. **Conclusions:** Tabagism is a common habit among the health profession students attending our university, smoking habits often start at very early age, and its incidence is high in female subjects. First year students would represent a proper target group for the intervention of specialists enhancing cessation.

**Keywords:** smoking, cessation, health profession students

## ATTITUDES TOWARD SMOKING OF HEALTH PROFESSION STUDENTS FROM THE UNIVERSITY OF MEDICINE AND PHARMACY TIRGU MURES – BASELINE DATA OF THE FIRST ROMANIAN SMOKE FREE MEDICAL UNIVERSITY PROJECT

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**Background:** Health professional students' attitude towards their role in promoting tobacco prevention and cessation and smoke-free environments is a key component of the successful implementation of the first smoke-free medical university in Romania. **Aims** To evaluate the attitudes of health profession students at baseline to inform the intervention of the first Romanian smoke-free university, an intervention that relies heavily on student engagement. **Material and methods:** We developed a long-term intervention program that will engage university leaders and the local student organizations in enforcing existing regulations that prohibit smoking in universities. We conducted a cross-sectional survey of health profession students attending the University of Medicine & Pharmacy-Tirgu-Mures. The questionnaire was based on Global Health Professions Student Survey questionnaire - with an extension containing the proposed intervention plans. Descriptive statistics were computed using the IBM-SPSS program.

**Results:**

The students' participation rate was 76% (3203 out of 4151) among them 71.4% female and 28.6% male. Prevalence of current smokers was 34.1% (31.6% for female, 40.0% for male). Most of the students agreed that tobacco sales to adolescents should be banned (93.7%), health professionals need specific training on cessation techniques (91.5%), and health professionals should routinely advise their patients who smoke to quit smoking (91.0%). In spite of this, a high proportion of students declared that smoking should not be banned in discos/bars/pubs (41.0%), in all enclosed public places (24.6%), and restaurants (16.4%). Although smoking is prohibited in universities, 78.5% tolerate their peers smoking inside university buildings. **Conclusions:** There is a general agreement related to the role of health professional in tobacco control. Options are more divided toward the total smoking ban in all confined public places. The main goal of the project will be to encourage health profession students to realize the importance of smoke-free environments to reduce tobacco-related morbidity and mortality.

**Keywords:** Epidemiology, Public Health, smoking, health profession student

## IMPLEMENTATION STRATEGY OF "SMOKE-FREE MEDICAL UNIVERSITY AND CAMPUS"

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**Background:** Smoke-Free Universities and Campuses represent a major initiative of world public health, part of the "Healthy population, healthy campus 2020". **Material and methods:** In March 2014, UMPH Târgu-Mureş initiated an evaluation about smoking habits, with a 76.0 % participation of 4151 students, and a 34.1 % prevalence of current smokers. **Results:** The conference presents the Steps of the Implementation Strategy to the "Smoke-Free Medical University" policies such as: 1) Assessment of the smoking habit 2) Establish the antismoking coalition 3) Establish objectives and action plan 4) Develop a communication language 5) Sustain your case to decision makers 6) Create connection with mass media 7) Mobilize support for the smoke-free policy 8) Present the "Smoke-Free University" policy to the decision makers 9) Establish a plan for implementation, compliance and sustainability with addressability to students, academic and administrative staff. 10) Evaluation of results **Conclusions:** It is necessary to establish an efficient antismoking coalition including students, decision makers of the university and mass media.

**Keywords:** smoking, cessation, students, implementation, strategy

## GLOBAL HEALTH PROFESSION STUDENT SURVEY TIRGU MURES – COMPARATIVE ANALYSIS WITH INTERNATIONAL DATA

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**Background:** Global Health Professions Student Survey (GHPSS) is part of the World Health Organization tobacco surveillance system, it was conducted in 58 countries all over the world for collecting data on smoking habits of third year medical, dental, pharmacy and nursing students. The purpose of our study is to compare the answers given by third year students from our university to international data. **Material and methods:** We conducted a cross-sectional survey of health profession students attending the University of Medicine & Pharmacy-Tirgu-Mures. We evaluated 669 third year students, from medicine, dentistry, pharmacy and nursig, 75,7% of them were female students. The questionnaire was based on Global Health Professions Student Survey questionnaire. We compared our answers to the data available for other countries on web site of the Global Tobacco Surveillance System. Descriptive statistics were computed using the IBM-SPSS program. **Results:** The prevalence of current smoking at our university among third year students is 32.9%, higher than the prevalence in some former socialist countries like Czech Republic, Poland, Slovenia, Albania, and much higher than western European countries like Spain or Italy. The prevalence of current use of other tobacco products is 10.1%, higher than in the above mentioned countries. Smoking at university properties

was reported by 26.6% of students, a percent comparable with other former socialist countries. Smoking in university buildings was reported by 8.0% of students, a percent higher than in western European countries. Smokers declared their desire to quit 68.6%, in a higher percent than in other, even western European countries. **Conclusions:** The prevalence of smoking cigarettes is high in our university, but the declared desire to quit is also high, that creates a good opportunity to benefit from the ongoing smoke free medical university project.

**Keywords:** Epidemiology, Public Health, smoking, health profession student

## ATTITUDES TOWARD THE SMOKE FREE MEDICAL UNIVERSITY PROJECT OF HEALTH PROFESSION STUDENTS FROM THE UNIVERSITY OF MEDICINE AND PHARMACY TIRGU MURES

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**Background:** Health professional students' attitude towards smoke free medical University project has a key role in tailoring future interventions for creating a smoke-free environment at the university. The purpose of the study is to evaluate the attitudes of health profession students at baseline towards the smoke-free medical university project. **Material and methods:** We developed a long-term intervention program for enforcing existing regulations that prohibit smoking in universities. We conducted a cross-sectional survey of 3,203 health profession students (71.4% female) attending the University of Medicine and Pharmacy-Tirgu-Mures. The questionnaire was based on Global Health Professions Student Survey questionnaire - with an extension containing the proposed intervention plans. Descriptive statistics were computed using the IBM-SPSS program. **Results:** The majority of the students 87.1%, agreed that the delivery of a short smoking cessation advice should be among the practical skills acquired through graduation from medical university. Only 25.7% of the students is strongly confident about delivering the short smoking cessation advice. 66.8% of the students declared that would be interested to participate in a special tabacology course. There is a need for influencing this habit in our university because nearly one third (31.7%) of the students declared that they were exposed to passive smoking inside the buildings of the university in the last 7 days. The majority of the smokers declared they would like to quit 68.9%. **Conclusions:** There is a general agreement about the need for training in the field of tabacology among students. The role of the smoke free medical university project is to reduce exposure of students to passive smoking inside university buildings is welcome. There is a large number of students receptive for quitting smoking in our university, who could benefit from the smoke free medical university project.

**Keywords:** health professional student, smoking, attitude

## RADIOLOGY

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### GIANT RENAL ANGIOMYOLIPOMA IN A 53 YEAR OLD WOMAN: CT FINDINGS AND PRELIMINARY CONSIDERATIONS

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**Background:** We present a case of a 53 year old woman referred to a CT scan due to a very large retroperitoneal mass identified on ultrasound. The complaints of the patient were abdominal pain and nausea. The suspicion was liposarcoma. **Material and methods:** We performed a MDCT scan of the patient which comprised the evaluation of the abdomen. First, unenhanced sequences were performed (120kV, 400 mA, 64x0.6 mm slice collimation) and then a CT angiography of the abdomen (100 ml of Iomeron with 3 ml/sec flow rate) with an arterial phase, porto-venous phase and a delayed phase. **Results:** The basal chest CT which was included in the field of scan showed the presence of several cystic lesions between 2 and 15 mm, with thin smooth walls. Abdominal scan revealed several masses at the level of the liver (six well defined lesions with rich fat content, between 3 and 11 mm in third, fourth, fifth and eighth segments) and both kidneys. The right kidney exhibited an inhomogeneous but well defined fatty enhancing mass of 237/135/113 mm which compressed the rest of the kidney which was functional. Around the mass a 12 mm thick layer of fluid was noted. In the cortex of the right kidney, several smaller fatty well defined lesions were also observed. The left kidney presented several fatty smaller masses between 4 and 40 mm, and also two solid enhancing masses of 24 mm on the superior pole, respectively of 19 mm on the inferior pole. There were no remarkable lymph nodes or free fluid visible. A right nephrectomy was performed and histologic result was angiomyolipoma. **Conclusions:** Because of the presence of bilateral multiple renal AML associated with pulmonary cysts we consider that this patient could have TSC (tuberous sclerosis complex) but it needs further investigations.

**Keywords:** renal angiomyolipoma, tuberous sclerosis, pulmonary cysts

### CT IMAGING FINDINGS IN RENAL TUBERCULOSIS - CASE REPORT

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**Background:** Renal tuberculosis remains a prevalent problem in developing countries. The genitourinary tract is a primary target of hematogenous infections and is the most common site of extra-pulmonary tuberculosis with kidney being the most common affected. We will report the case of a 44 year old male who was admitted to the Nephrology Department of Emergency Clinical County Hospital of Tîrgu Mureş for fever (39°C), chills and sweating. **Material and methods:** Clinical examination, laboratory tests and ultrasound were performed and because of the abnormalities found a CT scan was indicated. We performed an abdominal CT on a Siemens 64 rows detector multislice device using 64x0.6 mm slice collimation with reconstructed slice thickness of 1mm. Used parameters were 120kV, 200 mA, pitch of one and a 0.5 s rotation time. Intravenous contrast media administration was not performed because of the high creatinine values (2.95mg/dl). **Results:** CT examination revealed kidney, urinary bladder, gallbladder and pulmonary basis abnormalities. The right kidney was slightly hypotrophic (99/50 mm) with reduced parenchyma, dilated pielocaliceal system with calcified calyx walls, and hydronephrosis with double urolithiasis. Left kidney had dimensions of 120/61mm with slightly reduced parenchyma, pielocaliceal system was minimally dilated and calyx walls were partially calcified. The urinary bladder had normal wall thickness but it presented multiple millimetric calcifications. The gallbladder presented

radiopaque lithiasis. Multiple nodular opacities were noticed in the pulmonary basis. **Conclusions:** Imaging findings correlated with biological tests lead to the diagnosis of renal tuberculosis and possible pulmonary tuberculosis. Imaging plays an important role in diagnosis of renal tuberculosis, treatment planning and helps avoiding possible complications.

**Keywords:** Radiology, Nephrology, computed tomography, kidney, tuberculosis

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## THE RELATIONSHIP BETWEEN LUMBAR HYPOLORDOSIS AND THE LEVEL OF LUMBAR DISC HERNIATION IN YOUNG ADULTS

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**Background:** To investigate if there is a relationship between the presence of lumbar hypolordosis and a specific location of lumbar disc herniation. **Material and methods:** A retrospective review was performed on young adults (age range of 19 to 40) who had a significant lumbar disc herniation on magnetic resonance imaging to determine whether they were positive for hypolordosis (Cobb angle <20 degrees). After exclusion of patients with scoliosis or any other rotation, congenital anomaly (such as lumbarization and sacralization), trauma and previous lumbar surgery, lumbar spinal lordosis was assessed in 200 patients. **Results:** Of the 200 patients 78 (39%) had lumbar hypolordosis. Low located disc herniation (L4-L5 and L5-S1) reached statistic accuracy in terms of its relationship with the presence of lumbar hypolordosis (p values were 0.0004 and 0.0051, respectively). In contrast, upper locations (L1-L2, L2-L3 and L3-L4) were not significantly related to the presence of hypolordosis (P ≥ 0.05 for all). **Conclusions:** We conclude that the absence of a normal spinal lordosis would rather compromise low intervertebral discs (around L4, L5 and S1 vertebrae) in young adults.

