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Scientific Session of University Educational Staff

13–15 December 2012

BOOK OF ABSTRACTS



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ANESTHESIOLOGY AND INTENSIVE CARE MEDICINE

EFFECTS OF DEXAMETHASONE ON POSTOPERATIVE COMPLICATIONS IN CARDIAC SURGERY

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Background: Many of the complications occurring after open heart surgery could be attributed to systemic inflammatory reaction caused by cardiopulmonary bypass. Corticosteroids are potent antiinflammatory agents, they act through nuclear transcription factor-kB and decrease the amount of inflammatory mediators. We studied the incidence of postoperative inflammatory response and complications, depending on antiinflammatory therapy received. **Material and methods:** We performed a randomized prospective clinical study on 63 patients undergoing elective cardiac surgery using cardiopulmonary bypass; 29 of them received 0,2-0,5 mg/kg dexamethasone immediately after induction of anesthesia. We followed the postoperative inflammatory and non-inflammatory complications, the side effects of corticosteroids and the length of stay in the intensive care unit. The data were analyzed with GraphPad Prism version 5.0. **Results:** In dexamethasone group the incidence of complications in the immediate postoperative period was lower (30% vs 66.7%, $p=0.0486$) comparing with patients without corticosteroids, and they had a lower incidence of postoperative systemic inflammatory response (10.2% vs 53.3%, $p=0.0177$). We could not demonstrate statistically significant differences in the occurrence of neurological complications, new onset atrial fibrillation, inotropic drug requirements or length of stay in the intensive care unit. **Conclusions:** According to our study, dexamethasone has a positive effect on postoperative outcome after cardiac surgery, particularly in reducing complications attributed to systemic inflammatory response, but does not influence neurological complications or length of stay in the intensive care unit.

Keywords: cardiac surgery, dexamethasone, systemic inflammatory response, postoperative complications

PERIOPERATIVE MANAGEMENT FOR THE EXCISION OF A GIANT TUMOR WITH FEMORAL VASCULAR AXIS INVASION

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Background: Giant tumors by their dimensions have some anesthetic and surgical particularities. Regarding anesthesia, the relevant ones are massive bleeding and major fluid loss. The purpose of this case report is to present the perioperative management of a giant tumor excision, with high risk of intraoperative blood loss. **Material and methods:** The case is of a 46 year old woman on scheduled admission in Plastic Surgery Clinic, presenting a giant, recidivated, ulcerated and infiltrated tumor of the left thigh, with femoral vascular axis invasion. Although the tumor had histopathological benign features, it had a malignant character. **Results:** The 4 hours and 20 minutes long surgical intervention, was performed under general anesthesia (ASA4 anesthetic risk). The excised tumoral mass was 19400g (27.71% of the patient initial body weight). Hemo-hidro-electrolytic and acid-basic intraoperative equilibration required the administration of 13644 ml liquids, out of which 1810 ml red blood cells, 2470 ml fresh frozen plasma, 114 ml thrombocytes, 1500 ml colloids and 7500 crystalloids. In spite of a 1000 ml intraoperative urine output and 1000 ml surgical aspiration, the intraoperative hydric balance was slightly negative (-356 ml), major loss of fluids being registered on sterile surgical drapes (4000 ml) and on isolating surgical drapes (8000 ml). Postoperative, the patient was monitored and equilibrated in intensive care unit for the first three days. A compressive retroperitoneal hematoma with fusion on the left thigh, appeared in the first postoperative day, probably due to coagulation dysfunction and was solved by surgical evacuation and drainage. **Conclusions:** Surgical and anesthetic approach of giant tumors requires an aggressive perioperative management and implies all the risks regarding major fluid loss and massive transfusion, but may improve patient's quality of life.

Keywords: giant tumor, femoral vascular axis invasion, major

THE INFLUENCE OF LACTATE CLEARANCE ON THE OUTCOME OF SEPTIC PATIENTS ADMITTED IN THE ICU CLINIC

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Background: Lactate clearance is regarded as a reliable prognostic marker in septic patients. Our aim was to assess the value of lactate clearance as an outcome marker for the patients with septic shock admitted in the ICU Clinic. **Material and methods:** An observational retrospective study (01.01.2009 - 31.12.2010) was carried out in the University Clinic of Anesthesia and Intensive Care of Targu Mures. Out of the 165 admissions with septic shock, 90 had all the data (at least 48 hours in the ICU and no readmissions). The data were issued from the medical files. Chi test, contingency tables and two way ANOVA were performed using GraphPadPrism 5.0. **Results:** The two groups-survivors and nonsurvivors, were not statistically different although the male sex seemed to have a better outcome, at least in absolute values - 21 vs. 13 ($p=0.4531$) There was a significant difference between the lactate level at admission between the two groups: 1.28 ± 0.73 vs. 2.52 ± 2.01 ($p=0.009$), but not at 24h ($p=0.1642$) or at 48h ($p=0.1784$) from admission. There were no differences between survivors or nonsurvivors regarding the lactate clearance at 24h ($p=0.1523$) or 48h ($p=0.1784$) from admission on the ward. The overall mortality was 62.22%. **Conclusions:** The lactate clearance has no prognostic value, at least for the patient with septic shock admitted on the ICU ward. Further studies are necessary to confirm our observations.

Keywords: lactate clearance, outcome, septic shock

BIOCHEMISTRY

ARYLSULPHATASE A ACTIVITY RELATED TO PROSTATE CANCER

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Background: Prostate cancer is the third death causing cancer in Romania, and the American Cancer Society statistics for 2012 estimates that about one man of 6 will be diagnosed with prostate cancer during his lifetime. Steroid sulfatase (STS) converts sulfated hormones to free hormones which play a key role in the maturation of the hormone-dependent prostate cancer. In a study it was shown that in malignant cell lines, markedly less activity of steroid sulfatase and arylsulfatase A was found with potential consequences for cell structure and function. **Objectives:** Evaluation of arylsulphatase A (ASA) serous activity in patients suffering from prostate cancer. **Material and methods:** The study includes 19 patients examined at the Mures County Clinical Hospital Urology Unit. Blood serum samples were collected in order to determine the ASA activity through spectrophotometer. The method of enzyme dosage is based on a 4 hour long hydrolysis of the ASA enzyme on 4-nitrocatechol sulfate (p-NCS) substrate. The unit of measurement used for the ASA substrate concentration p-NCS is nmol/ml/4h. **Results:** The lowest value of the ASA substrate concentration p-NCS is $0.7(\times 10^2 \text{ nmol/ml/4h})$, the highest $8.9(\times 10^2 \text{ nmol/ml/4h})$. Statistical analysis: mean value of p-NCS is 5.1, standard deviation 2.7. The Grubbs test was performed. Normality test P value is >0.1 . **Conclusions:** In case of prostate cancer patients, arylsulphatase A shows a wide range of enzyme activity which follows Gaussian distribution. The scientific opinion is that the enzymes involved in hormone synthesis are cancer therapy targets and potent STS inhibitors should be used for therapeutic purpose in hormone-dependent cancers and other non-oncological conditions.

Keywords: prostate cancer, arylsulphatase A, androgen-dependent cancer

SOURCES OF EXTRA-ANALYTICAL ERRORS IN CLINICAL LABORATORY OF EMERGENCY HOSPITAL TÂRGU MURES

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Background: Extra-analytical phase is decisive regarding the accuracy of the results obtained, because extra-analytical errors/mistakes account for more than 80% of laboratory errors. **Objectives:** Assessment of the main sources of extra-analytical errors in Clinical Laboratory of Emergency Hospital Târgu Mures. **Material and methods:** We conducted a cross-sectional survey, using a questionnaire with specific questions regarding daily routine procedures in extra-analytical phases: collection of biological samples, samples acceptance criteria, their primary processing, reporting results and recording of non-conformities. **Results:** We obtained responses from more than 100 laboratory technicians and nurses in clinical departments of the hospital. Responses were measured on a scale from 1 to 4, calculating an average score for each response. Over 50% of laboratory assistants known sampling issues, while only 40% of the clinical nurses gave correct answers to questions about the sample collection. Acceptance criteria, sample processing conditions and communicating critical results are well known for over 50% of laboratory technicians. Over 80% of laboratory technicians known results reporting and non-conformity registration rules. **Conclusions:** Improvement of the extra-analytical phase performance requires an intensive educational process and a closer collaboration between clinical and laboratory specialists.

Keywords: extra-analytical phase, biological samples, errors, mistakes,

CARDIOLOGY

THE CLINICAL SIGNIFICANCE OF THE ECG MODIFICATION IN RECOVERY PERIOD AFTER THE EXERCISE STRESS TESTING . CORELATION WITH CORONAROGRAPHY AND THERAPEUTIC INDICATION.

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Background: BACKGROUND: To evaluate the incidence and variability of the ECG modification after ending the exercise test, to determine their clinical significance and therapeutic indication, in accordance with appearance of coronarography **Material and methods:** MATERIALS AND METHOD: We performed a retrospective study that analyses the ECG and protocols of exercise stress testing and coronarography at 54 patients with ECG modification in recovery period after the exercise stress testing. **Results:** RESULTS : Out of the 54 patients with ECG modification in recovery period after the exercise stress testing: 28 were woman (51.85%) and 26 were man (48.14%). At stress testing: 35 patients (64.81%) presented depression of the ST segment, 4 patients (7.40%) presented T wave pseudonormalisation, 3 patients (5.55%) presented negative T wave, 12 patients (22.22%) presented arrhythmia. At coronarography: injuries of one coronary artery 7 patients (12.96%), injuries of two coronary arteries 20 patients (37.03%), injuries of three coronary arteries 3 patients (5.55%), without significant injuries 8 patients (14.81%) and 16 patients (29.62%) have indication for coronarography. **Conclusions:** CONCLUSIONS: We observed a statistically significant concordance between ECG modification after ending the exercise test which suggest coronary disease, and severity injuries of coronary arteries, the majority of patients presents indication for myocardial revascularization

Keywords: cardiology, coronarography, exercise stress test, coronary artery disease

VASCULAR ENDOTHELIAL GROWTH FACTOR - MARKER OF PROGRESSIVE ATRIAL REMODELING IN ATRIAL FIBRILLATION

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Background: Although inflammation plays a major role in the pathophysiology of atrial fibrillation (AF), the source of inflammation in these patients remains unknown. We aimed to identify the source of inflammation in an AF population using multilevel measurement of several inflammatory proteins. **Material and methods:** We studied 39 patients with paroxysmal AF (Px) and 33 with persistent AF (Ps), compared with 9 control subjects (Ct). Four blood samples were obtained for each patient, from the femoral vein (FV), the left atrium (LA), the coronary sinus (CS) and the pulmonary veins (PV). The concentrations of vascular endothelial growth factor (VEGF), interleukin-8 (IL-8), soluble intercellular adhesion molecule (sICAM-1) and transforming growth factor *beta* (TGF- β 1) were measured. **Results:** The concentrations of IL-8, sICAM-1, and TGF- β 1 were similar between the 3 groups, regardless of the sampling site. Compared with Ct, patients with AF, regardless of the clinical form of the arrhythmia, had higher FV levels of VEGF (24.1 ± 3.5 pg/mL for Px and 25.8 ± 3.9 pg/mL for Ps *versus* 15.4 ± 10.8 pg/mL for Ct, both $P < 0.05$). In the LA, there was an isolated increase of VEGF, only in Px patients (25.2 ± 4.5 pg/mL), compared with Ct (9.4 ± 3.9 pg/mL, $P = 0.05$). CS and PV levels of VEGF were similar between the 3 groups (all $P > 0.05$). **Conclusions:** The low levels of inflammatory markers in AF patients suggest that in the studied groups the inflammatory process is of low grade, if present. In Px patients, the heart itself seems to be the source of high intra-atrial VEGF levels, probably due to the pulsatile stretch of cardiac myocytes. However, this disorder appears to be a transient event in the natural history of AF.

Keywords: atrial fibrillation, inflammation, vascular endothelial growth factor, atrial remodeling

DILATED CARDIOMIOPATHY – COMORBIDITY OR STEP IN THE NATURAL EVOLUTION OF LEFT VENTRICULAR NON-COMPACT

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Background: Left ventricular non-compaction is a genetically-determined myocardial disease. It can occur independently or as a morphological feature of various phenotypically distinct cardiomyopathies. **Material and methods:** Case report: We present the case of a 45 years old, smoker and alcohol consumer male presenting to the emergency room with signs and symptoms of heart failure (NYHA IV). The electrocardiogram reveals rapid atrial fibrillation and a left ventricular overload pattern. Echocardiography shows a dilated, hypokinetic, left ventricle, with depressed ejection fraction (34%), as well as a double layer aspect (compact and non-compact) of the left ventricular postero-infero-lateral wall and of the left and right ventricular apex. **Results:** The diagnosis of left ventricular non-compaction was confirmed by contrast and transesophageal echocardiography. After being started on standard heart failure therapy and anticoagulation the patient's symptoms were significantly improved and the heart rate decreased. At 3 months follow-up the patient was in class II NYHA and he had no signs of congestion. **Conclusions:** The pathophysiology of left ventricular non-compaction is incompletely understood. The presence of two distinct morphological patterns in our patient makes it difficult to establish if dilated cardiomyopathy is a step in the natural evolution of left ventricular non-compaction, or if it was precipitated by alcohol abuse. **ACKNOWLEDGEMENT:** This paper is partly 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 /89/1.5/S/60782

Keywords: left ventricular non-compaction, dilated cardiomyopathy, genetic basis

DIFFERENT ECHOCARDIOGRAPHIC PARAMETERS TO ASSES VENTRICULAR DISSYNCHRONY DURING RIGHT VENTRICULAR APICAL VERSUS SEPTAL SINGLE CHAMBER PACING.

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Background: From the early years of pace-makers, right ventricular apical pacing was used, despite the fact that it determined nonphysiological ventricular depolarization. As medical technologies developed, septal lead implantation became feasible, in order to outrun the above mentioned inconveniences. The question whether the apical or septal lead position is better, still gives rise to a lot of controversies. Different methods, including echocardiographic parameters, are currently used to asses the impact of specific sites of stimulation on ventricular function. **Material and methods:** 10 patients requiring permanent cardiac stimulation were subjected to echocardiographic synchronicity measurements during temporary apical pacing and after device implantation, with the permanent lead placed on the interventricular septum. All had preserved ejection fraction and no significant valvular disease. Measurements included complete chamber and valvular assessment, apart from the synchronicity evaluation, that comprised interventricular mechanical delay (IVMD), septal to posterior wall delay (SPWMD), electro systolic delays (DES) in both pacing sites, in order to asses the presence and compare the importance of interventricular and intraventricular dissynchrony. **Results:** There were no statistically significant differences ($p > 0,05$) between the paired values of IVMD and DES, as markers of interventricular and longitudinal intraventricular dissynchrony respectively, although in both cases these were out of normal ranges. Significant differences appeared though, between the values of SPWMD measured initially during temporary apical stimulation and then on high septal permanent stimulation ($p < 0,05$), reflecting the fact that radial intraventricular dissynchrony is present. **Conclusions:** During apical right ventricular pacing, radial intraventricular dissynchrony appears, compared to septal pacing in which this parameter is close to normal. Surprisingly, although right ventricular pacing determines interventricular and longitudinal intraventricular dissynchrony, we found no significant differences in this respect, between apical and septal

ACKNOWLEDGEMENT: This paper is partly supported by SOP HRD, financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/89/1.5/S/60782

Keywords: echocardiography, right ventricular pacing, dissynchrony

CONSTRUCTIVE PERICARDITIS- A DIFFICULT DIAGNOSIS

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Background: Constrictive pericarditis is an uncommon condition, often of unknown etiology. The diagnosis of constrictive pericarditis can be difficult and is often delayed, requires a high degree of clinical suspicion, because the signs and symptoms of this disease can be falsely attributed to other causes. **Material and methods:** Case report. We report the case of a 62-year-old woman presented with a one year history of progressively worsening dyspnea, peripheral edema, prominent jugular distension, hepatomegaly, ascites. The patient is known with a history of effusive pericarditis. Blood test showed a normal white cell count, anaemia, raised CRP. Chest X-Ray shows a normal sized heart and without calcification of the pericardium. The echocardiographic exam showed septal bounce-abrupt transient rightward movement, left, right ventricular size decreased-heart tubular in shape, mild atrial enlargement, IVC plethoric and unresponsive to respiration, hepatic veins dilated. Doppler echocardiographic findings were consistent with constrictive pericarditis. Cardiac catheterization showed elevation and equalization of diastolic filling pressures, and dip and plateau configuration of ventricular pressure during diastole (square root sign). **Results:** Based on these results pericardiectomy was necessary. Constrictive pericarditis was also confirmed at the time of surgery. The pericardium was found with thickening of up to 30 mm in some areas. Histopathological exam showed fibrosis and calcification within the pericardium with no evidence of malignancy or tuberculosis. The patient was discharged 10 days later. At 3 months she had no significant symptoms. **Conclusions:** Diagnosis of constrictive pericarditis remains challenging. Constrictive pericarditis should be suspected in patients with clinical features of right-sided heart failure. Echocardiography and cardiac catheterisation are important investigation in diagnosis of constrictive pericarditis and avoiding unnecessary treatments. **ACKNOWLEDGEMENT:** This paper is partly supported by Structural Organising Programme -Human Resource Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/89/1.5/S/60782

Keywords: constrictive pericarditis, echocardiography, pericardiectomy

IN-HOSPITAL MORTALITY ASSESSMENT ALGORITHM IN ACUTE HEART FAILURE

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Background: Despite therapeutical progresses, hospitalized patients for acute heart failure have a high rate of in-hospital mortality rate. An algorithm for risk assessment would facilitate the identification of patients with high risk of in-hospital mortality. **Material and methods:** We followed 552 patients admitted in the Cardiology Department of Internal Medicine Clinic IV of Târgu Mureș, from January 2009 till January 2011 for treatment of the acute heart failure. We analysed demographic, clinical, biochemical, electrocardiographic and echographic factors to identify those that predict high risk of in-hospital mortality and to develop an algorithm that could be routinely used in clinical practice. **Results:** Based on the relative risk (RR) of in-hospital mortality, the predictive factors were divided in 3 groups: $RR > 4$, $RR = 2-4$ and $RR = 1.5-2$. Following data analysis, a certain value is given to each predictive factor, based on RR and a score is calculated for each patient. A patient with a score > 8 has a very high risk of in-hospital mortality, patients with a score between 1.5 and 8 are considered to have an intermediate risk and those with a score of 0 have low risk according to this algorithm. **Conclusions:** The scoring system easily translates demographic, clinical, biochemical, electrocardiographic and echographic data, available at hospital admission, into the simple score that is reliable in predicting individual in-hospital mortality.