**Keywords:** Radiology, Radiology, Hypolordosis, Magnetic resonance imaging, Spinal d

# RHEUMATOLOGY

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## CLINICAL FEATURES IN SYSTEMIC SCLEROSIS-RAYNAUD'S PHENOMENON ASSESSMENT BY VIDEOCAPILAROSCOPY

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**Background:** Systemic sclerosis (SSc), is a chronic disease, characterized by diffuse fibrosis, degenerative changes, and vascular abnormalities in the skin, joints and internal organs. Raynaud's phenomenon (RPh), describe episodic events, which represents vasoconstriction of the digital arteries, precapillary arterioles and cutaneous arteriovenous shunts. Capillaroscopy as a standard method to increase differential diagnostic sensitivity in patients affected by RPh, and it is fundamental for the differential diagnosis between primary and secondary RPh, based on the recognition of early sclerosis pattern, the conversion from primary to secondary RPh which occur in almost 15% of patients over a mean follow-up of 29-30 month. Objective: The aim of this study was to evaluate capillaroscopic changes, in patients with SSc, and to establish the scleroderma pattern according with their clinical and serological symptoms **Material and methods:** Material and method: We performed an observational study, included 31 patients diagnosed according to ACR criteria SSP / EULAR 2013. Evaluation was performed with a device Videocap 3.0 with magnification of 200X. This was done in II-V fingers of both hands. Microvascular changes were classified according to the recommendations of Cutolo - scleroderma pattern 'early', 'active' and 'late'. Clinical examination was performed and it was determined serologically ANA panel, immunoblot and antinuclear antibody titer (ANA), anticentromere antibodies, and antibodies antitopoizomerase (Scl70) by ELISA **Results:** Results: Patients examined: 6 were male and 25 were female, with mean age (years) 49±11SD, with mean disease durations (years) 6,15±4,19SD. RPh was presents at all patients. Active forms of disease were associated with positive serology. 3 of patients has normal capillaroscopic evaluations, while 29 of patients presented microvascular damage characterised by increasing structural alterations of the capillaries-giant capillaries and microhaemorrhages with a progressive decrease in their density, avascular areas and neoangiogenesis. Scar or digital ulcers were observed at 11 patients. **Conclusions:** Conclusions: The detection of scleroderma capillaroscopy pattern allows an early distinction between primary and secondary RPh, and may be useful in the links between clinical signs and pathological issues in SSc.

**Keywords:** Rheumatology, Internal Medicine, systemic sclerosis, Raynaud s phenomenon, capillar

## SOCIAL SCIENCES

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### TOBACCO USE AMONG YOUNG ADOLESCENTS IN MUREȘ, HARGHITA, AND COVASNA COUNTIES

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**Background:** Smoking is known to be initiated during adolescence, making this age group a relevant target for intervention. Romania has among the highest percentage of smoker minors in the European Union and among the lowest age at which children try the first cigarette. A variety of psychosocial factors are involved in the initiation of tobacco use by adolescents. This paper reviews the main findings of the survey conducted in 21 schools from 3 central-Romanian counties analyzing the active and passive tobacco consumption among young adolescents. **Aims:** ☒☒ Describing prevalence of active and passive smoking. ☒☒ Comparative analysis of tobacco use by teenagers belonging to particular social, cultural and ethnic communities. ☒☒ Identification of risk factors that raise the likelihood of tobacco use. ☒☒ Identifying highly vulnerable communities regarding tobacco use to design prevention programs adapted to the needs of the communities in question. **Material and methods:** Methods: A cross-sectional quantitative sociological research study was carried out among Romanian adolescents from 7th and 8th grade pupils in 3 counties (Mureș, Harghita, and Covasna, N=1200) in Spring 2014. **Results:** Results show 48% of respondents has tried smoking at least once. We observe a higher rate of smokers in Harghita County, large cities, among higher grade pupils, and pupils belonging to the Hungarian ethnic group. There is no significant difference between boys and girls. In the selected three counties, 11,7 represents the average age for trying and experimenting with smoking. 13% of respondents reported smoking at least once in the last 30 days, so we may say that the prevalence of smokers is of 13%. **Conclusions:** Interventions to prevent smoking initiation in teenagers should start early, integrate gender differences, and focus on increasing the ability to resist peer pressure, develop negative smoker prototypes, and promote control of negative emotions.

**Keywords:** sociology, sociology, tobacco use, passive smoking, young adolescents

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### GENDER EQUALITY IN MEDICAL EDUCATION- THE STUDENTS` PERCEPTION

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<sup>2</sup>,

**Background:** Gender discrimination is still - unfortunately - a reality of the Romanian society. Today we talk about a "feminization" of medicine, due to the fact that more girls opt for a career in the field. In this study, we propose an evaluation of the gender equality in the educational process of the University of Medicine and Pharmacy of Targu-Mures, from students` point of view. **Objectives:** Perception of gender differences and issues in student-student interaction; Perception of gender differences and issues in teacher-student interaction (teaching and assessment in both directions); Highlighting discriminatory issues in so far as they are detected **Material and methods:** A questionnaire focused on the issues mentioned above was applied to groups of students of both sexes from the Faculty of Medicine and Dentistry. The results were represented graphically, comparatively for male and female students. **Results:** 1. Students are aware of gender differences but they assess them, in general, positively. Most of them consider that male students` behavior toward female students is appropriate. 2. In relation to teachers, students of both sexes noticed some attempts (or remnants) of discrimination, but not very serious. 3. In general, students do not differentiate between male and female teachers. However, girls seem to feel more comfortable with female lecturers and admire them more. **Conclusions:** Generally, in our university, students do not feel discriminated against based on gender differences. However, there is some concern among girls about gender equality in their future medical careers. Regarding the teacher-student relationship, if the teacher acquires

respect at the academic level, gender bias in the students' evaluation disappears. Yet they consider that female lecturers communicate better and men lecturers have more authority. Noteworthy is the positive attitude of male students who are open to supporting gender equality in the medical field, and in general.

**Keywords:** gender, discrimination, academia, medicine, students

## SURGERY

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### SENTINEL LYMPH NODE IDENTIFICATION IN GASTRIC CANCER USING INTRAVITAL DYE

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**Background:** The status of lymph nodes represents the main prognostic factor, important in gastric cancer development and indispensable for an adequate postoperative therapy. Accurate determination of the lymph nodes invasion stage can only be established by extended intraoperative lymphadenectomy and histopathological examination. Identification of sentinel lymph nodes could however lead to an accurate detection of lymph nodes status in gastric cancer. **Material and methods:** We present our experience in determining sentinel node in early gastric cancer using limfophil dye in 27 patients operated for gastric cancer. There are presented the including criteria in the study group, the dye injection method, sentinel node diagnosis and pathologic examination method. **Results:** Identification of sentinel lymph nodes was performed in 27 cases. In one case, it was not possible to identify the sentinel lymph node. In four cases identified sentinel nodes were false negative. In four cases the sentinel nodes were negative at histopathology and immunohistochemistry, and in 18 cases sentinel nodes were positive in witch, 2 cases had micrometastases only confirmed by immunohistochemical methods. **Conclusions:** Determination of sentinel lymph nodes is a simple and economical method that could improve the management of patients with gastric cancer. Applying the sentinel node techniques identification in gastric cancer does not change the strategy of regional lymphadenectomy during surgery; may lead instead to changes in postoperative gastric cancer staging, increasing the number of patients who may benefit from adjuvant chemotherapy. Staining lymph nodes in vivo and ex vivo improves lymphatic status determination. This work was partially supported by UMF Tg-Mures, project frame: POS-UMFTGM-CC-13-01-V01, No 1512013, cofinanced by Studium foundation from Tg-Mureş.

**Keywords:** gastric cancer, sentinel lymph node, lymph nodes metastases

### LYMPHADENECTOMY ANALYSIS IN GASTRIC CANCER

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**Background:** Lymph nodes metastases remain an important prognostic and predictive factor for gastric cancer development, therefore, optimizing identification and their removal technique are urgently needed. The correct staging of gastric cancer is necessary to examine at least 15 lymph nodes. In gastric cancer, the number of lymph nodes examined and the number of invaded lymph nodes have a prognostic value, determining the type of adjuvant therapy. **Material and methods:** We retrospectively reviewed the cases of gastric cancer operated in the clinic, in 2013-2014 between. Cases were studied according to the operations performed and by identifying the sentinel lymph node relative to the number of lymph nodes examined. **Results:** During the study were operated 74 cases of gastric cancer. In 36 cases we performed total gastrectomy and subtotal gastrectomy in 38 cases. In 27 cases the sentinel lymph nodes were determined. Lymphadenectomy less than D1 was carried out in 12 cases, D1 in 22 cases, D1+ in 25 cases, D2 in 10 cases and D3 in 5 cases. D2 and D3 lymphadenectomy were made only in cases in which the sentinel nodes were determined. **Conclusions:** In gastric cancer, the number of lymph nodes removed is depending on surgeon. The most commonly performed lymphadenectomy was the D1. The sentinel lymph node identification led to the extended lymphadenectomy. This work was partially supported by UMF Tg-Mures, project frame: POS-UMFTGM-CC-13-01-V01, No 1512013, cofinanced by Studium foundation from Tg-Mureş.

**Keywords:** gastric cancer, lymph nodes metastasis, sentinel lymph node, lymphadenectomy

## UNUSUAL AGGRESSIVE MALIGNANT PHYLLODES TUMOR - CASE REPORT

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**Background:** Compared to the breast adenocarcinoma, Phyllodes tumors tends to affect a younger population, with a different management based on histological findings. The incidence is 1:100.000 cases (58% benign formes, 12% unspecified histological type and 30% malignant, 20% with metastasis) **Material and methods:** We present the case of a 59 years old female, with a malignant phyllodes tumor, unusual aggressive variety, affecting, in evolution, both breasts and with endo-thoracic (pleuro-pulmonary) extension. Surgery consisted of a simple right breast mastectomy and after only one month, left breast radical mastectomy (Halsted procedure) and right breast radical mastectomy (Madden operation) due to bilateral extension. We covered the parietal defect with a slipped abdominal flap, followed by a local endo and exothoracic recurrence witch reclaimed re-excision. **Results:** Postoperative evolution was affected by complications caused by cutaneous-subcutaneous abdominal flap necrosis, and exo and endothoracic relapse after only 1 week, followed by signs of acute respiratory failure. **Conclusions:** Unusual aggressive nature of breast phyllodes tumors remains a challenge for both (patient and surgeon) and the radical procedure remains, probably, the best choice.