Keywords: acute heart failure, predictive factors, risk, in-hospital mortality, algorithm

CARDIAC MEMORY MIMICKING MYOCARDIAL ISCHAEMIA

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Background: Cardiac memory describes the phenomenon characterized by persistent but reversible T-wave changes on the surface ECG induced by an abnormal electrical activation pattern. This electrical curiosity, also termed Chatterjee phenomenon can imitate acute myocardial ischemia. **Material and methods:** *Case history:* 47 years old male, asymptomatic, hospitalized for investigations for a major LBBB discovered during a routine check. EKG at admission shows sinus rhythm, HR 85 bpm, major LBBB. The next day EKG showed sinus rhythm, HR 60 bpm, narrow QRS and ST-T modifications suggestive for acute myocardial ischemia. 24h recorded EKG showed intermittent rate dependent LBBB. Coronary angiography showed normal coronary arteries. The cytolysis enzymes were negative. **Results:** The diagnosis was consistent with: Intermittent rate-dependent major LBBB of uncertain etiology. Essential hypertension grd. 2 moderate cardiovascular risk class. **Conclusions:** We considered these repolarization abnormalities consistent with cardiac memory phenomenon. Cardiac memory is a form of electrical remodeling and in this case mimicked ischaemic ECG changes.

Keywords: cardiac memory, intermittent LBBB, myocardial ischemia, repolarization abnormalities.

MICROVASCULAR ENDOTHELIAL DYSFUNCTION IDENTIFICATION BY ASSESSMENT OF DIGITAL REACTIVE HYPEREMIA IN EARLY CORONARY ATHEROSCLEROSIS

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Background: Coronary endothelial dysfunction is a systemic disorder and represents an early stage of atherosclerosis. The role of our study is to identify individuals with coronary microvascular endothelial dysfunction measuring the change of peripheral circulation after induced ischemia, using digital photoplethysmography (PPG). **Material and methods:** Digital photoplethysmography (PPG) is an optical measurement technique that can be used to detect blood volume changes in the microvascular bed of the peripheral tissues. A total of 20 patients (12 men and 8 women) were included in study. We measured the change of peripheral perfusion (PP) on the first toe of upper arm before and after 5 minute of induced ischemia. The maximum increase of PP was observed after 1.5 minute postocclusion. Digital pulse volume changes during reactive hyperemia were calculated as the ratio of the digital pulse volume during reactive hyperemia divided by that at baseline. All patients' coronary artery system was investigated with angiocoronarography before we included in study. **Results:** 14 patients had normal coronary endothelial function, and 6 had coronary endothelial dysfunction. Average PP was lower in patients with coronary endothelial dysfunction compared with normal coronary endothelial function (2.251, $p < 0.05$ vs. 10.78, $p < 0.001$). Reactive hyperemia was found to have a sensitivity of 80% and a specificity of 85% to identify patients with coronary endothelial dysfunction. All patients with endothelial dysfunction have positive angiocoronarography vs. normal endothelial function who have negative angiocoronarography. **Conclusions:** Digital hyperemic response, as measured by digital photoplethysmography is attenuated in patients with coronary microvascular endothelial dysfunction, suggesting a role for digital photoplethysmography as a noninvasive test to identify patients with coronary artery disease (CAD).

Keywords: endothelial dysfunction, reactive hyperemia, coronary artery disease, digital photoplethysmography, microcirculation

INFLUENCE OF ACUTE HEART FAILURE PHENOMENA ON THE HYPERTENSIVE ELDERLY PATIENT

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Background: Aim of this study was to evaluate the influence of acute heart failure phenomena on the hypertensive elderly patients.

Material and methods: It is a prospective study that included a sample of 107 hypertensive elderly patients, (over 70 years) hospitalized in the Internal Medicine Clinic Targu Mures, during the year 2007. Track parameters were distribution by age, gender, area of origin, association phenomena of heart failure, other comorbidities and their impact on the average length of hospitalization and intra-hospital mortality. **Results:** Hypertension in patients with blood pressure values greater than 160/100 mmHg, was considered trigger of cardiac decompensation - 52 patients, while in other cases comorbidity - 58 patients. Distribution of those 107 patients on area of origin was relatively equal, with a slight superiority in the number of patients in rural areas. Male patients accounted a share of 57.94% of all patients in group. Age group with the highest number of patients was between 70-75 years. From those 107 patients included in the group, 8 had no anti-hypertensive treatment at home, the rest (99 patients) had single, double, triple-therapy, respectively combination of more than three hypotensors. Blood pressure on hospital admission was controlled (SBP<140 mmHg, DBP<95 mmHg) only in a percentage of 32.32% of patients with anti-hypertensive therapy. Number of comorbidities, presence of cardiovascular risk factors, living standards have influenced the degree of compliance to treatment and also the prognosis. Hypertension considered comorbidity has increased the average length of hospitalization, and as trigger had a greater impact on the growth of hospital mortality. **Conclusions:** Phenomena of acute heart failure have influenced the prognosis and implicitly the quality of life of hypertensive elderly patients.

Keywords: cardiology, cardiology, adhesion, control, prognosis.

MULTI-SLICE COMPUTED TOMOGRAPHY FOR ASSESSMENT OF CULPRIT LESIONS IN ACUTE CORONARY SYNDROMES

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Background: We studied the characteristics of coronary plaques in culprit lesions in patients with acute coronary syndrome (ACS), using 64-slice computed tomographic (CT) assessment. **Material and methods:** In 45 subjects with ACS (22 UA and 23 NSTEMI), 118 coronary plaques were evaluated using a CT multi-slice 64 assessment including the burden with atheroma having a CT density below 30, 60 or 100 Hounsfield Units (HU), remodeling index (RI) and the presence of spotty calcifications (SP). **Results:** Culprit lesions tend to be larger in volume (111.11 mm³ vs. 62.25 mm³ p<0.0001), to have a higher RI (1.27 versus 1.01, p<0.0001) and present a significantly larger LDP with a density <30 HU (23.3 mm³ vs. 7.6 mm³, p<0.0001) or <60 HU (33.4 mm³ vs. 16.9 mm³, p<0.0001) than non-culprit lesions. For determination of the plaque characteristics in ACS patients, logistic analysis based on receiver-operator characteristics (ROC) curves of the plaque features demonstrated that the following characteristics were good indicators for differentiating culprit lesions from non-culprit lesions: plaque volume (area under the curve 0.83), burden with <30 HU density plaque (area under the curve 0.89), burden <60 HU density plaque (area under the curve 0.85) and remodeling index (area under the curve 0.92). **Conclusions:** Culprit lesions demonstrated larger plaque volumes, a higher burden with low-density cores and more intense remodeling than non-culprit lesions.

Keywords: acute coronary syndromes, unstable plaque, angio CT

ASSOCIATION OF PREMATURE VENTRICULAR CONTRACTIONS WITH CORONARY ANOMALY. CASE REPORT.

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Background: Premature ventricular contractions (PVC) are a cardiac arrhythmia that can be associated with an increased risk of adverse cardiac events such as ventricular arrhythmias and sudden death. Identifying the origine of PVC when structural congenital heart disease is associated is difficult. In approximately one percent of the general population a coronar artery anomaly is found. When coronary anomaly and PVC is associated the risk of sudden cardiac death and the complication rate in case of radiofrequency ablation is higher. **Material and methods:** We present a case of a 60-years-old male patient with recurrent palpitation for 15 years. Quality of life severely influenced, atypical chest pain. 7865 premature ventricular contractions (PVCs) on 24 h holter ECG monitoring. Ecocardiography: all cavities with normal dimensions, LVEF: 67%, no wall motion disorders. 64 MSCT Coronary angiogram- no significant stenosis but coronary anomaly: left main coronary artery gives off left anterior descending artery, left circumflex artery and right coronary artery. **Results: Conclusions:** the success rate of catheter ablation of PVC depends on the origine of PVC. When the ablation site is close to the coronary artery origine the risk of coronary occlusion is high. There are some questions to answer regarding this case: is there any extra risk because of the coronary anomaly during ablation? Is there a causative relation between the coronary anomaly and the PVC. Is this patient on higher risk for sudden cardiac death? How to improve the quality of life, what is the optimal treatment for these patient?

Keywords: premature ventricular contractions, coronary anomaly, ablation

THE FIRST EXPERIENCE REGARDING THE EFFICACY OF DRUG ELUTING BALLOON ANGIOPLASTY IN FEMORAL ARTERY REVASCULARISATION

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Background: The long term success rate of percutaneous intervention in peripheral arterial disease is limited by restenosis. The restenosis rate is higher in case of long lesion in patient presenting multiple risk factors. Drug eluting balloons can improve the long term permeability rate in this cases. In this study we present the first experience regarding this new interventional method in the Clinic of Cardiology Targu Mures. **Material and methods:** We enrolled in this study 18 patients with femoral artery lesions. Group A: 9 patients treated with DEB and group B: as control group 9 patients treated with uncoated balloon angioplasty. The Rutherford class in the 2 groups at presentation was 3.7 vs 3.8. Mean ankle brachial index was 0.6 vs 0.56. Medium lesion length located at femoral artery was 13.7 vs 12.9 cm. The 2 groups were similar regarding mean age, sex distribution, risk factor distribution. **Results:** The immediate success rate was similar in the 2 groups. The number of target lesion revascularizations was 1 patient in the uncoated balloon group. Improvement in Rutherford class was greater in the coated balloon group (1.4 vs 2.4), whereas the improvement in ankle brachial index was not different (0.37 vs 0.34). At 6 month follow up no amputation were recorded. No adverse events were noted related to balloon coating. **Conclusions:** the first experience using DEB is promising. We will continue to enroll patients in this study and after long term follow up we will introduce MACE as primary endpoint. Also, we extend this method to infrapopliteal lesions, especially for long or multiple lesions in diabetic patients.

Keywords: drug eluting balloon, femoral artery, peripheral angioplasty

THE ROLE OF AN APPROPRIATE ORGANIZATION OF THE STEMI NETWORKS IN REDUCING CRITICAL TIMES FOR REPERFUSION THERAPY.

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Background: Despite ESC recommendations, there are still regions in Europe where the deficiencies in organisational strategies

lead to a low percentage of STEMI patients referred in time for pPCI, which is reflected by the low pPCI rates and the high STEMI-related mortality. The objective of this study is to demonstrate the role of an appropriate organization of the STEMI networks in reducing critical times from onset of a STEMI to reperfusion therapy. **Material and methods:** We collected and analyzed the time-related data of all consecutive STEMI patients enrolled in this prospective study in a period of 1 year, presenting with STEMI <12 h from onset of symptoms, within an already established STEMI network which encompassed Mures, Sibiu, Bistrita and Harghita counties. **Results:** Time from diagnostic to transportation was lowest in Harghita county (20 min vs 35 min in Sibiu, 85 min in Medias and 49 min in Bistrita), while total time from diagnostic to arrival in the cathlab was longer if transportation was organised via helicopter (158 min vs 145 min). Altogether the time from presentation to reperfusion was lowest for Harghita county (145 min vs 185 min for Sibiu and 166 min for Bistrita), where a well functioning algorithm is in place and the cathlab was announced by phone immediately after initiation of transport, being already prepared when the patient arrived and the emergency unit was bypassed. Door to balloon time was highest for cases from Mures county arriving during off-hours (22 min for cases arriving before 15:00, 55 min for cases arriving after 15:00), but this difference was not encountered for cases arriving from the territory. **Conclusions:** An appropriate organization of the STEMI networks is essential to reduce the critical times for reperfusion therapy in STEMI patients presenting before 12 h from onset of symptoms.

Keywords: STEMI, primary PCI, STEMI network

ASSESSMENT OF CULPRIT LESIONS IN NSTEMI VERSUS UNSTABLE ANGINA USING 64 MULTI-SLICE COMPUTED TOMOGRAPHY

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Background: While several CT plaque features such as positive remodeling (PR), adjacent spotty calcification (SP) or the presence of low-density plaque (LDP) have been demonstrated to be associated with unstable plaques, it is still unknown whether their severity and extent present any differences between different types of ACS. We studied the characteristics of low density plaque (LDP) burden in patients with different types of acute coronary syndrome (ACS), using 64-slice computed tomographic (CT) assessment. **Material and methods:** In 45 subjects with ACS (22 UA and 23 NSTEMI), 118 coronary plaques were evaluated using a CT multi-slice 64 assessment including the burden with low-density atheroma, remodeling index (RI) and SP. Receiver operator characteristic (ROC) analysis was performed to calculate the cut-off points for the predictivity of plaque characteristics and transform to binominal variable. The sensitivity, specificity, positive and negative predictive values of variables was calculated. Multivariate logistic regression analysis was performed to evaluate the significant predictors for NSTEMI or UA. **Results:** The presence of a plaque more than 20 mm³ in volume with a CT density <30 HU ($p=0.0009$) and the presence of all 3 markers of plaque vulnerability (LDP, SC or PR) ($p=0.01$) significantly correlated with the presence of an NSTEMI versus UA. ROC analysis of plaque features associated with NSTEMI indicated that the burden with LDP <30 HU, was a good indicator for differentiating between lesions in NSTEMI or in UA (area under the curve 0.85). **Conclusions:** Culprit lesions associated with NSTEMI showed a higher burden with lower density cores than those associated with UA.

Keywords: culprit lesions, acute coronary syndromes, unstable plaque

A PROSPECTIVE REGIONAL REGISTRY OF ST ELEVATION MYOCARDIAL INFARCTION IN CENTRAL ROMANIA

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Background: Prior studies have shown that reperfusion therapy, when initiated within 12 hours after the onset of symptoms, is the treatment of choice in STEMI patients and should be started as soon as possible. Many registries from different countries have demonstrated that, in the real world, a significant number of patients do not benefit from reperfusion therapy because of either late presentation or the lack of appropriate emergency care. The aim of the study was to investigate the evolution of ST-Elevation Myocardial Infarction (STEMI) treatment and mortality between 2004-2011 in an unselected population from central Romania and to demonstrate the role of a regional STEMI network in increasing the rates of reperfusion therapy with associated reduction of

STEMI-related mortality in this region. **Material and methods:** We analyzed the data of 5.899 consecutive STEMI patients enrolled in this prospective study since 2004, after initiation of a STEMI network in Central Romania and with continuous support of the Stent for Life Initiative. **Results:** Introduction of a STEMI network was associated with an absolute change in the use of reperfusion therapy from 2004 to 2011 (26.94% vs 87.15%, $p<0.001$) and of pPCI (10.88% vs 78.64%, $p<0.001$) for patients who presented within 12h after onset of symptoms, with a decrease of in-hospital mortality from 20.73% to 6.35% ($p<0.001$). Additionally, the global in-hospital mortality of all the STEMI population showed a significant decrease (23.18% vs 13.39%, $p<0.001$). **Conclusions:** Reduction of STEMI-related mortality was possible via implementation of pPCI even in a region with low healthcare expenditures. The organisation of a STEMI network led to a significant decrease in STEMI-related mortality, revealing the significant impact of the Stent for Life Initiative recommendations on patient outcomes.

Keywords: STEMI, primary PCI, STEMI network

ANGIO CT MULTISLICE FOR PRE-OPERATIVE ASSESSMENT INCREASES THE RATE OF PCI INDICATION AND DECREASES THE MORTALITY IN COMPLEX LEFT MAIN CASES

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Background: Our study aims to compare the evolution of patients with LM disease in whom indication for PCI or CABG was based on coronarography associated with CoronaryCT multislice data, versus those in whom indication was based only on Syntax score. **Material and methods:** Study population: 23 patients (69,56% males and 30.43% females, average age 64 years) with significant (>50%) LM disease. Gr.1 - 13 pts (56,52%) in whom indication for treatment was based on AngioCT data correlated with Syntax score (angioCT + coronarography data), gr.2 - 10 patients (43,48%) in whom indication relied only on Syntax score (gr.2). **Results:** Despite similar Syntax scores in both groups (35,38 in gr.1 versus 32,4 in gr.2), use of AngioCT multislice increased the rate of PCI indication - 76,92% PCI in gr.1 versus 50% PCI in gr.2. Coronary bypass was performed in 1 case (4,34%) in gr.1 and in 20% cases in gr.2, while conservative treatment was indicated in 15,38% of cases in gr.1 compared with 30% in gr.2. PCI was performed in 15 cases (10 from gr.1 and 5 from gr.2) with good results. Study population was divided into subgroup A- low syntax score (<22), subgroup B- intermediate syntax score (23-32) and subgroup C- high syntax score (>32). We recorded a C-subgroup PCI rate of 66,66% in gr.1 compared with 50% in gr.2 ($p<0.05$). One year mortality was superior in gr.2 (10%), where indication was based only on syntax score, compared with a mortality of 7.69% in gr.1, where indication was based on AngioCT multislice +coronarography. **Conclusions:** AngioCT multislice represents a useful diagnostic tool which could support the indication for PCI in more complex LM diseases. Use of AngioCT multislice in pre-operative evaluation of patients with LM disease increases the rates of PCI in complex cases, with high syntax scores, and decreases 1-year mortality in these patients.

Keywords: left main, syntax score, stenting

LASER ANGIOPLASTY AND STENT IMPLANTATION IN CHRONIC ILIAC ARTERY OCCLUSION

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Background: Our objectives are to compare the efficacy and the results of the classic (balloon angioplasty and stent implantation) with complex revascularization techniques (adding excimer laser therapy) in chronic iliac artery occlusions. **Material and methods:** We followed the results of 74 iliac artery angioplasty in 56 patients in a 4 year retrospective study. We treated 38 patients with balloon angioplasty and stent implantation, in 18 patients we completed the therapy with excimer laser angioplasty. **Results:** The revascularization success using only the classical methods was 70.27% (n=52 successful revascularization). With laser angioplasty we recorded a success rate of 95.94% (n=69, $p=0.15$) The primary and secondary patency ratio was higher in patients with laser angioplasty (primary patency 93.75% vs. 91.43% after 6 months, 81.25% vs. 80.00% after 2 years and secondary patency 93.75%

vs. 85.71% after 3 and 4 years). Amputation-free: 98.04% of the patients after 6 months, 94.12% after 1 year and 92.16% after 4 years. **Conclusions:** Peripheral angioplasty in chronic iliac artery occlusions proved to be safe and efficient. Adding the excimer laser therapy to the classical revascularization methods resulted in increased patencies after 6 months, 1 and 4 years.

Keywords: excimer laser, patency, periferic angioplasty, chronic occlusion

CHARACTERISTICS OF BETABLOCKER THERAPY IN CARDIAC PATIENTS WITH ASSOCIATED CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Background: Beneficial effect of betablocker therapy in cardiac patients with chronic obstructive pulmonary disease (COPD) is now an evidence. Our aim was to characterize the use of betablockers in these patients in "real life" conditions. **Material and methods:** We collected the data of 60 cardiac patients (51 male, 9 female, mean age 67 years) with concomitant diagnosis of COPD: cardiac conditions, reason for betablocker therapy, substance and dosage, main ECG and echocardiographic parameters, treatment, data about COPD. Besides descriptive statistics we compared (using chi-square test, significant $p < 0.05$) the data of patients with and without betablocker therapy. **Results:** 42% of patients had betablocker treatment, the most used drug being bisoprolol 2.5 mg and 5 mg o.d. (28%-28%), followed by carvedilol (26%). Among indications of betablockade old myocardial infarction and dilated cardiomyopathy were significantly more frequent ($p = 0.003$ and 0.002) in the group on betablockers. The usage of betablocker therapy was not influenced by the presence of heart failure (26% vs. 28% in NYHA III and IV classes of patients with and without betablockers), the severity of pulmonary hypertension, the exacerbation of COPD and the presence of atrial fibrillation. **Conclusions:** Betablocker treatment in cardiac patients with COPD was used insufficiently and not differentially, specially in the case of heart failure patients. There is a need for continuous improvement of betablocker therapy in this category of patients.

Keywords: betablocker therapy, heart failure, chronic pulmonary disease

CPAP THERAPY IN PATIENTS WITH OBSTRUCTIVE SLEEP APNEA - FIRST EXPERIENCES

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Background: Continuous positive airway pressure (CPAP) therapy during sleep represents the treatment of choice in most patients with obstructive sleep apnea (OSA). Our paper presents our first experiences regarding CPAP therapy, with special accent on the titrating and initializing phase. **Material and methods:** From 90 patients (61 men, 29 women, mean age 58.7 years) with OSA (diagnosed using clinical data, standard questionnaires and nighttime poligraphy), 50 (55.5%) patients with severe forms were selected for CPAP therapy, and in 46 (51.1%) cases (35 men, 11 women) we performed the titration procedure. The following data were collected: tolerance, acute effect on morning awakeness, and technical parameters of the CPAP device. **Results:** 9 (20%) patients didn't observe any positive effect of CPAP treatment and 4 (8.7%) patients didn't tolerate it for different reasons. In most cases (25 patients, 54.3%) the used pressure was 8-9 cmH₂O, in 16 (34.7%) cases was 10-13 cmH₂O and in 5 (10.8%) patients the pressure reached 17 cmH₂O. In 8 (17.3%) patients the air leak was more than 40 l/min. After the titration session, reminding the patients the beneficial effects of CPAP therapy, the long term treatment was started in 44 (95%) cases. **Conclusions:** CPAP is an effective therapy for reducing symptoms, improving quality of life and prognosis of patients with severe forms of OSA. A careful selection of patients, obtaining a good adherence by thorough information and motivation, and using appropriate technical parameters of the CPAP device are the key factors of the success of this therapy.

Keywords: obstructive sleep apnea, continuous positive airway pressure, experiences

EVALUATION OF THE VULNERABILITY OF THE CORONARY ATHEROSCLEROTIC PLAQUE USING NEW IMAGING METHODS-OCT AND ANGIO CT MULTISLICE

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Background: The purpose of this study is to present a case series of 7 patients with acute coronary syndromes in whom vulnerability of culprit lesions was assessed by OCT and Angio CT multislice 64. **Material and methods:** We studied 7 patients with acute coronary syndrome in whom culprit lesions has been identified and studied using coronary angiography completed by Angio CT multislice 64 and OCT. **Results:** In total 21 coronary plaques have been identified, out of which 8 (38%) presented markers of vulnerability by angio CT multislice 64 analysis (spotty calcification, positive remodelling or high content in lipid-rich atheroma). Remodelling index as assessed by angio CT multislice was 1.2 for vulnerable plaques versus 0.8 for non-vulnerable ones. Spotty calcifications were present in 87,5% of cases in vulnerable plaques and only 23% of non-culprit ones. OCT analysis demonstrated very thin fibrous-cap atheroma in all vulnerable plaques and in none of the non-vulnerable ones, proving the unstable nature of the culprit lesions. **Conclusions:** Angio CT multislice 64 and OCT are complementary methods used in evaluation of the unstable coronary plaques. This study shows a high correlation between markers of plaque vulnerability identified by Angio CT multislice and those identified by OCT.

Keywords: acute coronary syndrome, unstable plaque, vulnerable plaque

UTILITY OF MULTISLICE COMPUTED TOMOGRAPHY FOR THE EVALUATION OF CORONARY BYPASS GRAFTS AND NATIVE CORONARY ARTERIES

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Background: Multislice computed tomography (MSCT) is a promising new noninvasive technique for the detection of atherosclerotic disease within a vessel's wall. The present study was designed to assess the diagnostic accuracy of 64-slice CT in detecting graft disease and in the evaluation of native vessels distally to the grafts. **Material and methods:** We enrolled 16 patient (13 men, 3 women; mean age 58) who had undergone coronary artery bypass graft surgery and had a clinical indication for angiographic graft assessment. We evaluated 24 bypass grafts using a 64-slice CT scanner and conventional coronarography. In all cases multislice 64 cardio CT was performed using the equipment Somatom Sensation multislice 64 (Siemens). Images were reconstructed using the retrospective modality on a synchronized ECG in a time frame of between 40 and 80% of the R-R interval. **Results:** A total of 24 grafts were investigated (16 vein and 8 arterial conduits). At MSCT, 6 arterial grafts were classified as patent and free from significant lesions, whereas two appeared diseased (two significant stenoses). Out of 16 vein grafts, 14 appeared free of disease and 2 diseased (occlusion and critical stenosis). An absolute concordance between CT and angiographic findings was documented for all arterial and venous grafts (100% diagnostic concordance). **Conclusions:** The 64-slice CT detected with very high accuracy the presence of diseased arterial and vein grafts. Moreover, an optimal diagnostic accuracy was also documented in the appraisal of native vessels distal to the graft anastomoses. 64-slice CT can be proposed for follow up in post CABG patients, and may represent an effective screening technique to select those patients with indications of new revascularization.

Keywords: multislice computed tomography (MSCT), coronary artery bypass graft (CABG), noninvasive technique

SUBACUTE INFECTIVE ENDOCARDITIS OF THE TRICUSPID VALVE AND INTERATRIAL SEPTUM WITH GEMELLA SANGUINIS IN UNTREATED TETRALOGY OF FALLOT PATIENT – CASE REPORT

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Background: Infective endocarditis most frequently involves the mitral and aortic valves, often in patients who have undergone

surgery for correction of congenital malformations of the heart. It is uncommon to see elderly untreated patients, as well as the involvement of the tricuspid valve. Infection with *Gemella sanguinis*, a Gram-positive, catalase-negative, facultatively anaerobic coccus can be suspected because of the existence of a right-to-left shunt. **Material and methods:** We present a case of a 64 year old female patient with untreated tetralogy of Fallot and native tricuspid valve bacterial endocarditis, with positive blood cultures for *Gemella sanguinis*. Transthoracic echocardiography showed a vegetation on the tricuspid valve, also detecting an image in the right atrium suspected to be either the tip of the central venous catheter or vegetation in another site. Transesophageal examination concluded that there was also a vegetation on the interatrial septum, with the tip of the catheter inside the atrial cavity. **Results:** The patient's status improved with antibiotic therapy, still, with severe limitation of day-to-day activity upon discharge because of the underlying illness. **Conclusions:** Patients with congenital heart malformations should undergo surgery at an early age to avoid complications. Infective endocarditis must be suspected in patients with history of congenital heart disease. Echocardiography proved to be a helpful diagnostic tool, especially transesophageal examination. Despite the presence of less common bacteria in blood cultures, good outcomes can be achieved with proper antibiotic therapy.

Keywords: infective endocarditis, tetralogy of Fallot, tricuspid valve, *Gemella sanguinis*

CORRELATIONS BETWEEN ATRIAL REMODELING AND ARRHYTHMIA GENESIS IN DILATED CARDIOMIOPATHY

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Background: Atrial fibrillation is the most common sustained arrhythmia associated with substantial cardiovascular morbidity and mortality in dilated cardiomyopathy and its progressive nature is done by electrical and structural atrial remodeling that increase the probability of generating multiple atrial wavelets with enabling rapid atrial activation and dispersion of refractoriness. **Material and methods:** The study aims to describe the mechanisms involved in left atrial remodeling, the assessment of remodeling degree and its reversal with implications in atrial fibrillation development. Geometrical remodeling of left atrium was evaluated in 2 groups of patients - 32 patients with paroxysmal atrial fibrillation converted in sinus rhythm and 35 patients in permanent atrial fibrillation, by 3D echocardiography and 64 multislice CT. Was determined geometrical dimensions (volume and diameter) and functional (ejection fraction) of left atrium and ventricle. **Results:** Left atrial volume (52.8 ml vs 65.7 ml, $p=0.02$) and left atrial ejection fraction (58% versus 33% $p<0.001$) was significantly statistic reduced in group 2 (permanent atrial fibrillation) and atrial diameter (44mm vs 54 mm, $p=0.2$) and ventricular ejection fraction (45% vs 54 mm, $p<0.05$) was nonspecific in remodeling assessment. **Conclusions:** Left atrial enlargement by remodeling in atrial fibrillation decrease left atrial and ventricular function and increase arrhythmogenic risk in dilated cardiomyopathy.

Keywords: atrial fibrillation, 3D echocardiography, dilated cardiomyopathy

TREATMENT OF IN-STENT RESTENOSIS USING DRUG ELUTING BALLOONS - EXPERIENCE OF THE CLINIC OF CARDIOLOGY

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Background: Treatment of coronary in-stent restenosis with drug eluting balloons is a new treatment strategy which could replace classical implantation of a new drug eluting stent in these difficult cases. The aim of this study is to assess the safety and efficacy of drug eluting balloons in treatment of in-stent restenosis. **Material and methods:** We enrolled 32 patients with in-stent restenosis. Group 1 - 11 patients treated with drug eluting balloons, group B - 11 patients treated with drug eluting stents, and group 3 - 10 patients treated with classical balloon angioplasty. Angio CT multislice 64 was performed to assess the degree of restenosis at 6 months. Primary endpoints of the study were technical success rates and MACE rates at 6 months and 1 year. Secondary endpoint was restenosis rate as assessed by angio CT multislice 64 at 6 months. **Results:** Technical success was similar in all groups (100% in gr. 1, 81% in gr.2, 90% in gr.3). A total of 2 MACE events were recorded after 1 year, out of which none in group 1, 1 in group 2 (9.1%) and 1 in group 3 (10%). Angio CT multislice 64 revealed no significant in-stent restenosis in gr.1, 2 cases (18.18%), with restenosis < 30% and 1 case (9.09%) with significant in-stent restenosis in gr. 2, and 3 cases (30%) 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: interventional cardiology, in stent restenosis, drug eluting balloon, angioplasty

CARDIOVASCULAR SURGERY

SYSTEMIC PULMONARY SHUNTS - SURGICAL APPROACH

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Background: Systemic pulmonary shunt remains a major strategy for the palliation of cyanotic heart disease, despite the associated morbidity and mortality of the procedure. **Material and methods:** This report describes our experience with systemic pulmonary shunting in 27 patients underwent the procedure between January 2011 and December 2012 at our institution. The underlying anatomy may vary from tetralogy of Fallot/Pulmonary atresia to complex univentricular heart malformation. All neonates (40%) were dependent on duct flow and prostaglandin E1 infusion for adequate oxygenation. **Results:** The systemic pulmonary shunt was performed through a median sternotomy in all patients. We used PTFE vascular graft, because is light, requires no pre-clotting and is easy to suture. It allows rapid fibroblast proliferation and minimises neointimal formation. Shunt patency remains highly. The optimum size of the PTFE graft has been 4 mm, with no mortality at 30-day. **Conclusions:** Systemic pulmonary shunt remains an effective palliative measure in cyanotic neonates despite specific complications. Both low weight and preoperative ventilation represent significant risk factors for early mortality.

Keywords: Cardiovascular surgery, palliation, cyanotic, PTFE

DENTAL MEDICINE

A RETROSPECTIVE LONGITUDINAL STUDY REGARDING THE DENTAL ANOMALIES OF POSITION WITH ERUPTIVE ETIOLOGY

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Background: Given the high frequency of dental anomalies of position and the lack of preventive measures of surveillance and monitoring of the eruption of permanent teeth, the aim of this study is to evaluate the frequency of dental anomalies of position in children. **Material and methods:** We conducted a retrospective longitudinal study in the period 2006-2012. Data were collected from the medical records and orthopantomography x-rays of 408 patients (including 230 female and 178 male) who presented to the Department of Pediatric Dentistry and Orthodontics in Targu-Mures, in the studied period. **Results:** From the 77 patients who remained after applying the exclusion criteria, 57 patients had dental inclusion, 15 patients presented ectopic teeth, dental rotations have been observed in number of 2 patients, a midline diastema in 5 patients. Regarding sex distribution, there was a higher frequency of dental inclusions in women (39) than men (38). The frequency of dental inclusions, regarding dental groups, in a descending order is: maxillary canine, mandibular second premolar, mandibular canine, maxillary second premolar, mandibular first premolar, maxillary first premolar, maxillary lateral incisor, maxillary central incisor and maxillary and mandibular first molars. The frequency of dental inclusion in the dental support area has the highest rate in the 12-14 years age group. **Conclusions:** From all the studied dental anomalies, the dental inclusions presented the highest frequency. Regarding the dental support area, most cases of dental inclusions were observed in 12-14 years age group.

Keywords: dental inclusion, ectopic tooth, dental support area

A COMPARISON OF PERIODONTAL HEALTH STATUS IN SMOKER, FORMER SMOKER AND NON-SMOKER PATIENTS

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Background: The aim of this case-control study was to assess the smoker, former smoker and non-smoker patients' periodontal health status. **Material and methods:** The study was based on a clinical examination of 80 patients (46 female, 34 male) from Tîrgu-Mureş, aged between 16 and 78 years, who were questioned about their smoking habits and oral hygiene. Patients were classified in four groups: non-smokers, former smokers, occasional- and active smokers. The clinical examination evaluated the dental calculus index, papilla bleeding index, Community Periodontal Index of Treatment Needs (CPITN), probing depth and gingival recession. Statistical analysis was performed using Pearson's chi-square test. **Results:** Statistically significant association between active smokers and non-smokers was found comparing the mean values of papilla bleeding index and of the depth of periodontal pockets ($p=0.0001$). No statistically significant differences between active- and non-smokers were found regarding the dental calculus index ($p=0.5483$). Most of the active smokers (55%) and occasional smokers (65%) smoke less than 5 years. 60% of the active smokers and 35% of the occasional smokers tried to quit smoking. **Conclusions:** In our study, most of the typical indicators for periodontal disease showed significantly increased values in investigated smokers compared to non-smokers. The results call for relevant measures for smoking prevention and cessation in Tîrgu-Mureş.

Keywords: tobacco smoking, smoking habits, periodontal health, periodontal indices

IMPACTED TOOTH - FREQUENCY IN MAXILO FACIAL SURGERY CLINIC FROM TG. MUREŞ. CLINICAL CASES.

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Background: The purpose of this retrospective study was to determine the frequency of impacted teeth in Maxilo Facial Surgery Clinic Tg. Mureş during four years period (2009-2012). **Material and methods:** The study included 858 patients with this diagnostic, selected from a number of 6113, aged between 10 and 80. Statistical study include age, gender, and treatment type (surgical removal or surgical orthodontic treatment). We did not include in this study impacted supranumerary teeth and frontal incisors. The data was collected using Microsoft Excel Programs and for data analyses we used EPI Info programs. **Results:** We found 858 patients with impacted teeth, 566 women and 292 men. The results showed that the third molar is the most frequent tooth that remains impacted, the second one is the upper canine. For the upper canine we found $p=0,0026$ considered statistical significant. **Conclusions:** The results that we obtained are similar to those in other epidemiological studies. Gender influence the impactation of the upper canine.

Keywords: maxilo facial surgery, impacted molar, canine, frequency

DENTISTS' LEVEL OF KNOWLEDGE ON THE TREATMENT PLAN OF TRAUMATIC DENTAL INJURIES

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Background: Traumatic dental injuries are common among children and adolescents. These can vary from simple concussions to extensive maxillo-facial injuries involving periodontal structures. The aim of this study was to evaluate the level of knowledge of dental practitioners regarding the treatment planning after dento-alveolar trauma. **Material and methods:** 72 dentists with varying degrees of specialization were interviewed by means of a questionnaire. **Results:** The dentists' level of knowledge was better in the less complex cases and there were no significant differences between groups with different degrees of specialization. **Conclusions:** Dentists should improve their knowledge by attending postgraduate training on this subject and by following current literature.

Keywords: dental trauma, avulsion, dentists knowledge

ORAL PIERCINGS AND THEIR POTENTIAL EFFECTS ON DENTAL ENAMEL

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Background: In recent years there was an increase in the number of patients with tongue piercings among teens and young adults. The aim of this study was to determine if piercings can damage enamel, or cause other oral lesions. **Material and methods:** After we made the anamnesis, we clinically examined 31 patients with tongue piercings. **Results:** Of the total of 31 subjects examined, 22 showed no changes and 9 had teeth lesions. The average of the subjects with oral piercings was 23. **Conclusions:** Given the increase in the number of subjects with oral piercings, dentists should be aware of the potential risks of wearing these cosmetic accessories and educate patients in this regard.