**Keywords:** Phyllodes Tumors, Unusual aggressive, Endo and exothoracic recurrence

## INTERSPHINCTERIC RECTAL RESECTION – SURGICAL TECHNIQUE USING LIGASURETM

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**Background:** Using the LigaSure™ devices in oncological surgery for low rectal tumors facilitates sphincter preservation. The aim of this paper is to present a surgical technique which can change the approach of this disease. **Material and methods:** The key points of the resection technique, using LigaSure™ (LigaSure Impact and LigaSure Small-Jaws), are presented, highlighting its advantages, if oncological principles are respected. The study was conducted under the framework of the research grant "Sphincter saving procedures in female patients with low rectal cancer - a comparative study on the efficiency of LigaSure™ and mechanical sutures devices" (nr.:13136/23.09.2014), financed by: S.C. Three Pharm S.R.L. Targu-Mures and developed by Targu-Mures University of Medicine and Pharmacy and supported by the Sectoral Operational Programme Human Resources Development (SOPHRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/133377. **Results:** Reduced operating time, accessibility in "difficult" anatomic spaces and efficient hemostasis, intra and postoperative, are the prerogative of this technique. **Conclusions:** Intersphincteric rectal resection for low rectal neoplasms can be the most efficient alternative from the oncological and functional point of view, being favored both by the patient and by the operating surgeon.

**Keywords:** low rectal cancer, intersphincteric resection, LigaSure™

## RISK AND BENEFITS OF MULTIVISCERAL RESECTIONS IN GASTRIC CANCER SURGERY

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**Background:** Multiorgan resections in gastric cancer surgery belong to advanced stages in cases of tumor invasion or metastasis (T4, respectively M1). In surgical practice we often have to decide if the benefits justify the risk. **Material and methods:** We conducted a retrospective study over a period of 10 years (2004-2013) of patients with gastric cancer operated in Surgical Clinic I Mures County Clinic Hospital. Patients were divided into two groups: group A, patients who underwent different types of gastric resection and group B, patients who underwent additional resection of one or more organs associated to gastrectomy. We compared the in-hospital morbidity and mortality between the two groups. **Results:** Of the 281 gastric cancer patients, 36 were submitted to multivisceral resections (12.81%). Among these 29(80,55%) were men and 7(19,44%) women. The median age was 62,62 y.o. The additional resected organs were, in order of frequency: spleen 17 cases, pancreas (tail, body) 8 cases, liver 9 cases, colon 2 cases, transverse mesocolon 1 case. The other 245 patients, 174(71,02%) men and 71(28,97%) women with a median age of 63,4 y.o. were submitted to different types of gastric resections. While in patients with univisceral resection we recorded 52 cases with postoperative complications (17.02%), in patients with multivisceral resections we have registered 10 cases (22.22%). The difference is statistically significant ( $p < 0.05$ ). Complications recorded were, in order of frequency: fistulas, occlusion, generalized and localized peritonitis, bleeding, wound complications, cardiovascular, pulmonary. Hospital mortality was in the first batch of 4.89% and 5.55% in the second with no statistical significance. **Conclusions:** There is a higher risk of developing postoperative complications after multivisceral resection in gastric cancer, but it does not significantly increase hospital mortality rate. Although palliative operations, indications for multivisceral resection in gastric cancer should be adapted to each case and only after intraoperative assessment.

**Keywords:** Gastroenterology, Oncology, Multiorgan resection, Gastric cancer

## LAPAROSCOPIC LUMBO-AORTIC LYMPHADENECTOMY. OUR FIRST EXPERIENCE.

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**Background:** Lumbo-aortic lymphadenectomy is part of the therapeutic arsenal of several cancers, especially the genitals in both women and men. Given the magnitude and the risks of the procedure, there is still debate on its therapeutic value and indications. A correct assessment of lymph nodes in the lumbo-aortic region helps for a better staging of cancer extension and a better therapeutic conduct. It establishes the irradiation field extension which is very important for the patient considering the negative effects of radiotherapy. Laparoscopic or robotic approach although with many advantages conferred by its minimal invasiveness is rarely applied because of intraoperative risks and usually is reserved for surgeons with experience in laparoscopic surgery. **Material and methods:** The author presents a video clip with the case of a young woman with advanced cervical cancer in whom laparoscopic lumbo-aortic lymphadenectomy was performed. **Results:** The procedure lasted 90 minutes. The only intraoperative incident was represented by a minor bleeding from the vena cava that stopped spontaneously by plugging. The postoperative evolution was uneventful. One month later re-laparoscopy for ovarian transposition revealed a minor sero-citrine ascites and no adhesions. **Conclusions:** Aorto-lumbar lymphadenectomy as a diagnosis or therapeutic tool can be performed by laparoscopic approach in save conditions by experienced surgeons in certain cases without massive lymph node metastases. Laparoscopy confers a better operative field view; Compared to the classical open approach it allows a faster healing and discharge of patient with less intra-abdominal adhesions.

**Keywords:** Lumbo-aortic, para-aortic, lymphadenectomy, laparoscopy

## A STUDY OF THE ACCURACY OF FINE NEEDLE ASPIRATION CYTOLOGY IN THYROID PATHOLOGY

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**Background:** FNA is a very important tool in diagnostic and therapeutic strategy in thyroid pathology. Due to the high sensitivity and specificity can prevent unnecessary resections, or on the contrary may indicate intervention in suspicious cases. **Material and methods:** We retrospectively studied 319 patients who underwent FNA for thyroid nodules. We grouped the results according to Bethesda classification, and compared them with those obtained from pathology for the patients who underwent surgery, and with the ultrasound results ad 6 months for the others. **Results:** We obtained complete results for 189 cases. 13.9% were diagnosed as insufficient for diagnosis, 69.3% as benign, 15.2% as atypical follicular lesion of undetermined significance, 1.3% as suspicious for malignancy and 0.3% as malignant. The specificity of FNA was 83.1%, sensitivity 76.47%, positive predictive value of 35.1%, negative predictive value of 96.7%, false positive rate of 16.9%, false negative rate of 23% and the overall accuracy 82.3%. **Conclusions:** FNA sensitivity and specificity are high and facilitates surgical treatment decisions in cases with suspicious thyroid nodules.

**Keywords:** general, endocrin, FNA, thyroid

## THE ANALYSIS OF EARLY POSTOPERATIVE MORTALITY IN COLORECTAL CANCER AT FIRST SURGERY CLINIC , MURES COUNTY HOSPITAL

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**Background:** Colorectal cancer has remained on the fourth place of incidence over the last decades, behind lung cancer, breast cancer and prostate cancer. The onset at an advanced age goes together with an associated pathology that influences therapeutic decisions, immediate and late postoperative mortality. **Material and methods:** We have done a retrospective analysis using the files of a number of 19596 cases admitted to First Surgery Clinic from Mures County Hospital over a period of 10 years (2004-2013), following several parameters: patients age and sex, method of admission, diagnostic and surgical intervention, associated pathology. **Results:** After excluding relapses, other invasive neoplasia of the colon or rectum and transanal procedures we have discovered 600 patients (257 women and 343 men) who were operated for colorectal neoplasia pathology. Out of these we have identified 35 patients (5.83%) who deceased after surgery due to comorbidities or other complications. Early postoperative mortality in the group of patients operated in emergencies (120) was 10.8%, compared to only 4.6% in patients operated following the scheduling (480)(p=0.009 statistically significant). Analyzing two age categories (under and over 60) we have noticed a significant difference (p=0.0057) in postoperative mortality: 0.5% for those under 60 and 5.33% for those over 60. Analyzing the long-term survival we have reached the figures of 34.4% for 10-year survival and 63.9% for 5-year survival. **Conclusions:** Advanced age, especially over 60 years, emergency operations, regardless of the sex significantly increases the risk of postoperative deaths compared to operating according the scheduling.

**Keywords:** GENERAL, COLORECTAL, COLON, CANCER, MORTALITY

## EARLY REINTERVENTIONS IN THE EXPERIENCE OF THE 1ST CLINIC OF SURGERY MURES COUNTY HOSPITAL

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**Background:** Early reinterventions are considered those performed after the complications appeared in the first 10 postoperative days, regardless of the primary condition and type of primary surgery **Material and methods:** We performed a retrospective study

using the database of the 1st Clinic of Surgery over a period of 10 years (2004-2014). The used parameters were: primary operation, postoperative complications, type of reintervention. We analyzed the causes of early reinterventions and the predisposing factors regarding the patient, pathology, indication and surgical technique. **Results:** In our lot we had 59,79% male and 40,21% female patients, with an average age of 56.42 years. The early reintervention rate was 2.97%. The Cause of the early reinterventions in order of their frequency was represented by mechanical, septical, hemorrhagic and ischemic complications, The percentage of early complications was 78.8% after interventions for benign, and 22.2% for malign pathology. In 239 cases the early reinterventions were performed after emergency operations, and in 332 cases after scheduled surgery. The main localization of the postoperative complications in our statistic: small bowel, abdominal wall, soft tissue. The most frequent surgical procedures used in reinterventions were digestive derivations, adhesiolysis, visceral resections, drainage. In a considerable number of cases we found two or more types of postoperative complications. **Conclusions:** We analyzed the causes regarding the patient and the pathology reported to the indication and the surgical technique. From this point of view the study of early reinterventions in a surgical clinic can be a good sign of efficiency. The rate of the reinterventions in our clinic was lower compared with other similar statistics. We can conclude that malignancies doesn't influence decisively the immediate postoperative outcome. There were minor differences related to the postoperative mortality rate after reinterventions regarding the character of the operation (emergency or scheduled surgery) compared to other studies.

**Keywords:** General surgery, gastroenterologi surgery, early reinterventions,, postoperative complications

## BILATERAL PERCUTANEOUS ULTRASOUND GUIDED BILIARY DRAINAGE IN MALIGNANT OBSTRUCTIVE JAUNDICE

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**Background:** Percutaneous biliary drainage (DBP) is a minim invasive interventional technique which intend to decompress the biliary ducts in order to reduce the icteric syndrome to the patients with malignant obstructive jaundice. The procedure consists in introducing via a percutaneous way of a transhepatic drainage catheter in the dilated biliary ducts. The objective of the study was to assess the value of percutaneous biliary drainage in the management of patients with jaundice caused by a locally advanced disease.

**Material and methods:** We present the case of a 56 year old female patient who was admitted in our department with mechanical jaundice. Abdominal ultrasound, CT-scan and cholangio-MRI diagnosed her with a bilateral colangiocarcinoma of the right and left intrahepatic biliary ducts. Due to the important dilatation of the biliary ducts, we decided to perform bilateral ultrasound guided percutaneous biliary drainage. **Results:** Postoperative evolution was favorable, uncomplicated, with rapid reduction of jaundice and significant improvement in quality of life. **Conclusions:** This surgical tehniqe is a minimally invasive intervention which does not require long hospitalization with favorable postoperative evolution, used to selected patients who are not candidades for any other surgical procedure (curative or palliative) in order to improve their quality of life.