Keywords: oral piercing, dental implications, teeth injuries

THE EFFICIENCY OF NON-SURGICAL PERIODONTAL TREATMENT IN DIABETICS WITH PERIODONTAL DISEASE: A CLINICAL STUDY

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Background: Initial periodontal treatment represents the first therapeutic procedure in every form of chronic marginal periodontitis, targeting the mechanical dislocation of the subgingival biofilm and of the local risk factors which augment plaque retention. **Material and methods:** The study was conducted on 20 parodontopathic diabetic patients, 12 women and 8 men, aged 40 to 67. Clinical examination included measurements of attached gingival width, gum inflammation (GI), oral hygiene (OHI), periodontal pocket depth (PD), gingival recession, tooth mobility and HbA1c levels. The treatment consisted in plaque control, supra- and subgingival scaling and root planing (SRP). Treatment success was quantified by measuring GI, OHI, PD indices and HbA1c levels before and after initial periodontal treatment. Statistic analysis was performed using Microsoft Office Excel 2007 and InStat GraphPad. **Results:** After evaluation OHI decreased from 59.25% to 30.67%, and GI changed from 88.83% to 35.37%. Pocket depth was measured in 6 sites/tooth for 540 teeth, getting a total of 3240 values. Excluding the 2-3 mm normal values, a total of 1289 sites with values equal or > 4 mm were registered before treatment. From these 1289 sites, 512 sites got normal values at probing after initial periodontal treatment, and the rest of 777 sites still had pathologic values, requiring further pocket depth reduction treatment. HbA1c decreased significantly ($p < 0.05$). **Conclusions:** Mechanical therapy is essential in eliminating biofilm and is a part of prophylaxis or treatment that is absolutely necessary in any form of periodontal disease. Initial therapy is the only therapy needed for patients with superficial periodontal disease, but patients with diabetes mellitus and periodontitis would require further pocket depth reduction treatment together with the management of glycaemic control, although initial periodontal treatment can improve glycemic status of these subjects.

Keywords: Periodontology, Non-surgical periodontal treatment, diabetes mellitus, periodontitis

ULTRASOUND EXAMINATION IN LESIONS OF THE SALIVARY GLANDS

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Background: Ultrasound examination is an important diagnostic tool for almost all types of lesions of the salivary glands. It is unexpensive, safe and noninvasive. A small retrospective study conducted in the Oral and Maxillo-Facial Surgery clinic on 20 patients treated with different types of salivary glands lesions, who had an ultrasound preoperatively, reveals the importance of ultrasound in making the right therapeutic decision. **Material and methods:** All patients included in our study had preoperative ultrasound examination and a histopatological result postoperatively. We compared mainly the correlations between the ultrasound findings and the final histopatological result. **Results:** We found 100% correlation in diagnosing the malignant tumours, a 75% correlation in diagnosing the benign tumours (the confusion in ultrasound diagnostic was made mainly with lymphadenopathy), a 60% correlation in diagnosing chronic sialadenitis (the main ultrasound error was made with tumours), 100% correlation in diagnosing of sialolithiasis and salivary cysts. **Conclusions:** The results highlight the importance of ultrasound examination in diagnosing salivary pathology, in making an appropriate therapeutic decision and therefore, such an examination should be included in every clinical protocol for a lesion of a salivary glands.

Keywords: salivary glands, ultrasound, sialolithiasis, sialadenitis, salivary tumours

LOWER LIP RECONSTRUCTION USING NASOLABIAL (GATE) FLAP – MODIFIED FUJIMORI TECHNIQUE

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Background: In the medical literature there are multiple reconstructive procedures for small and medium size defects of the lower lip, but only a few methods for larger defects involving the whole lower lip. Choosing the repairing procedure for larger lower lip defects must take into account two aspects: flap or flaps used should be local flaps, and suture lines should correspond to the natural facial creases or follow the functional lines of different facial aesthetic units. Finally, the flap or flaps should be large enough to restore the entire postexcisional defect. However, the most tissue is lost from the lower lip, the more challenging the reconstruction is from a cosmetic and functional point of view. **Material and methods:** During the last 2 years in the Oral and Maxillofacial Surgery Department of the Emergency County Hospital in Targu-Mures, the modified Fujimori technique has been successfully used for the reconstruction of large lower lip defects in 4 patients with extensive, neglected squamous cell carcinoma involving almost the whole lip tissue. These patients underwent complex surgical and oncological treatment. The surgery was performed in two steps: first - excision of the tumour followed by immediate lip reconstruction, and then removal of submandibular lymph nodes (level I) - in the second stage. **Results:** The aesthetic and functional recovery of these patients was very good, with no need of other subsequent surgical correction. **Conclusions:** The postoperative reconstruction of the large defects of the lower lip is far from optimal, but it is very important to restore an adequate muscle function, the lip continence and a satisfactory facial appearance.

Keywords: lip reconstruction, nasolabial gate flap, large lip tissue loss, squamous cell carcinoma

EFFECT OF DIFFERENT FLUORIDATED DENTIFRICES ON SALIVARY PH AND FLUORIDE CONTENT

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Background: The study was aimed to establish the influence of toothpaste fluoride (F) concentration on salivary F levels and pH in order to evaluate oral F retention. **Material and methods:** Thirty-four healthy young volunteers participated in this study performed on two separate occasions in which the subjects brushed their teeth with low- and conventional fluoridated dentifrices: 1) 500 ppmF and 2) 1450 ppmF. Three samples of whole unstimulated saliva were collected from each participant in all occasions: T1 - before brushing (baseline), T2 - right after brushing and T3 - 60 min. after completing each experimental procedure. Salivary pH and F concentration were determined. The Mann-Whitney test was used for statistical analysis. **Results:** The mean salivary F values (mean value±SD) measured right after toothbrushing were 1.439±0.732 when low-fluoride dentifrice was used and 4.160±2.53 with 1450 ppmF toothpaste, respectively. One hour after toothbrushing salivary F decreased significantly compared to the T2 values ($p < 0.001$), however remained significantly higher than baseline in both occasions: 1) 0.159±0.026 (T3), and 2) 0.29±0.206 (T3). No significant differences could be observed between the salivary pH values. **Conclusions:** After toothbrushing with fluoridated toothpaste containing 500 ppmF and 1450 ppmF, salivary F concentration increased significantly and remained elevated above the baseline one hour after brushing. The results suggest that toothpaste with higher F concentration could have more efficacy in caries prevention. Salivary pH is not influenced by fluoride content of dentifrices.

Keywords: fluoridated toothpaste, salivary F, salivary pH

STANDARDISATION OF METHODOLOGY FOR FLUORIDE ANALYSIS IN DENTAL RESEARCH

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Background: Development in the fluoride (F) analysis field has occurred in the last decades, however the methods are not standardised. Therefore, the study was designed with the purpose of standardising the methodology for analyzing fluoride in samples used for dental research. **Material and methods:** This was the first phase of a double-blind crossover study conducted at the University of Medicine and Pharmacy of Tîrgu-Mureş in collaboration with the Bauru Dental School, University of Sao Paulo, Brazil. Samples of water containing three different F concentrations (n=15 per F concentration) were prepared in Brazil by serial dilution of a 100 ppm NaF stock solution. All samples were analysed in triplicate in both laboratories of biochemistry involved in this study (Brazil and Romania). The fluoride concentrations were determined through millivolt (mV) readings of standards and samples using the direct method by ion-specific electrode and F meter, after buffering the samples with an equal volume of TISAB II (Total Ionic Strength Adjustment Buffer). For statistical analysis the Pearson's correlation test was used and correlation coefficient of 95% (variations of up to 5%) was accepted. **Results:** For each sample the percentage of reproducibility between the analyses performed in different laboratories was calculated. The mean value for each individual % of reproducibility was calculated and graphs were plotted. The overall % of reproducibility obtained was 96.5%. **Conclusions:** The values determined in our laboratory were not substantially different from those obtained in Brazil, indicating that the aim of this study was achieved. Moreover, it is important to highlight that this standardised method can be used not only for analysis of water samples, but also for biological samples in monitoring F ingestion and excretion. The study was supported by "The Borrow Foundation" (UK).

Keywords: fluoride, fluoride analysis, ion-selective electrode, water sample, standardisation

AESTHETIC PRINCIPLES OF THE UPPER FRONT TEETH

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Background: Two parts (a and b, a>b) relate to each other according to the golden proportion, if the assembly (a+b) relates to the higher part (a), how this relates to the smaller one. Levin found that, from the frontal norm the apparent surface of the upper front teeth is reported as to the golden proportion rule, therefore the width of the central incisor is in golden proportion to the width of lateral incisor, and the canine width to those of the lateral incisor width. According to the golden percentage method recommended by Snow, for the analysis of frontal norm of the anterior region, the apparent width of the teeth (isolated) reported to the apparent width of the six frontal teeth gives more characteristic results. **Material and methods:** The material of this study consist of digital photography done on people with natural and esthetic teeth. We made photos of 68 people, including 35 women and 33 men, between 19 and 26 ages. Using a computer program we made the necessary measurements. After recording the so obtained result we made the appropriate calculations of the above theories. Data was statistically analyzed using Microsoft Excel and SPSS 16 **Results:** The golden proportion between the lateral and central incisor occurs in a higher proportion than between the canine and the lateral incisor. The results received by analyzing the golden proportion differ slightly from values proposed by Snow. **Conclusions:** The frequency of the golden proportion is not significant for the groups of teeth mentioned. With small modification and with the consideration of the ethnic differences, Snow's golden percentage is more valid and applicable than Levin's golden proportion.

Keywords: golden proportion, golden percentage, front teeth

ALTERNATIVES OF IMPLANT- RETAINED MANDIBULAR OVERDENTURES: A CASE REPORT

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Background: The objective of this study is to highlight the benefits of implant-retained overdentures in total mandibular edentatio. **Material and methods:** We shall present two clinical cases of total mandibular edentation treated through overdenture on two independent implants using locator attachment system and also four implants connected to a suprastructure. **Results:** The unsolidarized implants have distinct advantages than the solidarized implants , represented by the easy maintenance of prosthesis and the patient's satisfaction , but a best performance needs an acceptable parallelism and correct angulation. The solidarized implants , besides the benefit of stability , are useful in case of wrong position. **Conclusions:** In accordance with the data from the literature, rehabilitation of total mandibular edentation using implant-retained overdentures represents an efficient solution although controversies about the overdenture's design and the selection of suitable attachment system still exist.

Keywords: total edentation, implant, locator attachment system

ORAL REHABILITATION OF PATIENTS WITH MAXILLOFACIAL DEFECTS AFTER UNILATERAL MAXILLECTOMY: A CASE REPORT

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Background: Malignant maxillary tumors produce postoperative morphofunctional disorders caused by maxillectomy defects with lack of hard and soft tissue. These impairments result in worsening of the psychosomatic state of the patients also affected by the surgical intervention and the adjuvant therapy (radiotherapy, chemotherapy). **Material and methods:** This report describes the treatment of a 48 years old patient admitted in the maxillofacial surgery department with a left maxillary tumor with signs of infection. The biopsy reveals the diagnosis of keratinized squamos cell carcinoma of the oral mucosa and left maxilla. The patient went left infrastructure maxillectomy that created a large bony defect. Postoperative the patient had speech and swallowing difficulties and was referred to the oral rehabilitation department for prosthetic rehabilitation and improvement of oral functions. Maxillary obturator prosthesis was designed and fabricated to restore speech and swallowing abilities. **Results:** After the specific prosthetic rehabilitation the patient reported improvement in the orofacial functions and in quality of life. **Conclusions:** Oral rehabilitation of the patients that underwent maxillofacial surgery and have soft and hard tissue defects is necessary and mandatory for reestablishing organic and psychological homeostasis of the organism. Oral rehabilitation of these patients using obturator prostheses is an appropriate treatment modality. Acknowledgements "This paper is partially supported by the Sectoral Operational Programme Human Resources Development, financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/89/1.5/S/60782"

Keywords: orofacial tumors, bony defects, obturator prostheses

TEACHING PROCESS: STRESSFUL OR COMFORTABLE FOR DENTISTRY STUDENTS?

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Background: The evaluation of: teaching activities, responsiveness of the students towards teaching activities and the level of satisfaction experienced by the students from the Faculties of Dentistry in relation to teaching process and professional development. Identifying problem areas and establishing measures such as to improve the quality of the teaching process. Assessing the environment within the Faculties of Dentistry. **Material and methods:** A feedback questionnaire with 14 items was conveyed online to a sample of 686(N=686) students from the Faculties of Dentistry in Romania, during 10-23 November 2012. There were

used single-choice and forwarding-motivational questions. The results were processed and analysed at the level of each faculty, centralising the data on each type of question, comparative analysis, and detailed reports/questionnaire item were performed with free software programmes over the internet (Google.Docs) and through statistical analyses (Microsoft Excel). **Results:** As resulted from the comparative analysis, 50% of the students consider that there is a high volume of information which has to be assimilated in a too short period of time, 31% say that the teaching method is ineffective and 55% believe that the best thing to improve in the educational process is the development of practical abilities with less theory, 45% consider themselves as shallow and disinterested and 38% think they have bad time management. **Conclusions:** Students are motivated to find solutions for the problems they encounter, they take responsibility for their own shaping and development, and are preoccupied by the rules and their application within the faculty. The students were free to include in the questionnaire answers with individual filling-ins through which we tested the capacity of the students to synthesize and grasp the main ideas related to the questions from the questionnaire with the intention of making the educational process more efficient and establishing measures to improve it.

Keywords: teaching process, evaluation, efficiency, motivation

LOAD-DEFLECTION CHARACTERISTICS AND YIELD STRENGTH OF NICKEL-TITANIUM, STAINLESS STEEL AND BETA-TITANIUM ORTHODONTIC ARCHWIRES

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Background: In fixed orthodontic therapy, the source of the force which determines teeth movements is usually a deflected archwire. Three major alloys are used in orthodontic archwire fabrication: nickel-titanium (NiTi), stainless steel (SS) and beta-titanium (B-Ti). The evaluation of the main mechanical properties of the archwires represents an important parameter in achieving optimal biomechanics. The aim of the present study was to investigate and to compare three orthodontic archwire alloys, Ni-Ti, SS and B-Ti alloy for the parameters: ultimate tensile strength (UTS), yield strength (YS), modulus of elasticity (E) and load deflection characteristics. **Material and methods:** Five specimens of each archwire alloy, cross-sectional dimension 0.016x0.022 inch, were used for evaluating each of parameter. An Instron Universal Testing Machine was used for tensile testing and three-point bend testing. Mann-Whitney test, level of significance $p < 0.05$ was used to statistically analyze the results. **Results:** Stainless steel was the strongest archwire alloy. Beta-titanium wires exhibited better load-deflection characteristics with less stiffness than the other two wires. **Conclusions:** It is evident from the data that SS with high values for yield strength remains a mainstay in fixed orthodontic therapy. The rectangular NiTi and B-Ti archwire, appears to be kinder to the dento-alveolar tissues by generating low, consistent force, when compared to SS alloy for load deflection characteristics.

Keywords: stainless steel, nickel-titanium, orthodontic archwires, modulus of elasticity

DETERMINATION OF CORRELATION BETWEEN THE SALIVARY LEVEL OF STREPTOCOCCUS MUTANS AND LACTOBACILLUS AND THE DEGREE OF CARIES-ACTIVITY IN CHILDREN FROM URBAN AND RURAL COMMUNITIES

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Background: Dental caries is currently the most widespread infectious disease among children and adults. Although the etiology involves various factors, the major role played by cariogenic microorganisms, namely *Streptococcus mutans* and *Lactobacillus spp.* cannot be challenged. This study aims to establish positive correlations that exist between the salivary levels of *Streptococcus mutans* and *Lactobacillus* and the degree of caries-activity in children from both urban and rural communities. **Material and methods:** The study was performed on a sample of 60 children, selected after examination of a total of 144 children, age between 6-11 years. They were divided in two main groups: children from urban community ($n=30$) and children from rural community ($n=30$), each with 3 subgroups ($n=10$), depending on the degree of caries-activity as follows: **1. low caries-activity** (DMFT=0-3); **2. medium caries-activity** (DMFT=4-6); **3. high caries-activity** (DMFT ≥ 7). Each child was also questioned regarding oral hygiene habits (frequency

of brushing, mouthwash rinsing) and eating habits. In order to determine the level of the salivary *Streptococcus mutans* and *Lactobacillus*, **CRT Bacteria test** (Ivoclar -Vivadent) was performed. **Results:** This study showed that there is a statistically significant association between the degrees of caries-activity (expressed specifically by the number of caries) in children and the salivary levels of *Streptococcus mutans*, with specific variations depending on age, gender and living environment of the children examined. No statistically significant association was observed between the salivary levels of *Lactobacillus* and the degree of caries-activity. **Conclusions:** Determination of the salivary levels of cariogene micro-organisms is an efficient method of detecting early latent risks in the occurrence of carious processes, providing an opportunity to adopt a series of specific oral prophylaxis measures.

Keywords: DMFT index, Streptococcus mutans, salivary pH, Lactobacillus, caries-activity

THREE YEARS LONGITUDINAL STUDY ASSESSING PREVENTIVE STRATEGIES FOR DENTAL EROSION

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Background: The present study was aimed to assess the incidence of dental erosion and to test a possible affordable measure to prevent erosive lesions occurrence. **Material and methods:** In 2009 a longitudinal study on dental erosion was developed including a representative sample of adults, aged 18 to 30 years. Dietary history was recorded. Daily acidic beverages consumption was considered a risk factor for dental erosion. After clinical examination a sample of 420 subjects with erosive lesions and acidic drinks exposure was selected. Patients received dietary counselling including information on tooth erosion. They were advised to rinse the mouth with still water after every acid attack to increase the salivary pH and to allow the saliva to reharden tooth surfaces. After three years the procedures were repeated. Forty participants dropped the study. 199 respondents did not comply with the specified preventive measures, representing the exposed study sample. The BEWE index was used to assess the occurrence of erosive lesions. Data analysis was performed using Chi2 test. Relative Risk (RR) was estimated at 95% Confidence Interval (CI). The level of significance was set at $p < 0.05$. **Results:** The incidence of dental erosion was 15%. Subjects not rinsing with water after acidic beverages attack are 1.68 times (RR) more likely to develop erosive lesions than those following these measures (CI 1.015 to 2.789, $p = 0.03$). **Conclusions:** Our results seem to indicate the beneficial effects of mouth rinsing with still water on the incidence of dental erosion. This relevant behaviour after acid contact is very important and is the most accessible measure for all patients. As it is difficult to control possible aetiological factors, such as the intake of all acidic beverages or special drinking habits, it is necessary that these "after acid attack" strategies to be developed for the prevention of dental erosion.