**Keywords:** OBSTRUCTIVE JAUNDICE, PERCUTANEOUS BILIARY DRAINAGE,, ULTRASOUND

## MEDIASTINAL GERMINOMA / SEMINOMA – A RARE CAUSE OF PULMONARY HYPERTENSION

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**Background:** The mediastinal tumors are rare entities, with extremely heterogenous clinical signs. **Material and methods:** We report a 35 years old male, with a history of exploratory thoracotomy (lung biopsy - pulmonary infarction, no mediastinal lymph nodes biopsy) and with multiple admissions in internal medicine / cardiology / cardio-vascular surgery units for severe pulmonary hypertension and episodes of heart failure (edema, ascite, bilateral pleural effusion). The CT scan showed the presence of an anterior mediastinal mass with compression on the pulmonary artery branches associated with a left breast tumor. **Results:** The biopsy performed through an anterior mediastinotomy has shown the presence of a primary mediastinal germinoma / seminoma,

the breast lesion being a benign gynecomastia. The patient had a favourable evolution under specific chemotherapy, with a reduction of the mediastinal mass and resolution of the signs of pulmonary hypertension. **Conclusions:** Conclusions. The case is interesting due to the rarity and the atypical clinical evolution. The mediastinal tumors should be considered as a possible cause of pulmonary hypertension.

**Keywords:** surgery, surgery, mediastinal germinoma / seminoma, pulmonary hypert

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## PANCREATIC PSEUDOCYST WITH THE EROSION OF THE SPLENIC ARTERY, SPLENIC AND RETROPERITONEAL HEMATOMA – CASE REPORT

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**Background:** The erosion of the splenic artery is a rare but life-endangering complication of the pancreatic pseudocysts. **Material and methods:** We report a 55 years old female with a history of biliary acute pancreatitis solved by conservative treatment (2 years ago), followed by the development of a pancreatic pseudocyst. She was admitted to our unit for intense abdominal pain and nausea, with a significant drop of the hemoglobine level. CT scan showed a multiloculated spleno-pancreatic cystic lesion with the erosion of the splenic artery. Surgery consisted in spleno-pancreatectomy with partial cystectomy, hemosthesis by "X" sutures of the splenic artery (active bleeding), drainage of the remnant retroperitoneal cavity and cholecystectomy. **Results:** The postoperative course was favourable, excepting a temporary raise of the platelet levels and a pancreatic fistula with spontaneous closure. **Conclusions:** The case is interesting due to the rarity and the imagistic aspects. Large pancreatic pseudocysts have the potential of vascular complications requiring emergency surgery with significant associated morbidity.

**Keywords:** surgery, surgery, pancreatic pseudocyst, splenic artery erosion

## UROLOGY

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### PELVIC LYMPH NODE DISSECTION IN INVASIVE TUMORS OF LATERAL BLADDER WALL. A PROSPECTIVE STUDY WITH PRE-OPERATIVE AND POST-OPERATIVE CT AND HISTOLOGICAL LYMPH NODES CORRELATIONS

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**Background:** Radical cystectomy is the gold standard treatment in muscle invasive bladder cancer. Pelvic lymph node dissection plays an important role in staging the disease. The aim of the study was to analyze the pre-op and post-op lymph node status in singular invasive tumors of the bladder lateral wall. **Material and methods:** A total of 14 patients with singular lateral bladder wall invasive tumor were prospectively enrolled in the study between 1 August 2012 and 31 July 2014. Surgical technique was cystectomy with pelvic lymph node dissection. Exclusion criteria were: multiple bladder tumors, other localizations rather than lateral wall and stage > cT3; 22 patients were excluded. Median follow-up was 10 months (range 5-24). **Results:** Patients characteristics: median age 61 yr (range 55-72), 85.71% were male, 13 patients were ≤ T2, one was T3, 3 were N+ 21.43%, 7 patients had tumor on left wall and 7 on the right wall. Statistical analysis of data showed an increase in T3 stage post cystectomy from 1 case to 5 35.7% (p=0.16), also an decrease in N0 status from 78.6 % to 57.1% (p =0.41) , tumor grade remain unchanged; G3 13 patients (kappa=1). Only 2 contralateral lymph nodes were positive (14.2%), 1 pre-op on CT scan and 1 post-op at histology. Kappa correlation coefficient was 0.63. During the follow-up period 1 patient died at 14 months after surgery due to disease (7.1%), CT scan revealed no recurrence in other patients at the regular follow-up. **Conclusions:** In strictly selected patients with lateral bladder wall invasive tumors and N0 stage pre-operative contralateral PLND could be limited to common and external iliac region plus obturator fossa as was set before in literature. Further randomized trials are needed to clarify this issue in terms of overall survival, recurrence free survival and quality of life of the patients. This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/133377.

**Keywords:** lymph, lateral wall, bladder cancer

### ASSOCIATION OF TWO RARE RENAL TUMOURS – CASE REPORT

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**Background:** According to the literature from histopathological point of view the most common renal tumour is the clear cell carcinoma. In the following we will present a rare case: a combination of two rare renal tumors. **Material and methods:** The patient, B.T., a 40 years old woman, was admitted in our clinic for macroscopic haematuria and lumbar pain on the left side. The patient has no relevant personal pathological antecedents for the current condition. Renal ultrasonography described a parenchymal formation with a diameter of 8 cm in the left kidney upper pole. Doppler ultrasound describes the tumor intensely vascularized, both arterial and venous, with no evidence of renal vein thrombosis. CT scan reveals a tumoral mass with a maximum diameter of 82 mm, occupying the upper renal pole and part of pielocaliceal system in the left kidney, and retroperitoneal infracentimetric adenopathy, without distant metastasis. **Results:** Left transperitoneal radical nephrectomy was performed. The histopathological examination describes a rare coincidence: a combination of two rare renal tumors: oncocytoma (20 mm upper polar nodule) and pT1a chromophobe carcinoma (85 mm upper polar nodule), without lymph node invasia in the examined lymph nodes. According to the oncological commission there is no indication for adjuvant chemo-radio therapy. The follow-up schedule is identical as in the low grade renal cell carcinoma: clinical checkup and ultrasound at 6 months interval, clinical checkup and CT at 1, 3 and 5 years when if there is no evidence of recurrences or metastasis, the patient is considered cured. **Conclusions:** The case presents an

uncommon association between chromophobe carcinoma (malignant) and oncocytoma (benign), two rare tumors. It is important to recognize the chromophobe carcinoma, because its prognosis is better than that of the conventional renal cell carcinoma.

**Keywords:** chromophobe carcinoma, oncocytoma, nephrectomy

## RENAL CELL CARCINOMA WITH BILATERAL ADRENAL TUMOR MASSES: CASE REPORT

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**Background:** Adrenal gland metastasis is headquartered in case of renal tumors. The most common cases are represented by superior renal tumors which involves the ipsilateral gland. There are rare situations when bilateral adrenal gland metastasis is developed from renal cell carcinoma. These patients require oncologic treatment associated with endocrine substitution therapy, having a decreased life expectancy. **Material and methods:** A 64 years old man without any characteristic symptom is diagnosed incidentally by abdominal ultrasound with a right renal cell carcinoma. Computer-tomography (CT) with contrast revealed a right superior renal tumor with tumor masses (inhomogenous aspect- revealing the presence of necrosis, suspected as metastasis) in both adrenal gland. **Results:** Right radical nephrectomy with bilateral adrenalectomy was performed following a Chevron incision. **Conclusions:** Renal cell carcinoma with bilateral adrenal metastasis represents a very rare neoplastic pathology. The urooncologic treatment represented by nephrectomy, and bilateral adrenalectomy, must be followed by an endocrinological substitution therapy. The patient's follow up includes: abdominal ultrasound, CT with contrast enhancement and chest X-ray every 3 months.

**Keywords:** Renal cell carcinoma, Bilateral adrenal metastasis, Right radical nephrectomy, Bilateral adrenalectomy, Chevron incision

## FUSION IMAGING IN MULTIPARAMETRIC MRI FOR PROSTATE CANCER DIAGNOSIS: COMBINING MORPHOLOGIC AND FUNCTIONAL IMAGING

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**Background:** Diffusion Weighted Imaging (DWI) is a newly-introduced functional sequence in the multiparametric MRI protocol of the prostate that promises an enhanced diagnostic efficiency, above that of conventional morphological sequences. Still, its poor spatial resolution can be a potential setback resulting in poor specificity. The DWI/T2 image fusion is a revolutionary imaging technique that combines the functional information of DWI with the clear anatomical one of T2, resulting in new, hybrid images. The aim of our study was to perform a systematic review of the literature in order to obtain a clear view upon the role of image fusions in prostate cancer diagnosis using MRI. **Material and methods:** We performed a systematic review of the PubMed database using specific keywords both directly and using the Medical Subject Headings system. Priority was given to systematic reviews and clinical trials published in the last 5 years. **Results:** The use of image fusions for diagnosing prostate cancer can be divided in two areas of interest: diagnostic multiparametric MRI and the MRI/ultrasound fusions for image guided prostate biopsy. For the DWI/T2 image fusions, results were scarce, to the best of our knowledge only one trial having been published to this date. The reported results were promising, with a sensitivity and specificity values up to 60% and 80%. For the MRI/TRUS fusion, an increased detection rate was found, especially in clinically-significant cancers as well as for index tumor assessment (a 95% concordance in tumor location to the radical prostatectomy specimen). **Conclusions:** Fusion imaging is a complex diagnostic and interventional tool that can enhance both the diagnostic efficiency of prostate MRI alone and increase biopsy precision as part of the MRI/TRUS fusion. **ACKNOWLEDGEMENT:** This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/133377/

**Keywords:** DWI/T2, MRI/TRUS fusion, prostate cancer, MRI, diagnosis

## GREENLIGHT 180W XPS PHOTOVAPORIZATION OF THE PROSTATE: OUR INITIAL EXPERIENCE

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**Background:** The GreenLight 180W XPS photovaporization of the prostate is a revolutionary surgical technique that enables Photoselective Vaporization of Prostatic (PVP) tissue with reduced intraoperative bleeding, better patient tolerance, reduced hospital stay and lower complication rates (like the necessity for transfusion, electrolyte anomalies, erectile dysfunction and retrograde ejaculation) when compared to standard TransUrethral Resection of Prostate (TUR-P). The aim of our study was to present our initial experience regarding this technique in a series of 2 patients. **Material and methods:** Two patients with benign prostate hyperplasia (BPH) patients aged 65 and 71 were enrolled in our study. Their IPSS scores were 16 and 25 with the corresponding prostate volumes of 38 cm<sup>3</sup> and 75 cm<sup>3</sup>. The first patient had a Q<sub>max</sub> of 8ml/sec while the second patient had an indwelling urethral catheter installed for complete urinary retention three weeks before the procedure. PVP was performed using the GreenLight System at our facility under loco-regional (spinal) anesthesia. **Results:** Rigid cystoscopy was performed before the procedure, in order to exclude local complications like lithiasis, bladder diverticula or the presence of a large median lobe. Starting with the right lobe, PVP was performed bilaterally to the surgical prostatic capsule. The procedure was uneventful, with a mean operative time of 90 minutes. Blood loss was kept to a minimum. The urethral catheter was removed the second day after surgery and the patients were discharged. At 1 months follow-up, both patients had no lower urinary tract symptoms (LUTS), with no post-void residue and Q<sub>max</sub> values of 12 ml/sec, respectively 13 ml/sec. **Conclusions:** PVP using the GreenLight 180W XPS system is a feasible practical and efficient technique which can be an adequate substitute for TUR-P in selected patient groups.

**Keywords:** benign prostate hyperplasia, green laser, PVP, outcomes, serie

## TRANSPERITONEAL APPROACH IN SURGICAL TREATMENT OF GIANT RENAL TUMOR. CASE REPORT

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**Background:** Introduction and objectives The incidence of renal tumors showed an increase in the last 10 years. In clinical practice we notice a continuous increase of this pathology in cases of young patients even in advanced stages. The aims of this paper is to present a case of giant right renal tumor associated with an left lumbar inferior ureteral stone by transperitoneal approach. **Material and methods:** Patient M.S., 48 years old was admitted in our service presenting macroscopic hematuria and left lumbar pain. The patient was investigated in several medical services for a left ureteral stone. Further testing (ultrasound, IVU, CT) showed also the presence of a right renal tumor 18x27 cm (T2bN0M0). A right nephrectomy associated with a left ureterolithotomy and left ureteral stent insertion we perform following laparotomy and right subcostal incision. **Results:** The transperitoneal approach allowed an easy access to the right kidney and left ureter. The total intraoperative time was 3 hours and 20 minutes. The tumor weighed 6.9 kg, bleeding was approximately 750 -1000 ml, the patient received 2 units of blood. Drainage tubes were removed within 48 hours. Histopathological findings confirmed the presence of clear cell renal carcinoma, Fuhrmann grade 3. Left ureteral stent was extracted 3 weeks postoperatively. **Conclusions:** The simultaneous transperitoneal approach (subcostal and median incision) permitted the treatment of a giant kidney tumor and ureteral calculus during the same surgical intervention.

**Keywords:** giant renal tumor, ureteral stone, nephrectomy, clear cell renal carcinoma, transperitoneal approach

## THE ROLE OF URODYNAMIC INVESTIGATIONS IN THE MANAGEMENT OF STORAGE URINARY TRACT DYSFUNCTIONS

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**Background:** The aim of this paper is to establish the place of urodynamic investigations in the diagnosis of urinary tract dysfunctions, highlight their importance in the management of storage symptoms. **Material and methods:** We performed a retrospective study over a period of 21 months (January 2013- September 2014) in Mureş County Hospital, Urology Clinic. The inclusion criteria were the absence of the infection, the existence of the lower urinary tract symptoms (storage symptoms) confirmed by micturition diary, and also the existence of urodynamic investigations (uroflowmetry and pressure-flow study). The urodynamic protocol used in these cases consisted of: uroculture (in order to exclude infection), micturition diary, residual urine measured by abdominal ultrasound, uroflowmetry and pressure-flow study. **Results:** We included in this study 42 patients (28 female and 14 male), aged 43.9 years with storage urinary tract dysfunction who accomplished the inclusion criteria. Regarding the symptomatology our findings were the following: urgency, in 37 of the cases, urgency incontinence in 27 of the cases and stress urinary incontinence in 15 of the cases. The urodynamic evaluation of the filling phase proved the existence of stress urinary incontinence in 7 of the cases, in 12 of the cases was demonstrated detrusor overactivity and in 12 of the cases, detrusor overactivity was associated with urgency incontinence, 6 of the cases, mixed urinary incontinence and 1 case with painful bladder syndrome and in 4 cases the urodynamic investigations had no pathological items. **Conclusions:** In the majority of the cases (90%) the pressure-flow study revealed pathological items, which helped us to establish a proper management (conservative or surgical). The urodynamic investigations are indicated in selected cases, the failure of the conservative treatment or the decision of performing an invasive treatment. "This paper was published under the frame of European Social Fund, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/133377".

**Keywords:** urodynamic, storage, urinary dysfunction, incontinence, uroflowmetry

## COMPLICATIONS OF TRANSRECTAL ULTRASOUND-GUIDED PROSTATE BIOPSY—A RETROSPECTIVE STUDY ON 432 CASES

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**Background:** Transrectal ultrasound-guided prostate biopsy (TRUSG-PB) is a screening procedure, easy to perform and widely used in the diagnosis of prostate cancer. It is usually considered a low-risk intervention, although it may be accompanied by different complications, such as dysuria, pain/discomfort after biopsy, fever, haematuria, haemospermia, prostatitis, rectal bleeding, urinary retention, urosepsis. Our objective was to establish the rate of complications derived from the use of TRUSG-PB at our institution. **Material and methods:** We retrospectively analyzed the medical records of 432 patients who underwent TRUSG-PB performed in two years period (2010-2011). Indications for the TRUSG-guided biopsies were elevated serum PSA and/or suspicious digital rectal examination. **Results:** Mean age was 69.59 years (21-87 years); mean prostate volume 43.31 cc (25-140 cc); mean total PSA 58.97 ng/ml (0.78-2730.86 ng/ml). In the majority of TRUSG-PB (68.22%) we did not find post-procedural complications. The predominant complications were minor without sequel: mild haematuria (12.19%); rectal bleeding (4.77%); urinary retention (3.09%). 9.32% of the patients developed fever and needed antibiotic therapy, prolonged hospitalization. 2.43% of patients developed urosepsis. **Conclusions:** Our rate of complications was similar to that described in the literature. Most of them were minor and did not require immediate intervention, rarely occurred major complications. TRUSG-PB is generally a safe, well-tolerated diagnostic method.

**Keywords:** Prostate, Biopsy, Complications, Prostate Cancer

## POSTERS

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### COMPARATIVE IMMUNOEXPRESSION OF ETS-1 AND KI-67 IN PRECANCEROUS COLON LESIONS

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**Background:** During the embryonic stage, the Ets-1 transcription factor plays a role in the development of the digestive tract. Expression of this marker gradually decreases during fetal life, and its reactivation in CRC correlates with tumor invasion and presence of lymph node metastases. Our aim was to study the marker Ets-1 to Ki-67 expression in colon adenomas/polyps (A/P). **Material and methods:** We studied 22 hyperplastic polyps (HP) and 7 sessile serrated adenomas/ polyps (SSA/P) and 3 traditional serrated adenomas (TSA) and 26 tubular (TA) and 41 tubulovillous adenomas (TVA) from the archived biological material of the Pathology Department of the Clinical County Hospital of Tîrgu-Mureş, Romania. We performed Ets-1 (Leica Biosystems Newcastle Ltd, clone IG11, 1/200) and Ki-67 (LabVision Fremont, CA, USA, clone SP6, 1/100) immunohistochemistry, using the Dako EnVision system. We determined the percent of positive tumor cells, and included them into three immunohistochemical grading groups (G0, G1, G2) **Results:** The majority of A/P show increased Ki-67 and Ets-1 expression (80.7% and 56.4%, respectively) which correlated significantly with histological type and the grade of dysplasia ( $p < 0.0001$ ). Comparing the expression of these proteins we observed that the majority of TA, TVA and TSA are Ets-1+/Ki-67+, and most of HP and SSA/P Ets-1-/Ki-67-, and Ets-1-/Ki-67+ ( $p < 0.0001$ ). **Conclusions:** Relative to the increased Ki-67 expression in almost all studied A/P cases, Ets-1 expression is more frequent TSA and conventional adenomas. Acknowledgements. The study is supported by the Internal Research Grants of the University of Medicine and Pharmacy, Tîrgu-Mureş, Romania (contract no. 24/11.12.2013).

**Keywords:** colon, adenomas/polyps, immunohistochemistry, Ets-1, Ki-67

### A NEW BORN GIRL WITH MENINGOENCEPHALOCELE AND BILATERAL COMPLETE CLEFT LIP AND PALATE. CASE PRESENTATION

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**Background:** Each year spina bifida and anencephaly, the two most common forms of neural tube defects, occur in 1 in 1000 pregnancies in the United States(1) and an estimated 300 000 or more newborns worldwide(2). The results of randomised trials indicate that at least half the cases of neural tube defects could be prevented if women consumed sufficient amounts of the B vitamin folic acid before conception and during early pregnancies(3, 4). **Material and methods:** A newborn preterm baby girl, small for gestational age with large occipital encephalocel, large cervical-thoracic meningocele and complete cleft lip and palate was admitted to neonatal intensive care unit. The patient was born at 36 weeks of gestation by cesarean section. He weighed 1800 grams, appear vigorous with spontaneous respirations, the 1-minute and 5-minute Apgar score were 7 and 8, respectively. The patients mother was 27 years of age, gravida 3, para 3. Prenatal testing for siphilis, the human immunodeficiency virus was negative. Mother attended only primary school, has a low socioeconomic status, had smoked in the past and hadn't dropped after she conceived, and she received inappropriate prenatal care. **Results:** After the birth the family decline any surgical treatment and decided to institute paliative therapy and comfort measures only. In a meeting with a genetic counselor the patient declined to provide a detailed family history. On the twentysixth day of life, the patient's work of breathing increased suddenly and mottloed skin developed. Epinephrine was administered and positive-pressured ventilation and chest compressions were begun. However, refractory asystole developed, and the patient died early on his twentyseventh day of life. **Conclusions:** Withdrawal of treatment support occurs seldom in the neonatal intensive care units in Romania, and only few studies have examined the process surrounding this event. Improved documentation of the support provided by physician and nurses to parents of dying infants is recommended.

**Keywords:** poster, poster, neural tube defect, withdrawal treatment, neonatal intensive care unit

## SPECKLE-TRACKING ECHOCARDIOGRAPHY IN ASSESSMENT OF RIGHT VENTRICLE IN CHILDREN WITH PULMONARY ARTERIAL HYPERTENSION ASSOCIATED WITH VENTRICULAR SEPTAL DEFECT

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**Background:** Pulmonary hypertension lead to right ventricular dysfunction which has been associated with poor outcome. The objective of the study was to evaluate the role of speckle-tracking echocardiography in assessment of right ventricular function in children with pulmonary arterial hypertension associated with ventricular septal defect compared to conventional echocardiography. **Material and methods:** We evaluated prospectively 24 children (12 with pulmonary arterial hypertension associated with ventricular septal defect and 12 age and sex match controls) using speckle-tracking echocardiography (Q LAB 10.0 software), conventional echocardiography and clinical parameters (6-min walking test). The right ventricular free wall and global longitudinal strain were calculated by averaging three (basal, medial, apical) respectively seven regional peak systolic longitudinal strain. There were also studied the conventional echocardiographic parameters: right ventricular fractional area change, tricuspid annular plane systolic excursion, right ventricular myocardial performance index, left ventricular eccentricity index. **Results:** Right ventricular free wall and global longitudinal strain were significantly lower in pulmonary hypertension children than in controls ( $p=0.0001$  respectively  $p=0.0001$ ). Right ventricular free wall and global longitudinal strain has correlated with right ventricular fractional area change, right ventricular myocardial performance index, left ventricular eccentricity index ( $r=-0.64$ ,  $r=0.69$ ,  $r=0.53$  respectively  $r=-0.63$ ,  $r=0.65$ ,  $r=0.53$  with a  $p<0.05$ ). **Conclusions:** Right ventricular speckle-tracking echocardiography is useful in noninvasive assessment of right ventricle performance in children with pulmonary arterial hypertension associated with ventricular septal defect. **Acknowledgement:** The present study was carried out in the research project no 27/11.12.2013, financed by UMF Tg. Mures