Keywords: epidemiological studies, abstract, dental erosion, incidence, prevention

SIDE EFFECTS OF TOOTH PREPARATION-INTRAPULPAL TEMPERATURE CHANGES

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Background: The aim of this investigation is to analyze the intrapulpal temperature change induced by friction between dental bur and tooth surface during the prosthodontic preparation. **Material and methods:** The evaluation has been done on 60 recently extracted teeth (30 premolars, 30 third molars) for orthodontic reasons. During the experiment were used: digital thermometer, device (a fixing part for the tooth and a tank filled water which was equipped with a thermostat) which simulated the periodontal tissues and their functions. Before experimental use every tooth was prepared by sectioning the apical 1/3 of the root. The pulp was removed and replaced by thermo-conductive paste. A thermo sensor was introduced retrograde inside the pulp chamber, the tooth was fixed to the tank, the thermostat increased and stabilized the temperature inside the pulp chamber at 36 °C (+/- 1 °C). After this stage tooth preparation started. During preparation the temperature values, measured by digital thermometer were read in intervals of 10 seconds. The burnishing lasted until the drill penetrated into the pulp chamber. **Results:** Significant differences were found in temperature increase when different burs were used on tooth surface. The highest temperature was obtained with yellow, rugby-ball shaped, diamond bur (52,3 °C), the lowest temperature was obtained with blue, torpedo shaped, diamond bur (42,5 °C). In 58% the temperature increased more than 6 °C in the pulp chamber, exceeding critical values, from which in 25% the

temperature increased over 51,6 0C resulting pulp necrosis. **Conclusions:** The type, the shape, the condition of burs and the amount of removed dentin may all increase generated heat. Dry continuous burnishing can result in critical temperature increases within the pulp chamber, this can be avoided by using water-cooling and new, blue diamond burs.

Keywords: prosthetic dentistry, temperature, pulp chamber, tooth preparation, oral rehabilitation

EVALUATION OF SOCIAL AND FUNCTIONAL DISCOMFORT DURING ORTHODONTIC TREATMENT

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Background: During fixed orthodontic treatment patients frequently endure a few functional and social complaints. At the end of the treatment due to esthetic rehabilitation and improvement, these complaints are treated and we can observe a psychological wellbeing. The aims of this longitudinal study were to follow the patients attitude towards orthodontic treatment and to evaluate the functional and social adaptation during this kind of treatment. **Material and methods:** We selected 34 patients undergoing full banded fixed orthodontic treatment, mean age 12,5±3,6. Patients' attitude towards orthodontic treatment and their fear of certain discomforts were evaluated at the appointment before appliance insertion and one week after appliance removal using a questionnaire with 15 questions about the expectations and the results of orthodontic treatment, dental health locus of control, possible functional problems. **Results:** Most frequent complaints were related to oral hygiene. We observed the lack of fear towards pain during initial treatment phases and towards negative social reactions. The main expectations are related with esthetic improvement after orthodontic treatment, in a very few cases functional improvement was demanded. **Conclusions:** Facial esthetic improvement is an expected result in orthodontic treatment and the main cause of patients' motivation to achieve a social wellbeing.

Keywords: social discomfort, functional discomfort, orthodontic treatment

TREATMENT OF MULTIPLE GINGIVAL RECESSIONS USING MODIFIED CORONALLY ADVANCED TUNNEL TECHNIQUE: CASE REPORT

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Background: Gingival recession is defined as the apical migration of the gingival tissue margins with exposure of root surface. The etiology is multifactorial and includes traumatizing tooth-brushing, tooth malposition, periodontal disease, bone dehiscence, inadequate gingival dimensions, restorative, orthodontic and/or periodontal procedures. Several various periodontal plastic surgery procedures have been proposed for the treatment of gingival recession: connective tissue grafting, various flap designs or guided tissue regeneration. The aim of this case report is to describe the application of the modified coronally advanced tunnel technique in conjunction with a connective tissue graft and Emdogain in multiple gingival recessions. **Material and methods:** A 37 year old female, systemically healthy was treated for Miller Class III and IV multiple gingival recessions in five lower jaw teeth. The surgical technique consisted of mucoperiosteal flap and papilla mobilization. A connective tissue graft was harvested from the palate, in the premolar and first molar area. Following application of EMD on the root surfaces, the graft was pulled in the tunnel and fixed with sutures. Finally, coronally reposition was performed to cover the graft and the recessions. The following clinical parameters were evaluated at baseline and at 1, 3, 6 months postoperative: probing depth, clinical attachment level, recession depth, recession width. **Results:** The patient reported moderate postoperative pain and swelling. At 6 months, two teeth achieved complete coverage and three teeth only partial. The procedure modified coronally advanced tunnel technique in conjunction with a connective tissue graft and Emdogain is likely to improve gingival thickness, keratinized tissue width and root coverage. **Conclusions:** Within the limits of this study, the results suggest that modified coronally advanced tunnel technique in conjunction with a connective tissue graft and Emdogain can be used for the treatment of multiple gingival recessions Class III and IV resulting in increase of clinical parameters, however with unpredictable for esthetic outcome.

Keywords: periodontology, surgical treatment, recession, connective tissue graft, Emdogain

ENT (OTORHINOLARYNGOLOGY)

IMPLICATION OF VOCAL CORD PARALYSIS TO THE DEGREE OF APNEA-HYPOPNEA INDEX IN PATIENTS WITH OBSTRUCTIVE SLEEP APNEA SYNDROME

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Background: Upper airway in patients with obstructive sleep apnea syndrome can significantly narrow during inspiration in case of a combination of vocal cord palsy of different etiologies **Material and methods:** It has been made a retrospective study in 2010-2011, on a total of 30 patients who had unilateral and bilateral recurrent vocal cord palsy. To these patients was introduced an examination protocol that included: flexible nasopharyngoscopy, sleep endoscopy, stroboscopy for vocal cord assessment, their mobility, their degree of attachment to the middle, paramedian or lateral position, and the degree of obstruction of the glottic space. Patients were divided into 4 groups, according to apnea-hypopnea index. **Results:** Out of the 30 patients, 28 were women and 2 men, the average age was 48 ± 1.4 years. The module in unilateral paralysis is 29, and 49 for bilateral paralysis. To describe bivariate data, the values were statistically analyzed to determine the association between AHI index values and the type of paralysis, applying the chi-test, one sample t test and bivariate correlation. **Conclusions:** Among these parameters there is a significant statistical correlation. Establishing curative medical and / or surgery and foniatic recovery treatment of the recurrent paralysis improves AHI index value, sleep quality and quality of life.

Keywords: vocal cord paralysis, sleep apnea syndrome, apnea-hypopnea index, nasopharyngoscopy, stroboscopy

EPIDEMIOLOGY

EVALUATION MEASLES OUTBREAKS IN 16 YEARS IN MURES COUNTY

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Background: The aim of the study was to describe measles outbreaks in the last 16 years in Mures county. Measles is a one of the most highly contagious diseases. It is spread through respiratory droplets so that people in contact with the virus, who are not vaccinated or not immune due to prior infection, are at high risk of catching the disease. **Material and methods:** We conducted a descriptive transversal epidemiological study, analyzing cases of measles reported by the County Department of Public Health Mures, in the period 1 January 1996 to 31 May 2012. We followed the trend of infection, depending on the following factors: age, sex, place of origin, vaccination status, the year in which they were concentrated cases, complications. **Results:** Between 1996 and 2012, measles manifested by three outbreaks, with a total of 1661 reported cases. The first epidemic (1996-1998), 1335 cases were reported (with peak incidence in 1998 to 112.7‰), the second epidemic (2005-2006), 37 cases were reported (with peak incidence in 2006 - 6‰) and the third epidemic (2011-2012) were reported 289 cases with peak incidence in 2012 - 30.7‰. The median age of infected subjects was 12 years in 1996-1998, 3 years in 2005-2006 and 3 years in 2011-2012. Most cases occurred among unvaccinated children representing 55.4 % from the total number of cases registered during period mentioned. **Conclusions:** The duration and intensity of these epidemics were variable. In the last decade reported measles cases decreased significantly from the first outbreak and there was a significant trend affecting young children aged up to 4 years.

Keywords: epidemic, measles, Mures

PROFESSIONAL EXPOSURE TO BLOOD OF HEALTHCARE WORKERS

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Background: The prevention of accidental exposure to blood (AEB) and other biological fluids while assisting patients represents an important objective among safety procedures for healthcare providers. **Material and methods:** We analysed de surveillance data concerning blood exposure cases during 2010-2011 and first months of 2012 in Mures county hospitals (five public hospitals and four private ones) in order to identify high risk units, working places, procedures, manouvres or high risk professional/personel categories. **Results:** The Emergency Clinical County Hospital has reported the most cases (over 50% of AEB reports). Most frequently AEB cases occur in surgical units, followed by medical units, emergency units and intensive care units. The accidents are more frequent in young, inexperienced personnel and they happen in the first year or first 4 years after being employed. Surgical manouvres, injectable treatments emergency interventions are high risk manouvres. **Conclusions:** Reducing the number of injections, using adequate and complete protection equipment, more frequent and efficient training programs for entire personnel including the new employees, hiring sufficient personnel, are useful measures for reducing blood exposure risks.

Keywords: professional exposure, healthcare workers, bloodborne infection

HEMATOLOGY

ACUTE MYELOID LEUKEMIA, GOOD PROGNOSIS OR BAD PROGNOSIS – CASE REPORT

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Background: A revised classification of tumors of the hematopoietic and lymphoid tissues was published in 2008 as the 4th edition of the WHO monograph series. The new classification defines 108 new diagnostic entities in hematopathology, including 50 new or provisional leukemia entries and also recognizes provisional entities that have a definite prognostic significance. **Material and methods:** We present the case of a 50 years old female with diagnosis of acute myeloid leukemia in November 2008. Her investigations revealed the presence of 52% blasts cells into the bone marrow, with myelomonocytic differentiation at immunophenotyping (CD34, CD13, CD33, CD117, CD11c, and CD36). FLT3 and NPM1 mutations were tested, but the result was negative for both. Induction therapy was started and she achieved hematological remission in February 2009. Immunophenotyping from bone marrow was performed every two month to detect a possible relapse. She remained in remission until August 2011, when we detected 37% blasts with the same immunophenotype as the diagnosis. In October 2011, the patient received an allogenic stem cell graft at the University Clinic Johann Wolfgang Goethe in Frankfurt, Germany. **Results:** After transplantation, her disease was in a sustained cytogenetic remission (her bone marrow exam in March 2012 showed a hypoplastic bone marrow without blast infiltration, karyotype was XY). She is still in hematological remission, but with a mild chronic GvHD of the stomach and intestine. **Conclusions:** Testing different mutations with known or uncertain prognostic significance will classify AML patients with normal karyotype in a good or bad prognosis group and will help to establish new entities. In Romania it is difficult to align to the new WHO 2008 classification. **Acknowledgements** This paper is partially supported by the Sectoral Operational Programme Human Resources Development, financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/89/1.5/S/60782.

Keywords: hematology, acute myeloid leukemia, prognosis, transplantation

THE EARLY MORTALITY IN PATIENTS WITH MULTIPLE MYELOMA

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Background: Multiple myeloma is an incurable disease, early mortality being caused by the effects of active disease and by the co-morbidities. The purpose of this study is to identify the common causes and the main favoring factors of early death. **Material and methods:** The study analyses 120 patients diagnosed and treated between January 2005 and October 2012. Statistical analysis consisted of Fisher test and survival analysis using Kaplan Meier curves. **Results:** The mortality in the first 90 days after diagnosis occurred in 14.16% of patients, having an average age of 66 years. The ECOG performance status of the patients was between 3 and 4. The patients were most frequently in stage III of the disease (88.23%). The early mortality was related to the poor performance status ($p < 0.0001$), to the age over 65 years ($p = 0.033$) and to the increased serum creatinine level ($p = 0.001$). In the early mortality there were involved a combination of one or more causes. The most common causes were infections in 70.58% of cases, then renal failure in 58.82% of cases and bleeding in 29.41% of cases. The infectious agent was determined in 58.33% of cases, the *Pneumococcus pneumoniae* being the most common. Dialysis was necessary in 40% of cases with renal impairment. The co-morbidities were hypertension and myocardial failure in 58.82% of cases and respiratory disease in 11.76% of cases. The patients who did not show early mortality, had a median survival of 30 months. **Conclusions:** Early mortality was present in 14.16% of patients and it was associated with the age over 65 years, the poor performance status and the high serum creatinine level. The most common causes were infections, renal impairment and bleedings.

Keywords: multiple myeloma, early mortality, infection

THE THROMBOCYTOPENIA AND BLEEDINGS IN PATIENTS WITH MULTIPLE MYELOMA

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Background: The evolution of multiple myeloma patients is influenced by a variety of clinical and biological factors. The purpose of this study is to evaluate the prognostic value of thrombocytopenia and bleedings in terms of survival in patients with multiple myeloma. **Material and methods:** This study analyses 120 patients diagnosed and treated between January 2005 and October 2012. Statistical analysis consisted of Chi-square test and survival analysis using Kaplan Meier curves compared to log rank test. **Results:** Thrombocytopenia was present in 38.33% of patients, while a proportion of 71.73% of patients had platelet value between 100×10^9 - 150×10^9 /L and in 8.69% of patients it was below 50×10^9 /L. The patients who developed thrombocytopenia, were frequently in stage III (84.78%) of the disease and they showed an increased number of plasma cells ($p = 0.008$), age over 65 years ($p = 0.038$) and high creatinine level ($p = 0.017$). Sepsis was present in 13.04% of patients with thrombocytopenia. The median survival of patients without thrombocytopenia was 32 months compared to 16 months of those with thrombocytopenia ($p = 0.025$). A proportion of 10.83% of patients experienced bleedings, the most frequent being upper digestive bleeding (38.46%). Thrombocytopenia was present in 46.15% of bleeding patients. Median survival of patients who did not show bleeding, was 21 months and in case of those with bleeding it was 7 months ($p = 0.015$). **Conclusions:** Thrombocytopenia was present in over one third of cases and bleedings in 10% of cases. Low level of platelets and the presence of bleedings are negative prognostic factors in the evolution of multiple myeloma patients in term of survival.

Keywords: multiple myeloma, thrombocytopenia, bleedings, survival

ANTICONSULSANT HYPERSENSITIVITY SYNDROME -CASE REPORT

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Background: Anticonvulsant hypersensitivity syndrome (AHS) is a multisystemic disorder involving cutaneous changes and typical blood abnormalities that can be triggered by aromatic anticonvulsant drugs. The syndrome is commonly associated with a macular or papular rash or erythroderma. AHS is a life-threatening drug hypersensitivity reaction characterized by fever, rash, lymphadenopathy, and hepatitis, less common symptoms are interstitial nephritis, myopathy, Coombs negative anemia, interstitial pulmonary infiltrates, acute renal failure. It has also been associated with leukocytosis and eosinophilia. **Material and methods:** Case presentation. **Results:** 2 cases are presented: a 77 years old woman treated with Carbamazepine after a left sylvian ischemic stroke has been admitted in our service with sever generalised erythrodermia, fever, hepatic and renal dysfunction and a 19 years old woman treated with lamotrigine for epilepsy admitted for sever generalised exfoliative erythroderma with suprainfection, polyadenopathy, high fever, renal dysfunction, hydroelectrolytic disbalance necesiting intensive care support. **Conclusions:** Conclusions are that AHS is a serious adverse reaction, potentially fatal, it has no specific treatment except avoiding the substances, the positive role of sistemic corticosteroides in treatment is discussed.

Keywords: hematology, anticonvulsants, erythroderma, systemic reaction

THE ARG194TRP POLYMORPHISM IN THE XRCC1 GENE AND CHRONIC MYELOID LEUKEMIA

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Background: XRCC1 (X-ray repaircross complementing group 1) gene is involved in DNA (deoxyribonucleic acid) repair pathways and in maintenance of genome integrity. XRCC1 Arg194Trp polymorphism has been associated with the risk of several human cancers, including leukemia. The aim of this study was to investigate the association of XRCC1 gene polymorphism Arg194Trp and chronic myeloid leukemia (CML). **Material and methods:** We performed a case-control study, involving 40 patients with CML and 60 control subjects with no malignant hemopathy history. DNA was obtained from fresh peripheral blood samples. XRCC1 genotypes (Arg/Arg, Arg/Trp, Trp/Trp) were analysed during polymerase chain reaction-restriction fragment length (PCR-RFLP) assay. Digested products were resolved on 2% agarose gel electrophoresis, stained with ethidium bromide and visualised under UV light. **Results:** The proportion of individuals homozygous for 194Arg allele, heterozygous and homozygous for 194Trp allele were 58%, 34% and 8% among the control group, and 60%, 30% and 10% among those with chronic myeloid leukemia, respectively. **Conclusions:** Our results suggest that the XRCC1 gene Arg194Trp polymorphism is not associated with an increased risk of chronic myeloid leukemia. **Acknowledgement:** This paper is partly 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 60782.