**Keywords:** speckle-tracking echocardiography, pulmonary arterial hypertension, ventricular septal defect, children

## THE NEED FOR IMPLEMENTING EDUCATIONAL PROGRAMS FOR PATIENTS WITH DISABILITIES

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**Background:** Patients with intellectual and developmental disabilities are part of a particular group of people with special needs, which is more likely to encounter a wide range of challenges regarding community services in general and the access to health care in particular. From the access to implemented curatives protocols perspective, the need for the development of better treatment guidelines is obvious for doctors and even for the caregivers of patients with disabilities. **Material and methods:** Focused on field and online researches were used to explore the special needs of people with intellectual and developmental disabilities. **Results:** It is essential to acknowledge the necessity of studying and implementing the methods of managing and treating this particular group of patients which have a limited ability to maintain a proper oral hygiene and therefore present a greater risk of periodontal and gum pathologies, caries and other dental problems than general population. Untreated oral pathologies may have a major influence on general health status, as well. Because of their limitation they have troubles accepting any dental interventions and require specialized professionals, special resources and some form of behavioral assistance. **Conclusions:** Regarding this aspects, it is important to educate and specialized the doctors who are treating patients with disabilities, the caregivers and society nevertheless, by implementing advanced and graduate education programs which include various trainings in the oral health care of patients with special needs, providing clinical experience under the guidance of experienced professionals trained in special care dentistry. As well as informing programs for general population (e.g. teachers, students), to facilitate the acceptance and integration of people with disabilities.

**Keywords:** THE NEED FOR IMPLEMENTING EDUCATIONAL PROGRAMS FOR, THE NEED FOR IMPLEMENTING EDUCATIONAL PROGRAMS FOR, disabilities, oral pathologies, programs, education

## MUSCULOSKELETAL ULTRASONOGRAPHY IN EXPLORATION OF KNEE INJURIES

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**Background:** According with the literature, the knee is one of most frequently joint exposed to trauma, but also easy to be explored with the ultrasound technique. Using probes with high frequency, we can identify signs of joint components injuries (cartilage, ligaments, meniscus) and presence of collections (bursitis, cysts). **Material and methods:** This study includes a sample of 32 patients with knee injuries, examined between 01 July - 01 October 2014, using a multifunctional ultrasound-GE LOGIQ 7, with a high-frequency linear probe of 9-15 MHz. First examination was for confirming the diagnosis and 13 of patients were re-examined according with their rehabilitation program **Results:** The exploration of knee injuries revealed an increased percent of sprain (first and second degrees), lesions of the meniscus, patellar tendonitis. As secondary signs there were described in the ultrasonography protocols : suprapatellar and infrapatellar bursitis, Baker cysts. All examination allowed an accurate description of the articular cartilage, with a correct grading of the condropathy **Conclusions:** Musculoskeletal ultrasound examination can be an useful tool for knee examination, offering complete information about articular and periarticular injuries, a real help for many specialties involved in the treatment (orthopedics, rehabilitation and sportive medicine). **KNOWLEDGEMENT:** This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/133377 - CRONEX-CD.

**Keywords:** knee, ultrasonography, articular injuries

## TIME COURSE OF FUNCTIONAL RECOVERY OF HIBERNATING MYOCARDIUM – IS ALWAYS WELL ESTABLISHED BY 2 D ECHOCARDIOGRAPHY ?

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**Background:** Among patients with ischemic cardiomyopathy, identification of patients with LV dysfunction which may benefit from early myocardial revascularization is clinically important. **Material and methods:** Case presentation. We report the case of a 57-year-old male presenting in the emergency room for evaluation of several 20-30 minute episodes of chest pain, dyspnea in the last 24 hours. The patient has a history of anterior ST elevation myocardial infarction with thrombolytic therapy 10 years ago, hypertension, diabetes mellitus and dyslipidemia. ECG revealed pathological Q waves in V1-V3 and no other abnormalities. Positive cardiac biomarkers were found (Troponin I 0,3 ng/ml) at presentation. Echocardiographic assessment showed akinesia of the apical third of the interventricular septum, anterior wall and of the apex, hypokinesia of the inferior wall and an ejection fraction of 40%. Coronary angiography was performed revealing a rechannelled calcified thrombus producing a 90% stenosis on the LAD and a critical mid-RCA lesion. The culprit lesion was considered the RCA lesion and successful coronary angioplasty was performed. For the assessment of myocardial viability of the akinetic segments we performed a stress dobutamine echocardiography with myocardial contrast agent and the presence of viable tissue was found in more than 3 segments. Based on this, coronary angioplasty of the LAD was performed. At 1 month follow-up resting 2D echocardiography showed no improvement, but after administration of myocardial contrast agent, significant improvement of the segmental wall motion score was found. **Results: Conclusions:** Myocardial contrast echocardiography can establish the extent of residual myocardial viability and assess resting LV function more accurately than 2D echocardiography. "This paper was published under the frame of European Social Found, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/133377".

**Keywords:** myocardial viability, dobutamine stress echocardiography, myocardial contrast echocardiography, revascularization

## THE IMMUNOHISTOCHEMICAL STUDY OF ALK (ANAPLASTIC LYMPHOMA KINASE) GENE MUTATIONS IN PATIENTS WITH NON-SMALL CELL LUNG CANCER

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**Background:** The discovery of tyrosine kinase inhibitors (erlotinib, gefitinib) was a new stage in the lung cancer therapy. The therapy with tyrosine kinase inhibitors in patients who have EGFR gene mutations and ALK gene mutations has a positive response rate of 60-70%, and an increase in average survival period of 12 months, much better than in patients who did not have mutations in these genes. **Material and methods:** We introduced in our study 20 patients that were admitted and operated for non-small cell lung cancer, in the 1st Surgical Clinic of the University County Emergency Hospital Mureş. To identify the ALK gene mutations we used immunohistochemical methods. To achieve the specific staining we used anti-ALK antibody (D5F3 antibody). **Results:** In our study, 2 patients (10% of cases) presented ALK gene mutations. The 2 patients had a histology of adenocarcinoma and were non-smoking. In the two positive cases, 1 case presented an intense expression of the immunohistochemical reaction, and 1 case showed a moderate expression. **Conclusions:** The identification of ALK gene mutations in patients with non-small cell lung cancer is beneficial to introduce the concept of individualized cancer therapy in patients with lung cancer, representing a new stage in the therapy of patients with lung cancer.

**Keywords:** anaplastic, lymphoma, kinase, lung, cancer

## CHEMOSENSITIVITY OF ETIOLOGICAL AGENTS INVOLVED IN CATHETER RELATED SEPSIS

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**Background:** Excessive use of antimicrobial agents led to the development of important resistance mechanisms. The aim of the study was to identify the aetiology and sensitivity of pathogen agents isolated from patients with sepsis. **Material and methods:** We have conducted an observational study on 40 patients with sepsis, hospitalised in the Infectious Diseases Clinic from Tîrgu Mureş, over a period of 3 years. The incidence of sepsis and septic shock, the generating infection, the chemosensitivity of the etiological agent isolated from blood cultures, the therapy and patients evolution, have been closely examined. The diagnosis of catheter-related sepsis has been established using quantitative method, by culturing the catheter segments and by using blood cultures in BacT/Alert and Vitek systems. **Results:** Catheter-related sepsis was more often seen in patients over 50 years (62.50%), and children aged 1-16 years (25%). 23 patients were male (57.50%) compared to only 17 female patients (42.50%). The most frequent germs involved in the aetiology of catheter-related infections were Gram positive bacteria, 28 patients (70%) compared to Gram negative bacteria 10 patients (25%) and fungi 2 patients (5%). Analyzing Gram positive bacteria we identify a predominance of methicillin resistant *Staphylococcus aureus* (MRSA) in 14 patients, *Staphylococcus epidermidis* in 7 patients. The Gram negative bacteria class revealed: *Serratia* spp., *Pseudomonas aeruginosa*, *Acinetobacter baumani*. **Conclusions:** Regarding the drug sensitivity of gram positive bacteria was noted an increased resistance of *S. aureus* at antistaphylococcal antibiotics with the maintaining sensitivity to glycopeptids. The sensitivity of gram negative bacteria revealed a resistance of *Pseudomonas aeruginosa* and *Acinetobacter baumani* at fluoroquinolones, ureidopenicilins, carbapenems, maintaining to Colimycin.

**Keywords:** catheter related sepsis, aetiological agents, sensitivity

## THE EFFECT OF IMMERSION AND INTRA-ORAL USE ON THE SURFACE CHARACTERISTICS OF NICKEL-TITANIUM ORTHODONTIC ARCHWIRES

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**Background:** The principle of fixed orthodontic therapy is based on tooth movement, generated by light and continuous forces. Orthodontic archwires are key elements in producing such forces and their clinical selection should take into consideration, both mechanical properties and surface characteristics. The complexity of factors, an intraorally used archwire undergoes, may modify the wires topography. The aim of the present study was to observe the surface characteristics for evidence of corrosion and alteration of as-received, immersed and as-retrieved Nickel-Titanium orthodontic archwires. **Material and methods:** Scanning electron microscopic and optical microscopic analysis were performed on a total number of 20 Nickel-Titanium archwires: 5 as-received, 10 immersed and 5 as retrieved Nickel-Titanium archwires. Immersion solutions included a topical fluoride agent and a soft drink. The wires were incubated at 37 degrees Celsius for 7 days. **Results:** On the as-received archwires, SEM analysis revealed surface irregularities caused by manufacturer process. Following immersion in topical fluoride agent, corrosion changes were more obvious on wires than following soft drink immersion. Pitting corrosion was also observed. Intra-oral use of archwires, for a mean period of 6 weeks, resulted in increased rugosity and obvious signs of fretting and crevice corrosion. **Conclusions:** Changes in wires surface topography caused by immersion and intra-oral use are obvious. Further investigations including differential scanning calorimetry are required in order to elucidate the mechanism of fluor interference at interatomic level.

**Keywords:** orthodontic archwires, Nickel-Titanium, scanning electron microscopy

## THE PREVALENCE OF MALNUTRITION IN CHILDREN FROM MURES COUNTY, ROMANIA

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**Background:** Over the past 20 years, a global decrease in the prevalence of chronic child malnutrition was noticed. In our country, there are no reports regarding the child malnutrition. The objective of this study was to assess the prevalence of acute and chronic malnutrition among children in Mures County. **Material and methods:** This prospective study included a total of 230 subjects evaluated between May-June 2013, in terms of anthropometric measurements (weight, height, mid-upper arm circumference - MUAC). The interpretation of the data was performed using the program Growth Analyser 3.5, using reference curves for Romania. Acute malnutrition was defined as Weight for Height (WFH) Results: According to WFH, acute malnutrition was found in 3.91% of the children, while based on MUAC in 6.09%. The highest proportion of children with acute malnutrition was noticed among girls, for the age group 1-5 years (6.52%) in urban area, respectively for the age group 0-1 years (9.09%) in rural area. There were no cases of severe malnutrition among boys. Chronic malnutrition was found in 14.35% of the children. The highest prevalence of chronic malnutrition were found in the age group under one year (9.09%) and the 15-18 group (8.33%), among girls, in urban areas. In boys, the highest prevalence was found in the rural area, in the age group of 5-10 years (8.93%) and 10-15 years (8.77%). **Conclusions:** Overall, the acute malnutrition was identified in 1 of 25 children, and it was more frequent in girls, for the 1-5 years age group, in urban area. The chronic malnutrition was found in 1 of 7 children and was more frequent in boys, for 5-10 years age group, in rural area.

**Keywords:** malnutrition, anthropometry, prevalence

## RARE CASE OF INTESTINAL EPILEPSY

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**Background:** Most papers published in professional journals in the past 49 years regarding intestinal epilepsy problems make us treat seriously the abdominal connection of epilepsy. **Material and methods:** We present the case of a 49 years old patient with no significant medical history, admitted for abdominal pain crises, located mostly in the hypogastrium, of high intensity, with the character of cramps accompanied by diarrhea, sweating, transient loss of consciousness. These attacks occur suddenly last a few minutes and appear repeatedly. **Results:** Patient did laboratory investigations, abdominal ultrasound, gastroscopy, pelvic examination, which found nothing relevant for diagnosis. Electroencephalogram (EEG)- focal spike and wave discharge with temporal-parietal-occipital localization. **Conclusions:** For digestive complaints can often be similar to those of irritable colon, colon exploration we performed carefully by irigography and discovered the existence of sigmoid diverticulosis. Surely if we had not found relevant electroencephalographic changes we could not sustain the diagnosis of intestinal epilepsy. We introduced anticonvulsant treatment (Carbamazepinum) and follow carefully the patient. In the 2 months of treatment, seizures were not repeated. So called "abdominal brain" and cerebrospinal system must cooperate to maintain physical and mental health.

**Keywords:** abdominal epilepsy, diverticulosis, electroencephalogram.

## GROWING PATTERNS TO PRODUCE "NITRATE FREE" VEGETABLES

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**Background:** Vegetables might contain significant amounts of nitrate, therefore, may pose a health hazard to consumers by exceeding the accepted daily intake for nitrate. Toxicological problems were associated with high nitrate regimen, such as methemoglobinemia, increased risk of gastric cancer, childhood diabetes, teratogenic properties and thyroid suppression. The existence of nitrate free lettuces and other vegetables is important, especially for children and vegetarians who consume large amounts of vegetables. **Material and methods:** Lettuces were grown on different types of nutrient solutions using a hydroponic system. Concentrations of nitrate and nitrite were measured using an HPLC-UV/VIS method. In order to evaluate the nutritional quality of lettuces, chlorophyll content, dried and calcinated mass were also measured. **Results:** Low nitrate content in the nutrient solution resulted in a significant decrease in lettuces' nitrate concentrations (1741 versus 39 mg/kg), however, the beneficial effect was abolished by an increase in the ambient temperature. Nitrate replacement with ammonium led to important decrease of the lettuces' nitrate concentration (1896 to 14 mg/kg) but their survival rate decreased. Replacement of nitrate with nitrite was not associated with a reduction of nitrate concentrations suggesting that lettuces' nitrate reductase is an oxido-reductase enzyme. An economically feasible method to reduce nitrate concentrations was the removal of inorganic nitrogen from the system before the exponential growth phase. This method led to "nitrate free lettuces" (10 mg/kg). The dried mass and calcinated mass of lettuces, used as markers of lettuce's quality, were not influenced by this treatment, but a small reduction (18%, p<0.05) in the fresh mass was recorded. Nitrite concentrations were not influenced in a toxicological important manner by any treatment. **Conclusions:** Results show that it is possible to obtain "nitrate-free" lettuces, in an economically feasible way. This paper was published under the frame of European Social Fund, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/136893.

**Keywords:** lettuce, nitrate, nitrite, hydroponics, HPLC

## THE FREQUENCY OF DENTAL CARIES IN ADULT PATIENTS WITH GASTROESOPHAGEAL REFLUX DISEASE

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**Background:** The aim of the study is to evaluate the frequency of dental caries, in adults patients with gastroesophageal reflux disease. **Material and methods:** A cross-sectional study was performed. The study was conducted between November 2013 and October 2014. All individuals, with ages between 20 and 80 years old, who were referred to Gastroenterology clinic, of the Emergency County Clinical Hospital, in the studied period, were evaluated. All subjects, who agreed to participate to the study, were asked to complete a questionnaire regarding personal information, oral hygiene and dental evaluation. Were excluded from the study the individuals with complete false teeth (superior and inferior removable prosthetic devices). The study included 134 people and based on upper gastrointestinal endoscopy, the individuals were divided in two groups, a group with gastroesophageal reflux disease (71), and a control group (63). Dental evaluation was performed by a dentist blind to the diagnosis of the subjects. Dental caries were evaluated by applying the decayed, missing, and filled teeth index (DMFT index). The statistical significance was defined as  $p < 0.05$ . **Results:** From 71 subjects included in GERD group, 33 (46.48%) were males and 38 females (53.52%) with a mean age of  $44.99 \pm 11.19$  (42, 59.15% from urban area and 29, 40.85%, from rural area). In the control group were included 28 (44.44%) males and 35 (55.56%) females (mean age  $43.84 \pm 9.48$ ) and 29 (46.03%) subjects were from urban area and 34 (53.97%) from rural area. DMFT index in GERD group was  $19.49 \pm 4.28$  and in control group  $18.16 \pm 4.54$  ( $p < 0.05$ ). **Conclusions:** The present study showed that it is no difference between GERD and control group, regarding the frequency of dental caries. **ACKNOWLEDGEMENT:** This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/133377

**Keywords:** Oral manifestations, Dental caries, Gastroesophageal reflux

## AN ADVANCED WEB-BASED ASSESSMENT SYSTEM

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**Background:** For several years, our University uses an online web based assessment system. Introducing such a system improved the student evaluation process, by decreasing the time needed for this activity and providing an objective means of grading the students. The aim of this study was to design and implement a new system, using most recent technologies. **Material and methods:** For implementing the system, we chose the web environment and a Linux hosting with an Apache server and a MySQL database. The code was written in PHP and Javascript, using the CodeIgniter PHP framework and jQuery Javascript framework. **Results:** The new system keeps the basic functionalities, compared to the old one, allowing the user to set up and manage a test. It also brings a new method of organizing the questions into categories, based on tags. Another new feature is represented by the possibility to set up a custom algorithm for response evaluation. **Conclusions:** The new assessment system provides all the functionalities, both the teacher and the student need in order to ensure a fair and objective assessment. **Acknowledgement** This paper was published under the frame of European Social Fund, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/136893

**Keywords:** Educational Assessments, Online system, Internet

## ASSESSING THE STUDENTS' LEVEL OF SATISFACTION WITH ASYNCHRONOUS E-WRITING IN ENGLISH FOR MEDICAL PURPOSES

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**Background:** Second year students in Dental Medicine from the University of Medicine and Pharmacy of Tîrgu Mureş were exposed to technology-enhanced English learning through optional asynchronous blog writing for writing practice extension and optimisation of their writing skill during the second semester of 2013-2014. **Material and methods:** Thirty-six (N=36) students (Hungarian series) were surveyed for their level of satisfaction regarding delivery, content and methods of asynchronous writing in English for Medical Purposes (EMP). The fifteen-item questionnaire based on closed, open-ended and Likert questions included aspects regarding convenience of delivery, strengths, encountered difficulties, and preference of e-learning versus traditional activities. **Results:** Although most students (88.88%) had good class attendance, only 8.3% had used the new technologies before. Novelty of this type of learning may explain why 41.7% contributed 0-30% of the assignments. However, over half of the surveyed students (58.33%) engaged in most of the tasks. Expressed reasons for engagement included external (final grade) but also intrinsic motivation: learning dentistry-related vocabulary, listening to authentic podcasts, improving writing accuracy. Non-engagement reasons were: lurking, tight schedule, outside commitments, lower proficiency and different learning styles. In terms of delivery preference, 55.55% versus 44.4% preferred online and both approaches rather than only class activities. Students' satisfaction with the online materials was prevalently excellent (N =22) and good (N = 11), and only 3 were neuter, while satisfaction with class activity was roughly similar. **Conclusions:** Teachers should experiment with alternative technology-enhanced delivery in order to offer students a chance to further develop their EMP communication skills, to meet more learning styles, and contribute to extended practice. Although some students engaging in online activities may be grade-oriented and prefer reliance on the teacher as facilitator, most students are intrinsically motivated to invest in field-relevant technology-supported language learning activities beyond the class practice.

**Keywords:** English for Medical purposes, blog, asynchronous writing, technology-enhanced learning, student satisfaction

## MENINGORADICULITIS IN A PACIENT WITH DIABETES MELLITUS TYPE 2 – CASE PRESENTATION

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**Background:** Tuberculosis remains one of the major public health problems despite substantial progress in medicine and pharmacology industry. The incidence of central nervous system tuberculosis depends on its prevalence in the community and extra pulmonary presentation is rare. **Material and methods:** We present the case of a 44 years old male patient known for one year with diabetes mellitus type 2, heavy smoker who gradually developed double vision and right palpebral ptosis, difficulty swallowing for solids, hoarseness, followed by right hemicrania and severe pain in the cervical spine with radiation to the right upper limb and paresthesia at this level. At the very beginning when he complained of double vision he was considered as having cranial diabetic neuropathy. Neurological examination on hospital admission revealed no signs of meningeal irritation but a cervical spine sensitivity to percussion, a partial paralysis of oculomotor right nerve (incomplete ptosis, divergent strabismus, limitation of upper verticality movement and adduction), solid dysphagia, hoarseness, myotatic reflexes globally reduced, Babinski sign with intermittence on the left, hypoesthesia on the arm. **Results:** The lab results revealed an elevated serum glucose and a slight hepatic citolysis and excluded infectious and connective tissues diseases. The cerebrospinal fluid was clear and the citologic exam revealed leukocytosis (235/3) with lymphocytosis, negative Pandy reaction. At the microbiological analysis there was no bacterial growth. At the optical microscopy for tuberculosis the Ziehl-Neelsen staining revealed B specimen of Mycobacterium tuberculosis 3 Baar positive. Cranial and cervical MRI exam and cerebral angiography were normal. The patient was transferred to the Department of Pneumology. Under treatment the evolution was favourable. **Conclusions:** Early diagnosis and treatment were essential in order to prevent a permanent neurological sequelae and even a fatal end and the interdisciplinary collaboration was essential. "This paper was

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**Keywords:** Poster, Poster, diabetes mellitus, double vision, Pandy reaction

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## IS URINE DIPSTICK RELIABLE IN DETECTING PROTEINURIA FOR DIAGNOSING AND STAGING OF CHRONIC KIDNEY DISEASE?