Keywords: hematology, pathology, XRCC1 polymorphism, Arg194Trp, chronic myeloid leukemia

HEPATOSPLENIC T-CELL LYMPHOMA, ONE OF THE RAREST T-CELL LYMPHOMA - CASE REPORT

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Background: Hepatosplenic T-cell lymphoma (HSTCL) is one of the rarest T-cell lymphoma (TCL) - less than 5% of all the TCL and fewer than 1% of all non-Hodgkin's lymphomas, with highly aggressive evolution and poor prognosis. **Material and methods:** We describe the case of a young male patient diagnosed and treated in our department with HSTCL. **Results:** A 24 years old male patient, without any significant medical history, was presenting with fever, cutaneous purpura, splenomegaly and hepatomegaly, without any enlarged peripheral lymph nodes. Computer tomography disclosed mediastinal or retroperitoneal lymphadenopathy. Blood tests revealed an elevated white blood cells count (WBC), mild thrombocytopenia, monocyte count greater than 1000/mm³, circulating myeloid precursor cells. Atypical lymphoid cells were 3% in blood smears and 14% in marrow aspirate smears. Bone marrow biopsy revealed involvement by medium-sized lymphoma cells with CD3, CD2, CD7 and CD56 positivity, TdT, CD4, CD8 and CD5 negativity. Fresh blood flow-cytometry immunophenotyping detected similar pattern. Serologic tests results were negative for human T-lymphotropic virus 1, HIV 1 and 2, hepatitis B and C virus, IgG and IgM cytomegalovirus. IgM Epstein Barr virus antibodies were absent but high titer IgG EBV was found. Given the presence of a very high lactate dehydrogenase level and a performance status greater than 1, patient belonged in the high-risk age-adjusted international prognostic index. Treatment given: induction with 6 cycles of CHOP-like chemotherapy, consolidative platinum-ARA-C based chemotherapy and splenectomy. At just five months from diagnosis, leukemic transformation has developed with very high white blood cells count and over 70% atypical lymphoid cells in peripheral blood smears. Acute leukemia-type chemotherapy was restarted. Auto or/and allogeneic peripheral blood stem cell transplantation is programmed in the near future. **Conclusions:** Both diagnosis and management of a patient with HSTCL represent a real challenge. Current treatment options are still disappointing.

Keywords: hepatosplenic T-cell lymphoma, case report, diagnostic and therapeutic challenge

PROGRESSION RISK FOR CML PATIENTS IN CHRONIC PHASE TREATED WITH TKI

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Background: Chronic myeloid leukemia (CML) treatment changed dramatically the natural evolution of the disease after the introduction of tyrosine kinase inhibitors. Although a significant number of patients achieve a molecular response, the increased overall survival is mainly due to decreased progression to accelerated or blastic phase. **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 imatinib in 2002. A number of 32 patients were identified, and in the 22 treated with imatinib and dasatinib the results of molecular monitoring for bcr-abl fusion gene was evaluated. Morphological examination of the peripheral blood and bone marrow was used to confirm the accelerated or blastic phase. **Results:** Two patients were lost from follow-up, four were treated with hydroxiurea, one with interferon, 3 with nilotinib, 16 with imatinib and 6 with dasatinib, all after imatinib failure. 15 were females and 17 males. A major molecular response was noted in 6 from the 22 patients initially treated with imatinib (27,27%). In patients treated second line with dasatinib one patient achieved major molecular response (16,6%) and one died due to blastic transformation refractory to acute leukemia induction therapy (4,54% from a total of 22 patients). Two patients treated with hydroxiurea progressed to an advanced disease, after an interval of 2-3 years. **Conclusions:** The rate of progression to accelerated or blastic phase is low in the TKI treated patients (4,54%). A long survival is expected in this patients. A careful molecular monitoring allows accurate tailoring of the treatment in a timely manner in an individual patient.

Keywords: chronic myeloid leukemia, imatinib, dasatinib

HYGIENE

SMOKING FREQUENCY IN A GROUP OF PREGNANT WOMEN FROM MURES DISTRICT

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Background: To assess attitudes towards smoking during pregnancy in a group of 150 women from Tg. Mures. **Material and methods:** We used a crosssectional study based on a questionnaire assessing lifestyle and behavior during pregnancy, in a group of 150 women from Mures county, with a mean age of 36.8 years. **Results:** In the study group 19.00% were pre-pregnancy smokers from which 14.91% had smoked during pregnancy, and 8% were ex-smokers. The risk factors associated with smoking in pregnancy were: 2.67% of them held a restrictive diet in the last months of pregnancy, 48% had consumed at least 3 cups of coffee per day, 2.67% had consumed alcohol weekly, 46.67% have reduced a lot their physical activity, 20% had a low intake of dairy and 10.67% have gained 20 kilos during pregnancy. **Conclusions:** Some behavioral risk factors in pregnancy have to be followed closely by the GP, midwife or the specialists in order to avoid complications and to maintain the health of the mother and fetus.

Keywords: pregnancy, risk factors, smoking, risk behavior

BUILDING CAPACITY FOR TOBACCO RESEARCH IN ROMANIA

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Background: Romania experiences a high prevalence of active and secondhand smoking and an increasing percentage of cessation attempts with limited success. **Material and methods:** In order to address Romania's tobacco-related morbidity and mortality, Davidson College (USA) and University of Medicine and Pharmacy from Tg. Mureş have just launched a five-year initiative entitled "Building Capacity for Tobacco Research in Romania: A Partnership among Romanian, American and Hungarian Scientists". The project is composed of seven complementary research studies that address a broad range of tobacco concerns specific to Romania. **Results:** The main goals are: 1. to study the smoking habits among children and adolescents, pregnant women, residents in social institutions, and patients; 2. to implement school-based, clinic-based, and community-based prevention and cessation programs; 3. to analyze the economic impact of smoking; 4. to assess the impact of secondhand smoke on air quality; and 5. policy advocacy. **Conclusions:** Our tobacco initiative is expected to enhance the rigor and relevance of tobacco research in Romania, to create new networks of tobacco scientists, to disseminate our research to the scientific community and stakeholders, to implement well-developed interventions in order to reduce tobacco use, and to inform tobacco control legislation.

Keywords: Hygiene, tobacco research, smoking prevention and cessation

THE CREDIBILITY OF INFORMATION ABOUT BREAST CANCER ON THE ROMANIAN WEBSITES

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Background: Although there is extensive research on the credibility of the medical websites in various languages, the Romanian online medical resources have not yet been systematically investigated. The goal of our study was to assess the credibility of the

websites presenting breast cancer information for the Romanian speaking general population and the possible association between credibility and websites characteristics. **Material and methods:** We evaluated a sample of 20 websites selected from the Google's first search results pages. We classified the sites according to several general characteristics and checked their compliance to a set of credibility criteria published in the literature. **Results:** The average credibility score was 4.80 (SD 1.82). The highest level of compliance was found regarding the availability of a feedback mechanism (85% of the sites), declaring the name and the address of the owner (75%) and differentiating the advertisement from editorial content (71%). None of the websites met the criteria regarding sources of sponsorship, describing the editorial policy, mentioning the bibliographic references and the date of last review. We found no statistically significant association between the general characteristics of the websites and compliance to the credibility criteria. **Conclusions:** The Romanian websites presenting information about breast cancer seem to have a low level of compliance to the eEurope 2002 credibility criteria. The general characteristics of the websites presenting information about breast cancer for the general public don't seem to be associated with compliance to the credibility criteria.

Keywords: breast cancer, credibility, quality, Internet

RAPID HPLC METHOD WITH FLUORESCENCE DETECTION FOR THE SCREENING OF FLUOROQUINOLONES IN MILK

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Background: The aim of the study was to develop a rapid high-performance liquid chromatographic method (HPLC) with *fluorescence* for the separation of five fluoroquinolones: norfloxacin (NOR), ofloxacin (OFL), moxifloxacin (MOX), ciprofloxacin (CFX) and enrofloxacin (EFX) from milk, according to 2002/657/EC. **Material and methods:** Separation was performed on a Luna Phenomenex RP C18 150x4.60 mm 3µm column. The mobile phase consisted of a mixture of A=KH₂PO₄ 20 mmol with Tetramethylammonium hydroxide 10%, pH=3 using H₃PO₄ and B=methanol in a gradient mode. Mobile phase flow rate was variable from 0.7 to 0.8 ml/min. **Results:** In these chromatographic conditions retention times of the five fluoroquinolones were: 4.63 min (NOR), 6.80 min (OFL), 9.83 min (MOX), 11.27 min (CFX) and 12.81 min (EFX). **Conclusions:** The developed method presents a good separation of the five fluoroquinolones and permits a rapid screening of their presence in milk, considering their pharmacotoxicological potential at repeated consumption of contaminated milk by young subjects during the growing period.

Keywords: milk, fluoroquinolone, HPLC, separation

RESEARCH ON THE LIFESTYLE AND HEALTH OF THE CSANGO COMMUNITY RESIDING IN THE COUNTY OF BACĂU

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Background: The aim of this project is to determine the health condition of several village inhabitants in the Region of Moldova (Bacău County), through the perspective of their lifestyle and access to medical services, as well as their education regarding the prevention and monitoring of certain diseases and disorders. **Material and methods:** By interviewing and consulting the population, we aimed to gather information regarding body mass index, blood pressure, blood sugar, alcohol and cigarette consumption, eating habits and the nature of the food consumed, physical activity, population optimism, oral hygiene, etc.. We conducted our research in seven localities of Bacău County: Pustiana, Valea Mare, Lespezi, Tuta, Bahna, Nicoreşti, Frumoasa. **Results:** Two thirds of the adult population interviewed has a higher body mass index than normal, and a large part suffers from high blood pressure of various forms (76.19%). As far as nutrition is concerned, the meals of the majority of the population (84.35%) are regular, 51% eats breakfast on a regular basis. Smoking is not a specific habit of the population: 68% have never smoked, and 16.33% have given up smoking for over a year. Excessive alcohol consumption and too much physical activity are observed. **Conclusions:** According to the scoring calculated, 70.7% of the population is of normal physical health. As healthcare is hard to access regular medical examinations are absent in the case of most of the population. Inequality is found as far as distance

and means of access to medical cabinets, clinics, hospitals and the number of medical specialists etc. is concerned.

Keywords: lifestyle, community, Csango, Bacău

PREFERENCES OF USE AND ATTITUDES TOWARDS CONTRACEPTIVE METHODS AMONG PENINSULA FESTIVAL VISITORS TÂRGU- MUREȘ 2011

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Background: The main objective of the study was to establish the preferences of use and attitudes towards contraceptive methods among women and men aged 14 to 45 years, visitors of Peninsula Festival 2011. The objectives of the analysis were to describe and compare the contraceptive use among Romanian women and men, and to investigate the effects of age, education, work, marital status on contraceptive use. **Material and methods:** The study was carried out as a cross-sectional survey of randomly selected women and men, aged 14-45 years, who participated at Peninsula Festival 2011, Targu Mures, Romania. For data collection were used anonymous self-evaluation questionnaires, males and females also, completed by a total number of 644 subjects. **Results:** The gender proportion of the sample is: 50.3% female, 49.7% male. Mean age: 21.76 years old, Std. deviation \pm 4.65. The most common method used by all the surveyed visitors were condoms (72.5%), oral contraceptives (19.9%), and withdrawal method (14.9%). Contraceptive methods that are the least used: vasectomy (not used by anyone), female surgical sterilization and hormonal injections (0.2%), female barrier (0.3%), intrauterine device (0.8%). There were observed significant differences among the different age and marital status group: the male condom is the most used method among young people and teens, but the least used method among married subjects. **Conclusions:** The results suggested the need for information, education and provision of contraceptive services for people. An appropriate health education of the population and the need for an adequate level of knowledge regarding different and available contraceptive methods.

Keywords: contraception methods, condom, oral contraceptives, sexual education

ALGORITHM OCCURRENCE OF RESPIRATORY DISEASES IN EXPOSURE TO NOX AND NH₃ VAPORS AND PARTICULATES

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Background: The irritative effect of ammonia and nitrogen oxides that manifest itself through acute and chronic pulmonary diseases is influenced by the regenerative capacity of the airway mucosa and other factors: the habit of smoking, length and dose of exposure, constitutional factors. **Material and methods:** The prospective cohort study was performed in April 2010-December 2011 time frame, on two samples: 196 workers from a chemical plant considered less exposed and 150 workers more exposed to gases, vapors and irritating dust. The grouping criteria was based on measurements from the working environments. The health state of the workers was evaluated through medical history, occupational medical history, clinical examination (thereby, workers with acute pulmonary affections were excluded from the study), spirometry, the measurements being repeated after 12 months. The investigations were performed after 12 hours of rest period. **Results:** The mean concentration of ammonia in the section with the highest exposure was 7.175 mg/m³ versus 1.582 mg/m³ mean concentration in the other sections. Also, in the sections belonging to the first group the ammonia concentrations and particulate matter levels exceeded significantly more often the MAC. Following the evolution of functional pulmonary tests in the two groups, reevaluating after 1 year, we found significant statistical differences in the case of FEV₁ and ratio FEV₁/FVC \times 100 measurements. We studied the association between exposure and parameters that decreased below 80%, between exposure length in years, smoking habit, respectively different constitutional factors. **Conclusions:** The worsening in just one year of the functional pulmonary tests in the case of the more exposed workers is surprising, even though the existence of pathological values was constated.

Keywords: irritating vapors, particulates, occupational medical history, spirometry

INFECTIOUS DISEASES

INCIDENCE, EPIDEMIOLOGY AND ETIOLOGY OF ACUTE MENINGITIS IN MURES COUNTY

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Background: Meningitis is a multiple aetiology disorder characterized by infectiously triggered inflammation of the meningeal serosa manifesting as an acute systemic illness with variable evolution from healing to death. The objectives of this study were the evaluation of incidence, epidemiologic and diagnostic aspects of the acute meningitis in a well define region. **Material and methods:** We have designed an observational study that included a number of 165 consecutively admitted patients with the diagnosis of meningitis at the Targu-Mures Infectious Disease Clinic, Romania, from January 1st to December 31st 2011. Cases of confirmed meningitis vs. meningismus, and meningeal reaction were compared. We kept track of the demographic aspects, the annual and seasonal distribution of cases. The diagnosis of meningitis was established by clinical signs, examination of the cerebrospinal fluid such as: macroscopic aspect, pleocytosis, biochemical reactions, wet mounts, Latex agglutination tests, serological reactions, cultures and antibiotic resistance testing (when needed). **Results:** The majority of the patients were male, from rural areas. The mean age of patients with bacterial meningitis was 36 years, and that of viral meningitis cases was 20 years. In 2011 the incidence of acute meningitis was 19.73 cases/100.000 inhabitants. 26 patients (15.76%) of the studied group were diagnosed with bacterial meningitis, and 63 cases (38.18%) with viral meningitis. The most common cause for bacterial meningitis were Gram-positive cocci, and for viral meningitis, the varicella-zoster virus. **Conclusions:** In 2011, the incidence of acute meningitis in our region has not decreased significantly compared to previous studies. In the case of bacterial meningitis, the etiologic agent was identified in a small proportion, possibly because of antibiotic treatment administered before the admission, also observing an increase in antibiotic resistance of the identified agents.

Keywords: meningitis, epidemiology, diagnostic

HELICOBACTER PYLORI INFECTION – NON-INVASIVE DIAGNOSTIC METHODS IN HIV-INFECTED PATIENTS

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Background: Helicobacter pylori infection is involved in the pathogenesis of gastro-intestinal diseases, both in patients infected with human immunodeficiency virus (HIV) and in HIV-negative individuals, in various frequencies. HIV-positive patients, submitted to multiple investigations due to chronic illness, usually prefer non-invasive diagnostic methods. Objectives: to analyze the frequency of Helicobacter pylori infection in HIV-positive versus HIV-negative patients by non-invasive diagnostic methods. **Material and methods:** Retrospective, analytical, case-control study, over a period of 47 months, including 1269 Helicobacter pylori tests (serology or stool antigen) performed in the Laboratory of Infectious Diseases, Clinical District Hospital Mures. 110 HIV-infected patients were included in group A, while group B was represented by 1159 non-HIV infected patients. GraphPad programme was used for applying chi-square test and calculating Odds Ratio (OR). **Results:** The overall frequency of infection was 40% in HIV-positive and 58.49% in HIV-negative patients. We obtained a statistically significant negative association between HIV and Helicobacter pylori infection when considering the overall result of testing (by determining Helicobacter pylori stool antigen or anti-Helicobacter pylori antibodies - $p=0.0003$, $OR=0.473$) as well as by serological testing alone ($p=0.011$, $OR=0.4616$). By comparing the results of stool antigen tests, we obtained a negative, but not statistically significant association between HIV and Helicobacter infections ($p=0.9074$, $OR=0.9135$). **Conclusions:** Medical practitioners must choose the most accurate non-invasive diagnostic method of Helicobacter pylori infection in HIV-positive patients, whose immune response in antibodies might be altered, as well as their CD4 T-lymphocyte count, due to severe immunodeficiency.

Keywords: *Helicobacter pylori*, non-invasive diagnostic methods, HIV-infected patients

PARTICULARITIES OF HIV INFECTION IN WOMEN

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Background: The aspects of HIV infection in women are mostly identical to those in men, except of a few sex-specific ones. The objective of the study is to evaluate the particularities met in HIV infected female patients at the 1st Infectious Diseases Clinic of Tg. Mures. **Material and methods:** A retrospective cross-sectional study was performed on a group of 77 patients found in active evidence at the 1st Infectious Diseases Clinic of Tg. Mures during the period of 01.01.2011-31.12.2011. We followed personal, epidemiological, immunological, therapeutical data. The results were analyzed using the statistical program GraphPad, Student t test and Fisher test. **Results:** 79% of patients were between 20 and 24 years of age, 74% were diagnosed HIV positive before the age of 14, 87% were infected nosocomially, 13% were infected sexually of which 60% were infected by the husband. 26 couples were serodiscordant, 67% of the patients partners were seronegative, 21% (17) had at least one child. 66% (11 out of 17) of the children were born after their mother was diagnosed with HIV infection. None of the children were HIV positive. 11 patients were analphabets, 36 have not completed secondary school, only 10% were employed, 79% were unemployed. The unemployment rate of nosocomially infected patients was 84%, compared with that of the sexually infected patients (50%, $p=0,0004$). The level of adherence was above 80% in 67% of the women, with a median number of LTCD4 cells of 558/mm³, significantly higher than in nonadherent patients. (316 cells LTCD4/mm³, $p=0,0037$). **Conclusions:** In our study group predominated the young, sexually active, nosocomially infected women with serodiscordant partners. The majority were uneducated, unemployed. Two thirds had good adherence and imunological status. The profilactic measures of mother to child transmission were efficient.

Keywords: HIV, female, particular aspects

RETROSPECTIVE ANALYSIS OF MENINGOCOCCAL MENINGITIS

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Background: Meningococcal meningitis, the main manifestation of the infection with *Neisseria meningitidis*, remains a threat because of its evolution, which may be sometimes epidemic, and because it affects mainly children and adolescents. The study of cases of meningococcal meningitis admitted in the Clinic of Infectious Diseases I Tg-Mures in terms of age, seasonality, type of isolated meningococcus, CSF examination, clinical evolution and administered treatment. **Material and methods:** The observation charts of 7 patients who were admitted in the period 2009 - 2011 with meningococcal meningitis were analyzed retrospectively. The diagnosis of bacterial meningitis was established based on clinical symptoms and the examination of cerebrospinal fluid. **Results:** Meningococcal meningitis represented 10.14% of the total number of bacterial meningitis. The distribution on sexes was 3 girls and 4 boys, with an average age of 7.3. At admission, 6 patients had petechial exanthema. From the confirmed cases, at 5 we determined the serogroup of the meningococcus: B - 4 cases and serogroup C - 1 case. The proteinorachia of the cerebrospinal fluid did not present values over 100 mg/dl. The chosen antibiotic was Penicillin G. The duration of the treatment was 7 days on average. No death was registered. **Conclusions:** The meningococcal infection causes an important morbidity and mortality, especially in children. The incidence of meningococcal meningitis is higher in children of young age 1 - 3. In our region serogroup B meningococcus has been isolated in a greater proportion. The meningococcal vaccination can contribute to the reduction in the number of cases, being necessary its introduction in the national program of immunization.

Keywords: *neisseria meningitidis*, meningococcal meningitis, immunization

STREPTOCOCCAL INFECTIONS: EPIDEMIOLOGICAL ASPECTS, DIAGNOSIS AND TREATMENT

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Background: Aim: to assess the epidemiological, clinical and evolutionary, biological and therapeutic features of the streptococcal infections experienced in the Infectious Diseases Clinic I Tg-Mures for a period of 1 year. **Material and methods:** A longitudinal, prospective and cohort study was conducted, which included all cases of streptococcal infections admitted to the Infectious Diseases Clinic I between 01.01.2011-31.12.2011. Streptococcal etiology was supported by cultures, namely clinical cases with a pathognomonic picture. **Results:** There were 238 cases of streptococcal infections, out of which 74 (31.09%) of erysipelas, 75 (31.51%) of angina, 63 (26.47%) cases of scarlet fever, and 10 (4, 20%) with other clinical pictures (pyoderma, fasciitis). Gender distribution was balanced (47% vs 53% in favor of males), most patients from urban areas (66%) and the most affected age group was 4-7 years. The overall prevalence of positive microbiological diagnosis was 31%, and 70% for scarlet fever, erysipelas is prevalent in women (65%) in age groups between 6-7 (35%), rarely allowed isolation of the streptococcus (7%) and was associated with a mortality of 3%. Antibacterial treatment included or was represented in most cases by penicillin G, except in cases of cellulitis, which required a combination of antibiotics and broad spectrum antibiotics. **Conclusions:** The most common clinical forms of streptococcal infections are angina, erysipelas, and scarlet fever. The prevalence of the microbiological diagnosis by cultural methods is reduced, requiring its optimization and corroboration with clinical and serological data. Scarlet fever and erysipelas perform classical pictures of the disease. Erysipelas has a good response to penicillin therapy, but often requires combinations of antibiotics. Streptococcal cellulitis requires combinations of antibiotics because of its polymicrobial etiology. Pyoderma and necrotizing fasciitis are prevalent in men, requiring antibiotic combinations, the first treatment option being the cephalosporins. Overall mortality of 1% was due to a severe worsening of comorbidities correspondingly of multisystem organ failure.

Keywords: streptococcus, penicillin, cellulitis, erysipelas, scarlet fever

EVOLUTION OF HIV INFECTION IN MURES COUNTY

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Background: HIV infection is a continuous challenge for the medical world and not only. During the past years, the epidemiologic and evolutive pattern has encountered significant changes in our region. Purpose: clinical, evolutive, immunological and virological assessment of the newly diagnosed cases of HIV infection from Mures County **Material and methods:** retrospective study of the newly diagnosed cases of HIV infection in HIV Department of Infectious Diseases Clinic Tg-Mures, over a five-year period **Results:** 49 patients were diagnosed with HIV infection between 2007-2011, out of which 65.35% male and 32.65% female. The average age was 26 years. 63.26% came from urban environment, 51% had medium or superior education. The sexual route was the dominant pattern of infection. The reasons for testing were: opportunistic infections and screening evaluation (pregnancy, HIV-positive sexual partners, sexually-transmitted diseases). The median value of CD4 T-cells count was 266/cmm, and that of HIV viral load 117633 c/ml. CDC classification at the time of diagnosis included most patients in C3 stage (51%), 28.57% in B2-3 stage and 20.40% in A1-2 stage. We have registered 6 deaths (in average at 14 months from the time of diagnosis). **Conclusions:** We have observed the increased number of late-presenters - patients diagnosed while in C3 stage. The main route of HIV transmission was sexually.

Keywords: infections, HIV, diagnosis, new cases

CEREBRAL VENOUS THROMBOSIS COMPLICATING MENINGITIS IN A CHILD – CASE REVIEW

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Background: Cerebral venous thrombosis is a rare, multifactorial disease in children. It can be caused by hematological disorders, arterio-venous malformations, dehydration, severe anemia, traumatism, inflammatory disorders, infection. Anticoagulation therapy is recommended, however the outcome is impaired by the frequent neurological sequelae, death. **Material and methods:** We present the case of a 1 year old child, admitted on the 4th day of the onset of symptoms, with fever, vomiting, altered condition, agitation, signs of dehydration, encephalytic cry, meningeal signs. The child was treated with ampicillin and gentamicin, intravenous fluid replacment for two days, being admitted in another healthcare setting. In the absence of papilledema lumbar puncture was performed. Neutrophil pleiocytosis (1500 cells/ul), increased protein level (138.7 mg/dl) was found, however cultures, smears and latex agglutination tests were negative. Routine blood tests showed severe anemia (Hgb 6.6 g/dl), leucocytosis. Meropenem, ampicillin, gentamicin, depletion, dexamethosone, fluids, transfusion were administered, with slightly favorable outcome in the first 2 days of therapy. Afterwards the initial symptoms reappeared, left arm and right lower limb paresis appeared. Contrast enhanced cerebral MRI was performed, that revealed thrombosis of the right sigmoid, transversal and sagittal superior sinuses. **Results:** The diagnosis of cerebral venous thrombosis and bacterial meningitis was established. The child was transferred in the Intensive Care Unit, anticoagulant therapy and teicoplanin was added. The outcome was favorable, with partial recanalization of the affected sinuses, almost complete remission of paresis. **Conclusions:** Cerebral venous thrombosis can appear as a complication of bacterial meningitis. The contrast enhanced MRI scan is a useful tool in its diagnosis. The outcome can be favorable with anticoagulants, fluid replacement, antibiotic therapy.

Keywords: cerebral venous thrombosis, meningitis, child

INTERNAL MEDICINE

SEDATION FREE COLONOSCOPY PERFORMED IN PRIVAT PRAXIS ASSOCIATED WITH THE USE OF PEDIATRIC COLONOSCOPE IN ADULTS

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Background: Total colonoscopy needs an experienced endoscopist and is considered painful. In many centres, total colonoscopy is made under sedation. The disadvantages of the sedation are: an increased time commitment from the patients and possible complications (hypoxemia, cardiac arrest) and also the higher costs. The advantages of the sedation free colonoscopy are: the cooperation with the patient on all the time of the investigation, a reduced risk of perforations and rapid recovery of the patient.

Material and methods: We compared the number of cecum intubation in the patients who underwent colonoscopy with an adult colonoscope with the patients who underwent the colonoscopy with pediatric colonoscope, in the same conditions, with drotaverine, in a private praxis. 410 patients who underwent colonoscopy in a private praxis in 2009 were followed-up. All the patients received No-Spa (drotaverine) 40mg/2ml intramuscularly before the examination. 527 patients underwent colonoscopy in 2011, also received drotaverine, but a pediatric colonoscope was used. **Results:** From 410 patients followed-up in 2009, at 362 (88,29%) total colonoscopy was performed, and cecum was intubated. At 48 (11,71%) patients colonoscopy was not completed. From 527 patients in 2011 in which a pediatric colonoscope was used, at 483 (91.65%) patients the cecum was reached. The causes of incomplete colonoscopy were the same: previous abdominal or pelvic surgery (hysterectomy), malignant stenosis, poor bowel preparation, high anxiety of the patient, dolicosigmoid, diverticular disease. The number of incomplete colonoscopies were significantly higher in females (64,58%), in older people (70,83%) and at patients with low body mass index (68,75%).

Conclusions: In 88,29% of the patients examined in sedation free colonoscopy, but under antispasmodic drug (drotaverine) the cecum was reached. The pediatric colonoscope improved the total colonoscopy to a rate of 91.65%. The age of the patient, the female gender and the low body mass index have a strong correlation with the risk of the incomplete colonoscopy $p < 0,05$. Antispasmodic drugs are efficient in performing total colonoscopy and using a pediatric colonoscope improves the rate of cecum intubation.

Keywords: sedation free, colonoscopy, cecum intubation

CLINICAL APPLICATIONS OF MAGNIFICATION ENDOSCOPY WITH NARROWBAND IMAGING

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Background: The development of high-resolution endoscopy (HRE) and narrowband imaging (NBI) adds a new value to the endoscopic examination of the gastrointestinal tract. This field is in its early stages. The aim of our study is to evaluate the clinical application of these new endoscopic techniques. **Material and methods:** We initiated a prospective study and performed endoscopic examinations with an NBI high-resolution endoscope OLYMPUS EVIS EXERA III. Initially, we performed a high-resolution white light examination to identify any visible lesions such as nodules, erosions, plaques, polyps. All these lesions were highlighted during NBI. We focused on the two aspects during the magnification and NBI examination: mucosal surface and vascular pattern. Every abnormal area was noted in terms of location and biopsied separately. Thus, we identified the correspondence between different patterns and histological evaluation. **Results:** We obtained abnormal mucosal patterns and abnormal vascular patterns. We had a learning curve to appreciate mucosal changes under blue light. In patients with Barrett's esophagus we identified ridge/villous pattern, corresponding to intestinal metaplasia. We identified the disappearance of regular pattern and an irregular microvascular pattern in areas with dysplasia. The extension of the lesions was easily estimated by NBI examination. Targeted biopsies allowed a better identification of the lesions, which is important from the point of view of diagnosis and surveillance. **Conclusions:** NBI and HRE examination allow the detection of subtle mucosal changes. The main impact of

these advanced endoscopic imaging techniques is visible in the detection of premalignant and malignant lesions in early, potentially curable stages. Our work is a contribution to the standardization and development of these endoscopic methods. **ACKNOWLEDGMENTS:** This paper is partially supported by the Sectoral Operational Programme Human Resources Development, financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/89/1.5/S/60782

Keywords: high-resolution endoscopy, narrowband imaging, imaging techniques

CLINICAL AND EPIDEMIOLOGICAL CONSIDERATIONS OF INFLAMMATORY BOWEL DISEASES IN OUR GEOGRAPHICAL AREA

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Background: Crohn's disease (CD) and ulcerative colitis (UC) are chronic, severe and debilitating inflammatory bowel diseases (IBD) that affect primarily the young and active segments of the population, with an increasing incidence and prevalence in Romania, with a high economic and human cost. By proving the increase in prevalence and severity of Crohn's disease and ulcerative colitis and establishing a social distribution pattern we attempt to develop a better management strategy. **Material and methods:** Being an important zonal medical center, we have a broad addressability and the study of the casuistry offers a good view of the characteristics and trends of diseases in our geographical area. We have chosen to follow IBD cases admitted between 2007 and 2011, included in a computerized database, analyzed on interest points. **Results:** We found a total of 211 cases, with an increasing rate of 6 to 10 cases per 10.000 patients. CD has been increasing constantly in frequency, from 12 to 42 cases to the 100.000. UC remained constant between 50 and 60 patients to the 100.000. We found more men affected by IBDs than women, with an equalising tendency. Urban and rural areas are affected equally, despite an early urban predominance. Also, IBD patients rarely attend higher education, most stop at level of secondary education. Data shows that 56% of cases are between 25 and 55 yo while 75% of all cases occur before the age of 55. We have noticed an increase of emergency admitted cases with a rise from 17% at first, to a staggering 80% in 2011. Also social costs of IBDs fluctuate in the period studied. **Conclusions:** IBDs and particularly CD are increasing in prevalence in our region, affecting young, active people, regardless of sex or place of residence. Also patients present increasingly severe clinical forms while costs of IBDs differ in expense and retribution.

Keywords: Crohn's disease, ulcerative colitis, prevalence, severity, social cost

SPLENIC FOCAL LESIONS - A RARE BUT IMPORTANT CLINICAL EVENT

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Background: Focal splenic lesions are a rare clinical pathology that has important diagnostic implications and different clinical course, either benign or malign. They need to be investigated using imaging methods. **Material and methods:** In a period of one year, during the daily ultrasound (US) examinations we found 25 splenic focal lesions. These were characterized in gray-scale, Doppler, Power Doppler and US Contrast agent (CEUS) examination. US were performed in the IV-th Medical Clinic using a 3,5Mz convex transducer and Contrast agent examination in a private medical center. **Results:** Splenic lesions were classified according with US findings: 8 accessory spleens, 2 splenic metastases, two hematoma after abdominal trauma, four lymphomas, four haemangiomas and 5 cysts (simple and complex). In grey scale the lesions were partially described, its vascular pattern being described with other performant methods, the most important was CEUS. We performed CEUS for atypical cysts, metastases and posttraumatic hematomas. **Conclusions:** Due to the importance of CEUS in splenic focal lesions characterization, this type of US examinations must be performed in cases in which the local vascularization mapping is required.

Keywords: internal medicine, contrast agent, ultrasound, spleen, Doppler

PAGET'S DISEASE OF BONE - CASE REPORT AND A REVIEW OF EPIDEMIOLOGY, PATHOPHYSIOLOGY AND MANAGEMENT

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Background: Paget's disease of bone (PDB) is the second-most-common metabolic bone disease, after osteoporosis, affecting about 3% of the population at age over 40 years. This disease is characterized by excessive and abnormal bone remodeling due to increased bone resorption followed by disorganized bone formation. **Material and methods:** This paper will include a case report and a review of PDB epidemiology and pathophysiology, complications and clinical findings, indications for treatment, and the drugs currently available to treat this condition. **Results:** Case report: 64 years old woman, who addressed to our department in March 2011 for chronic left hip and low back pain, with insidious onset which has increased over time, fatigue, headaches attacks with occipital localization associated with dizziness and intracranial pressure. The evaluation of phospho-calcic metabolism showed normocalcemia, hypophosphatemia, normocalciuria, hyperphosphaturia, normal serum parathyroid hormone level, 25-hydroxyvitamin D level decreased (19 ng/mL) and alkaline phosphatase level increased (572U/L). Bone scintigraphy revealed intense uptake of radiopharmaceutical in the left femur. The bones X-rays and computed tomography of the left femur showed marked thickening and sclerosis of cortical bone with inhomogeneous ossification of bone structure, osteolysis and small subchondral cystic lesions. Medical treatment was initiated with alendronate, calcitonin, calcium and vitamin D, with favorable evolution during the next months. **Conclusions:** Long term follow-up is required for monitoring related complications.

Keywords: Paget's disease of bone, bone resorption, alendron

MICROBIOLOGY

INVOLVEMENT OF CLOSTRIDIUM DIFFICILE INFECTION IN THE ETIOLOGY OF NOSOCOMIAL DIARRHEA

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Background: To evaluate the involvement of *C. difficile* infection in the etiology of nosocomial diarrhea. **Material and methods:** Between 01.11.2008 - 31.12.2011, in the Department of Microbiology from the Tg. Mureş County Hospital Laboratory, 1879 samples of faeces were processed by coproculture. Diarrheic stool samples were processed to identify the etiology of diarrheic disease (Enterobacteriaceae, *Campylobacter* spp., *Clostridium difficile*), while the stools that were not diarrheic were tested to determine the carriage of *Salmonella* spp., *Shigella* spp. **Results:** From all processed samples, the carriage of *Salmonella* spp., *Shigella* spp. was requested in 41.25% of cases. Etiological diagnostic was established in a low percentage (2.77% of all processed samples). The distribution by age for the cases with etiological diagnostic showed that the most common ones occurred in the 7-18 years group (4.92%), although the sampling was performed most commonly in the 1-12 months age group (16.34%). The most frequent positive cases were reported in coproparasitological examination (0.96% of all processed samples), followed closely by *Clostridium difficile* infection (0.8%) and then by the rotaviral infection (0.37%). Community-associated enteric pathogens were identified in 7 cases (0.39% of all samples processed). During the 3 years of the study, the incidence of *Clostridium difficile* infection (12.96% 000 - reported per 100,000 admissions) had a decreasing trend (from 21.22% 000 in 2009, to 9.1% 000 in 2010 and to 8.36% 000 in 2011). **Conclusions:** The incidence of *Clostridium difficile* infection is increased. Rigorous selection of the samples that are tested for *Clostridium difficile* infection greatly increases the positivity degree of the tested samples. Identifying other microorganisms as causative agents of nosocomial diarrhea is less probable.