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**Background:** Proteinuria is a useful tool in diagnosing and staging renal diseases. 24-hour urine is time consuming and subject to errors caused by urine collection. Dipstick test using first morning urine is a rapid, inexpensive method for detecting proteinuria, but no information on its sensitivity or specificity is available for hospitalized patients. The aim of the study was to determine the sensitivity and specificity of dipstick test in a first voided morning urine sample to detect 0.3 g of proteins or greater. **Material and methods:** Two hundred and fifty-five hospitalized patients were invited to collect early morning urine and 24-hour urine specimens. The sensitivity, specificity, positive and negative predictive value of the automated dipstick urinalysis to detect a minimum of 0.3 g of proteins were calculated using as gold standard quantitative 24-hour protein excretion. **Results:** We determined a 95% specificity, 62% sensitivity, with a 90% positive predictive value and a 77% negative predictive value. **Conclusions:** Considering that we found a total of 38% false negative results, automated dipstick urinalysis cannot be used alone for detecting proteinuria for diagnosing and staging of chronic kidney disease.

**Keywords:** DIPSTICK, CHRONIC KIDNEY DISEASE, SENSITIVITY, SPECIFICITY, PROTEINURIA

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## PREVENTION OF HOSPITAL ACQUIRED INFECTIONS IN MEDICAL PRACTICE

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**Background:** The main objective of the study was to establish level of instruction and compliance of medical personnel to prevention methods applied for hospital acquired infections (HAI). **Material and methods:** A questionnaire (consisting of 14 questions) was applied for investigating medical personnel from Mures Clinical County Hospital, concerning the access to information and the way of applying prevention methods in the county hospital. **Results:** The personnel is permanently informed by medical education programs, the quality of medical procedures is influenced by the working program, schedules, procedures, protocols, the number of medical workers, the working conditions, and the risk of infections can be reduced by improving the working conditions for the medical staff and permanent educational programs. **Conclusions:** The risk for HAI can be reduced by efficient and permanent educational programs for the personnel, use of protocols and procedures, proper working conditions, sufficient number of medical personnel .

**Keywords:** hospital acquired infections, medical personnel, educational programs

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## GASTRO-DUODENAL ULCER IN LOW-DOSE ASPIRIN CONSUMERS

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**Background:** The use of low-dose aspirin (LDA) has continually increased during recent decades. The most important side effects of aspirin consumption are gastrointestinal events. We investigated clinical and histological factors associated with ulcer occurrence

in low-dose aspirin consumers. **Material and methods:** A number of 460 patients treated with low-dose aspirin (75-125 mg/day) who underwent an upper digestive endoscopy between 2010 and 2014 in Medical Clinic III, Tîrgu Mureş were included. Using the medical records for every patient and a structured interview, the following details were recorded: clinical and demographical characteristics: age, gender, digestive symptoms, concomitant diseases, history of peptic ulcer, concomitant drug consumption, alcohol consumption and smoking. We registered endoscopic aspects of gastro-duodenal mucosa. In every patient, a complete set of four biopsies (two from the antrum, two from the gastric corpus) were collected and processed. All these factors were compared in the ulcer and non-ulcer group using univariate and multivariate logistic regression. **Results:** In studied group irrespective of the presence of symptoms, 35% were free of mucosal damage and 16.5% had gastric and/ or duodenal ulcer. The frequency of *H. pylori* infection was 37.2%, 64% of the patients had active or inactive gastritis and 38.4% had premalignant gastric lesions. Ulcers were statistically significant correlated with the histological diagnosis of gastritis (active/ inactive) (OR: 2.16, 95% CI: 1.16-4.02,  $p=0.01$ ), non-steroidal anti-inflammatory drug consumption (OR: 2.94, 95% CI: 1.30-6.40,  $p=0.005$ ), heart failure (OR:2.94, 95% CI: 1.30-6.40,  $p=0.01$ ), stroke (OR:3.58, 95% CI:1.72-7.48,  $p<0.0001$ ), diabetes (OR: 2.18, 95% CI: 1.30-3.65,  $p=0.002$ ) and liver disease (OR: 1.75, 95%CI: 1.06-2.87,  $p=0.02$ ). Concomitant use of anticoagulants or clopidogrel, history of peptic ulcer, age over 70, premalignant gastric lesions in biopsies were not correlated with ulcer ( $p>0.05$ ). **Conclusions:** The most important risk factors for ulcer on endoscopy in aspirin consumers are the inflammation in gastric biopsies, concomitant use of non-steroidal anti-inflammatory drugs and comorbidities

**Keywords:** poster, internal medicine, aspirin, ulcer, gastritis

## ATOMIC FORCE MICROSCOPY APPLIED ON BIOLOGICAL SAMPLES

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**Background:** Atomic force microscope (AFM) can be used for investigation of the mechanical properties of wide variety of biological samples. The three dimensional images of the biological objects and interactions between them can be studied. The simplest known light-driven proton pump, bacteriorhodopsin (BR), was discovered in *Halobacterium salinarum*. In this organism, the purple membrane, a part of the cell membrane, contains only BR in a highly ordered two-dimensional crystalline form. It converts the energy of "green" light (500-650 nm, max at 568 nm) into an proton gradient. **Material and methods:** Purple membrane of *Halobacterium salinarum* was prepared according to the method of Oesterhelt and Stoeckenius, and it was adsorbed from a buffer containing 10mM TRIS and 150mM NaCl at pH = 8.0 to the freshly cleaved mica surface treated with the same buffer containing 10mM CaCl<sub>2</sub>. AFM measurements were carried out with an Asylum MFP-3D head and controller (Asylum Research, Santa Barbara, CA, USA) in tapping/noncontact (AC) mode. **Results:** The effect of different chemicals on the purple membrane was studied with AFM. For example the effect of the indolicidin a cationic antimicrobial tridecapeptide (H-Ile-Leu-Pro-Trp-Lys-Trp-Pro-Trp-Trp-Pro-Trp-Arg-Arg-NH<sub>2</sub>) was observed. **Conclusions:** AFM provides the best tool for investigating the surface structure and mechanical properties of the membrane proteins in their native environment. A great advantage of the AFM technique is that it allows individual molecules to be investigated in great detail.

**Keywords:** Atomic force microscopy (AFM), bacteriorhodopsin (BR), light-driven proton pump

## SELF INJECTION OF FOREIGN MATERIALS FOR PENILE GIRTH ENHANCEMENT AND THEIR COMPLICATION.

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**Background:** The penis size and dimensions appear to correlate directly with physical fitness and sexual prowess. Foreign materials, such as paraffin oil, paraffin balm, mineral oils, silicone and coils have been used to improve penile shaft contour and dimensions. Various dubious establishments offer treatments with foreign material injected directly into the subcutaneous of penis to achieve an increase in girth. **Material and methods:** In a period of 3 years between 2012-2014 in the Clinic Of Urology of Tîrgu Mureş, we treated 3 cases with self injection of foreign materials. In all cases the injected material was unknown. Related symptoms was: erectile

dysfunction, penile pain, urinary tract disorders. **Results:** In all of the cases we performed the excision of the fibrotic lesions with removing the foreign substance, after the surgical procedure all three patients were able to achieve full erection with normal sexual intercourse with their partners. **Conclusions:** Fibrotic lesions of the penis caused by subcutaneous injection for the purpose of augmentation may have devastating cosmetic and sexual function consequences. The most important step during the cure is to try to completely dissect and remove the foreign substance. Then, if primary enclosure is possible, it should be done or it should be repaired by scrotal flap or full layer skin grafts, which may give satisfactory long-term results. Antibiotic therapy is important in controlling secondary infections.

**Keywords:** foreign materials, self injection, penile

## STUDY OF BLOOD UREA NITROGEN, SERUM CREATININE AND GLOMERULAR PERMEABILITY FOR PROTEINS, AFTER GENERAL ANESTHESIA WITH SEVOFLURANE

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**Background:** The widespread use of sevoflurane as an induction and maintenance volatile agent of general anesthesia demonstrates an increased safety profile. Sevoflurane contact with CO<sub>2</sub> absorbents lead to the occurrence of toxic compounds such as Compound A (pentafluoroisopropenyl fluoromethyl ether) and Compound B (pentafluoro metoxi-isopropanol-fluoromethyl-ether). Among the side effects of Sevoflurane remember the renal toxic effect much discussed in the literature but still unresolved. There is little experience with repeated exposure to Sevoflurane so using Sevoflurane in patients with renal disease, diabetes mellitus and hypertension is not restricted. In previous research we have demonstrated the glomerular protein changes as a result of exposure to Sevoflurane. In the current study we intend to monitor the changes in blood urea nitrogen and serum creatinine after exposure to Sevoflurane. **Material and methods:** We included in our study 90 patients who were anesthetized in the Department of Anesthesiology of the County Mureş Hospital during 01.10.2009-01.10.2014. They had normal values for blood urea nitrogen and serum creatinine and had no preoperative proteinuria. Serum and urine samples were taken preoperatively and at 24 and 72 hours postanesthetic and were analyzed in the laboratory. Proteinuria was determined by spectrophotometry. **Results:** After protein quantitative determination by spectrophotometry and statistical analysis we obtained significant differences by comparing the average preoperative/24 hours total protein ( $p < 0.0001$ ) and 24/72 hours ( $p < 0.0001$ ). There are no significant statistical differences by comparing the blood urea nitrogen at the three intervals ( $p < 0.077$ ) and no statistical changes for mean serum creatinine ( $p < 0.071$ ). **Conclusions:** Changes in glomerular filtered proteins following exposure to Sevoflurane demonstrate its toxic effect on glomerular tubules. Lack of perioperative significant changes of blood urea nitrogen and serum creatinine level demonstrates their irrelevance which is why we recommend determining perioperative urinary protein as a marker of glomerular damage. "This paper was published under the frame of European Social Fund, Human Resources Development Operational Programme 2007-2013, project no. POSDRU/159/1.5/S/133377".

**Keywords:** Poster, Poster, Key words: Sevoflurane, proteinuria, creatinine, b

## SURGICAL ORTHODONTIC TREATMENT OF DENTAL IMPACTATION USING A TUNNELING TECHNIQUE FOR ANCHORING. CASE REPORT

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**Background:** Impacted teeth represents intraosseous or submucosal retention of a fully developed teeth over the period of eruption, without any possibility or tendency to erupt. Dental inclusion disorder occurs as a result of dental disturbances eruption stages. **Material and methods:** We present a case report, a patient, aged 14 years, who addressed to Clinic of Orthodontics at the University of Targu Mures, with no permanent tooth 1.3. Following clinical examination and imaging data, orthodontist and

OMF surgeon team decided : 1.4 tooth extraction, 1.3 tooth discovery (1.3 buccal impacted), patching a button of traction on the buccal surface and creating a tunnel through new bone alveolus, after extraction of tooth 1.4. **Results:** The tunnel that we created after extraction of 1.4, allowed us to apply the anchoring device on canine (1.3) (on the buccal surface). In the final moment of recovery in the dental arch, teeth 1.3 presented both a gingival sulcus and bone on the facial surface. **Conclusions:** The clinical course of the case that we presented was a favorable one, the teeth was normal aligned in dental arch. Impacted dental treatment is a complex procedure; the treatment needs to have an interdisciplinary approach to obtain best results. Establishing a logical algorithm of treatment plan was the success of restoration of maxillary functions.

**Keywords:** device, eruption, surgery, impacted, tunnel

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