Keywords: *Clostridium difficile*, diarrhea, nosocomial

NEONATOLOGY

FETAL RISK FACTORS IN NEWBORNS WITH PLURIMALFORMATIVE SYNDROMES

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Background: Plurimalformative syndromes represent a combination of three or more birth defects, and they are the expression of morphogenesis errors. Maternal, fetal and environmental risk factors are described in literature **Material and methods:** evaluating fetal risk factors for neonatal plurimalformative syndromes in a study conducted in Târgu-Mureş neonatal tertiary unit between 1st january 2007 and 31 december 2010 **Methods:** 92 newborns with plurimalformative syndromes and 92 non-malformed neonates born or transferred in the unit were included in study. Statistical analysis was performed with SPSS v. 17 for Windows **Results:** **Incidence of** plurimalformative syndromes was 0.94%. Birth weight of newborns in the study group (2523.7 ± 835 gSD) was significantly lower ($F=3.93$, $p=0.048$) compared with birth weight of newborns in the control group (2776.6 ± 893 gSD). We found a significant association between presence of plurimalformative syndromes and *chronic fetal distress* ($\chi^2=12.266$, $r=-0.718$, $p=0.004$), gemellarity ($\chi^2=5.10$, $r=0.65$, $p=0.023$), mean Apgar score at 1 minute (Apgar1 min= 6.5 ± 2.4 SD, $F=58.4$, $p<<0.01$) and mean Apgar score at 5 minute (Apgar5 min= 7.6 ± 1.9 SD, $F=46.74$, $p<<0.01$). We found no association between newborn gender ($\chi^2 = 0.3484$, $r = -0.043$, $p = 0.557$), type of delivery ($r=0.01$, $p=0.86$) and presence of plurimalformative syndromes in neonates **Conclusions:** Multicenter study with increased number of cases is needed to confirm these findings and initiate a national registry for congenital malformations

Keywords: neonatology, genetics, fetal risk factors, plurimalformative syndromes

OCCUPATIONAL HEALTH

THE PSYHOSOCIAL RISK FACTORS EFFECTS ON THE MENTAL HEALTH IN HEALTHCARE SECTOR

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Background: In the health care sector the employees are exposed to the biological agents, chemical substances, radiological hazards, and also to the psychosocial risk factors such are linked to the way work is designed, organised and managed, as well as the economic and social context of work. There is typical for the healthcare sector the confrontation with pain, dealing with dying people, emergencies, inadequate preparation for the demands of the job, high workload, long working hours, shift works, too tight or inappropriate work schedule, exposure to traumatic events, violence and harassment, behaviour which can come from patients, visitors or colleagues. Poor interpersonal relationships sometime caused by unjustified promotions as managers. These factors can cause negative stress reactions such as depression, fatigue, anxiety, burnout, irritability and also can cause psychosomatic illness such as HBP, ischemic cardiopathy, gastrointestinal diseases, dermatoses, and others, and cause reduced productivity and lowered morale. **Material and methods:** To study the incidence of specific health problems caused by these psychosocial risk factors in the literature in the healthcare sector to compare them to our evidence. **Results:** These health effects include burnout, 36.2 % of the English employees in the healthcare sector, anxiety 11.4 %, irritability 15.2 %, depression 32% in some statistical data. Health care workers also have a high risk for substance abuse. At least 8-12 % of physicians develop a substance abuse problem during their career. These can be considered work related health problems. **Conclusions:** The results shown that the employees in the healthcare sector are very much affected by the psychosocial risk factors in the workplace. Therefore it is recommended to protect the mental health of the workers also in the healthcare sector by prevention programmes for situation that can cause adverse effects on the mental health of workers.

Keywords: psychosocial risk, healthcare sector, burnout

SHORT-TERM IMPACT OF PARTICULATE MATTER AND IRRITANT GAS FUMES ON THE RESPIRATORY SYSTEM

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Background: Air pollution with chemicals or particulate matter in enough high concentrations can cause discomfort and can impact human health. In our study we investigate the relationship between the exposure to ammonia and particulate matter in the working environment and the results of the functional pulmonary tests. Such a correlation opens the way for modeling and studying the risks associated with working in a polluted surrounding. **Material and methods:** The study was conducted on 241 workers of a nearby plant, exposed to different levels of ammonia and particulate matter. A group of 39 workers were more exposed to pollution than the rest of 202 persons. During the year 2011 we measured the functional pulmonary tests for all workers with the same machine in order to analyze possible differences between the two groups due to the uneven exposure to irritant gas fumes and particulate matter. **Results:** The average pollution with particulate matter was 3.63 higher in the first group. The average pollution with ammonia was very similar between the two groups (NPK section: 7.8491 mg/m³, Ammonia nitrate section: 7.6633 mg/m³). The non-parametric test revealed that there were no significant differences between functional respiratory parameters of the two groups. **Conclusions:** It is concluded that in adequate concentrations the short-term impact of particulate matter and irritant gas fumes on the respiratory system it is not relevant.

Keywords: functional pulmonary test, particulate matter, smoker

OPHTHALMOLOGY

INFLUENCE OF LORAZEPAM ON INTRAOPERATIVE IRIS BEHAVIOUR DURING PHACOEMULSIFICATION IN RABBITS

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Background: The purpose of the study was the evaluation of intraoperative iris behaviour during phacoemulsification procedure in animals treated with benzodiazepines. **Material and methods:** A prospective, experimental study was conducted in the UMPH TgMures Biobase. Our study included 11 Metis rabbits aged from 1.5 to 2 years, weights between 3.4 and 5.6 kg, distributed in 2 groups as follows: lot 1 - Control included 6 rabbits without treatment and lot 2 - Case included 5 rabbits who received 0.5 mg/kg lorazepam during 15 days. Phacoemulsification procedures were performed over two days by the same surgeon using an adapted protocol. The surgeon was not informed before or during surgery in which lot the operated rabbit was included. Due to specific behaviour of the iris in rabbits, the billowing of the iris was gradually noticed from 0-3 considering the potential of inducing intraoperative complications. By adding all the scores the following values were found: 0, 1 or 2 - lack of complications, while values greater than or equal to 3 were considered relevant to potential complications, significant change of iris behaviour (early stage of IFIS, IFI-like) **Results:** In group 1- 12 eyes were operated, while in group 2- 9 eyes were operated, 1 eye being excluded. We recorded a score less than 3 in 11 eyes from the control group. In group 2 we observed the following aspects: 3 eyes with a score less than 3, 4 eyes with a score equal to 3 and 2 eyes with a score equal to 5. Iris prolapse through incisions was not detected in our study. Statistical analysis was performed by applying Mid-P exact test who showed statistically significant differences between the two groups in terms of intraoperative iris behaviour ($p=0.004$). **Conclusions:** Lorazepam administered to rabbits included in our study changed intraoperative iris behaviour during phacoemulsification procedure.

Keywords: iris, lorazepam, phacoemulsification

DIAGNOSIS DIFFICULTIES IN HYPERTENSIVE UVEITIS

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Background: This is a hypertensive uveitis case presentation with diagnosis difficulties. **Material and methods:** A 69-year-old male patient presented in the Emergency Unit of the Ophtalmology Department, with the following complaints: high intensity ocular pain and a high decrease of the left eye visual acuity. Based on the ophtalmological exam, we established a diagnosis of hypertensive uveitis of an unknown ethiology. The patient underwent complex paraclinical and laboratory investigations, in order to determine the ethiology. **Results:** The patient followed local and general treatment, using anti-inflammatory, ocular hypotonics, with a good evolution. **Conclusions:** The particularity of this case lies in the difficulty of differentiating the hypertensive uveitis of the acute glaucoma.

Keywords: hypertensive uveitis, acute glaucoma, diagnosis

25 G VITRECTOMY FOR DIABETIC PROLIFERATIVE RETINOPATHY

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Background: Proliferative vitreoretinopathy is a late stage ophthalmic complication of diabetes. Our purpose was to evaluate the results of surgical treatment in diabetic proliferative retinopathy. **Material and methods:** This retrospective clinical study included

patients operated for diabetic proliferative retinopathy by the same surgeon at the Targu Mures Ophthalmology Clinic in a period of eleven months. All patients underwent 25 g vitrectomy and in some cases cataract surgery in the same session. **Results:** In the period of 01.01.2012-01.12.2012 41 patients underwent surgery for diabetic retinopathy. All of them had a certain degree of vitreous hemorrhage. In nine cases cataract surgery has been performed. Silicon oil endotamponade was used in 10 cases due to high risk of hemorrhage. In 4 cases where gas was used as endotamponade hemorrhage recurred needing reoperation. In one case retinal detachment appeared postoperatively. **Conclusions:** Vitrectomy is the last option in the treatment of ophthalmic complication of diabetic retinopathy. With correct timing and adequate surgical technique good results can be obtained even in this stage of the disease.

Keywords: diabetic proliferative retinopathy, 25 G vitrectomy, cataract, surgery

THE IMPORTANCE OF INTERVENTIONS SEQUENCING IN THE TREATMENT OF KERATOCONUS WHEN COMBINING INTRASTROMAL CORNEAL RING IMPLANTATION WITH CORNEAL COLLAGEN CROSSLINKING WITH RIBOFLAVIN AND UVA RADIATION

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Background: The aim of our study was to compare the functional, refractive and keratometric results of the treatment, by means of combined approach: Ferrara Intrastromal Corneal Ring Implantation (IF) and corneal collagen crosslinking with riboflavin solution and ultraviolet A radiation (CCL), depending on treatment sequence in patients with keratoconus. **Material and methods:** In our study we included 40 cases with keratoconus treated in the "Optilens" Clinic, Cluj Napoca by means of the combined method: IF and CCL. Patients were selected based on inclusion and exclusion criteria. The cases were grouped as follows: for the patients in the first group CCL was performed before implantation of IF (Group 1, CCL+IF), while with the patients in the second group CCL followed the implantation of IF (Group 2, IF+CCL). **Results:** Comparing the postoperative improvements of mean parameters followed in the two groups of cases, we noticed that they were slightly higher in group 2 compared to group 1 (except for minimum keratometry and cylindrical refraction), the difference being statistically significant only for uncorrected visual acuity. **Conclusions:** By combining IF implant with CCL, all the parameters followed are characterized by statistically significant postoperative improvement. IF implant followed by CCL results in significant postoperative improvement for uncorrected visual acuity, performing this sequence of interventions being therefore preferred.

Keywords: ophthalmology, keratoconus, crosslinking, intracorneal rings

STUDY UPON OCULAR SURFACE ASPECTS AFTER CATARACT SURGERY IN PATIENTS DIAGNOSED WITH RHEUMATOID ARTHRITIS AND DRY EYE

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Background: The aim of our study was to determine the influence of cataract surgery upon ocular surface of the patients diagnosed with rheumatoid arthritis and dry eye. **Material and methods:** We performed an observational study that included 14 patients who underwent cataract surgery by phacoemulsification method. Preoperative, intraoperative and postoperative maneuvers to prevent endophthalmitis were recorded. Before surgery and 1 month postoperatively we examined corneo-conjunctival surface, basal secretion, tear film break-up time and visual acuity without correction before and after one drop of 0.5% carboxymethylcellulose. Statistical analysis was performed with SPSS 17.0 GraphPad Prism. Differences were considered statistically significant at a value of p parameter less than 0.05. Confidence interval was set at a level of 95%. **Results:** At 1 month after phacoemulsification we observed an increase of dry eye symptoms and signs in 8 patients and superficial punctate keratitis in 6 patients. Postoperatively, a statistically significant decrease was revealed in basal secretion ($p=0.0054$) and on tear film break-up time ($p=0.0112$) than preoperative values. Visual acuity increased after one drop of carboxymethylcellulose. **Conclusions:** In patients with dry eye and rheumatoid arthritis, preoperative preparation, intraoperative maneuvers and postoperative topical treatment cause a more severe

ocular surface disease after surgery than preoperative status. Visual prognosis of patients with secondary Sjogren's syndrome depends on early diagnosis, optimal therapy and appropriate monitoring of dry eye.

Keywords: cataract, dry eye, rheumatoid arthritis

ORTHOPEDICS

FINITE ELEMENT ANALYSIS OF THE MEDIALISATION TECHNIQUE IN TOTAL HIP REPLACEMENT OF THE DYSPLASTIC HIP

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Background: Preoperative planning is one of the most important steps performed before total hip arthroplasty, and an even more demanding task in cases of hip dysplasia. In these situations, sufficient cup coverage can be obtained by using the medialisation technique. The aim of this study was to evaluate the stress patterns generated by different positioning of the acetabular cup in terms of medialisation, which would make it possible to determine the ideal degree of medialisation to obtain a strong fixation and maintain adequate bone stock. **Material and methods:** Using the finite element method we generated a three-dimensional model of the right acetabulum, with an inserted press fit cup, to calculate stress patterns in the standing phase during walking. We analyzed the stress patterns at different degrees of medialisation of a hemispherical press fit cup. The stress patterns in implant component and adjacent bony structures were calculated in a directly postoperative situation and the von Mises stress profile was assessed. **Results:** We found that the different degrees of medialisation induce different stress patterns, deformation and shifting tendencies. The stress profile was improved with medialisation of the acetabular component up to a point, after which the value of the safety factor decreased considerably - with increased compressive stress in the superior section of the acetabular base. **Conclusions:** Our study has shown that three-dimensional stress calculations are important to obtain additional biomechanical information to augment clinical studies, evaluate implants and determine stability prognoses, and also to determine the ideal placement of the acetabular component for long term stability.

Keywords: dysplastic hip, finite element analysis, arthroplasty

EVALUATION OF CARTILAGE DEFECTS IN 353 CONSECUTIVE KNEE ARTHROSCOPIES

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Background: The aim of our retrospective study was to offer data regarding the epidemiology and etiology of articular cartilage lesions of the knee observed during arthroscopic treatment. **Material and methods:** We analyzed 353 consecutive knee arthroscopies performed in our facility between January 2010 and September 2011. We recorded information regarding the type of cartilage lesions (classified according to the ICRS criteria), number, size and localization, as well as data concerning associated internal lesions of the knee. **Results:** We found chondral lesions in 219 cases (62%), from which 68.5% were non-isolated lesions. From the patients with focal chondral defects, 59.3% have had previous trauma, while associated meniscal and anterior cruciate ligament injuries were found in 45% and 27% respectively. The most common types of lesions were those of grade II (ICRS). Localized full-thickness lesions (ICRS grade III or IV) were found in 11% of the knees - of these 57% had a size of 2 cm² or above. Focal cartilage lesions were found most frequently on the medial femoral condyle (60%), follow by the lateral tibia (12%), patella (10%), lateral femoral condyle (8%), medial tibia (7%) and trochlea (7%). **Conclusions:** We concluded that cartilage lesions are a common pathology of the knee. Most lesions were of lower grades, but the fact that these lesions have a poor healing capacity raises concerns. However, the natural history of cartilage lesions is so far unknown, and further studies are needed to determine the groups of patients that will mostly benefit from cartilage repair procedures.

Keywords: cartilage lesion, knee, arthroscopy, grading

QUALITY OF LIFE AFTER ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION WITH BONE-TENDON-BONE AUTOGRAFT

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Background: The aim of the study was to evaluate the quality of life of patients undergoing anterior cruciate ligament (ACL) reconstruction with an autologous bone-tendon-bone (BTB) graft after traumatic ligament injury. **Material and methods:** A number of 40 patients were included that have had ACL reconstruction in our Clinic between 01.12.2006 - 01.12.2008. The patients were evaluated using the Knee Injury and Osteoarthritis Outcome Score (KOOS), the questionnaire being filled based on telephone conversations with the patients at 6 month after surgery and a second conversation in December 2011. We obtained other data from the patient files (diagnosis, personal history of other illnesses, details regarding surgery and post-operative development) - these were centralised using the LibreOffice Calc software, and relevant data were analysed according to sex, age, time span from surgery, KOOS value and associated injuries, using RKWard statistical software. **Results:** There were 7 female and 33 male patients (mean age 27.77 years, range 15-52). We found 5 patients (12.19%) with ACL tears and no other associated intra-articular injuries, and the most frequent lesion association observed was that of ACL tear, synovitis, meniscal and chondral lesions (46.34%). The 2 values obtained for the KOOS score differed with a mean of 12.6 points. Using the Wilcoxon test we found that 96-99% of the patients ($p=0.020$ and $p=0.046$) would have an increase of 8-9 points of the KOOS value during the time span between the two interviews, and the rate of KOOS value increase will slow as time passes. We found a mean value of 83.15 and 79.23 for the KOOS value at 6 months postoperatively for patients under and above 35 years that increased to 95.4 and 92.18 at the second interview. **Conclusions:** We concluded that ACL reconstruction with BTB graft increases the quality of life according to the KOOS, which can be determined using telephone interviews.

Keywords: anterior cruciate ligament, reconstruction, bone-tendon-bone, quality of life

SURGICAL VS. NONSURGICAL TREATMENT IN PATIENTS WITH KNEE DISLOCATION – A RETROSPECTIVE STUDY

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Background: There are many opinions in terms of treatment option used at the patients with acute knee dislocation. Some authors sustain that the surgically treatment at this patients had greater results compared to open reduction and immobilization. The aim of this paper is to authors evaluate the two main treatment options in knee dislocation. **Material and methods:** The cases used in this study were diagnosed in our institution. The patients included in this study were treated for knee dislocation at the emergency room. 32 consecutive patients from June of 2007 to June of 2012 were reviewed. The authors recalled 28 patients and assessed their functional scores. **Results:** Comparing the group with surgical treatment to the one with closed immobilization we did not observe any statistical difference in the ROM (SPSS 20.0.0 $p<0.05$). The authors observed in the surgically treated group a bigger flexion contracture but also a good stability and a greater IKDC score. Additionally we compared the outcome in the surgically treated group between the partial repair and complete repair of all articular structures. The group with complete repair had better results in stability according to the IKDC score but poorest results were observed as to the flexion contracture. **Conclusions:** In the point of view of the authors, a total surgical repair of all articular structures in patients with knee luxation has a better outcome, those patients had a superiorly knee function and were more satisfied following treatment.

Keywords: knee, dislocation, range of motion, operative, closed immobilization

BIOMECHANICAL MODIFICATIONS IN SPONDYLOLISTHESIS AT L5/S1 LEVEL

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Background: Lombar spondylolisthesis has an incidence of approx. 5% and it is more common in white males. The spondylolisthesis consists of an anterior displacement of the upper vertebral body. These modifications are specific for the lumbar spine and are the most frequent deformities at L5-S1 segment. At upper levels like L4-L5 it is less frequent and it is uncommon at L3-L4. **Material and methods:** We have studied the efficiency and effects of the intervertebral fusion using the finite elements method simulating this procedure and studying the acting forces. **Results:** The computer simulating using the finite elements method presented after the vertebral interbody fusion and correction with 20 degrees of sacral angle, an 12-30% decrease of the shearing forces. **Conclusions:** We found a positive relationship between the sacral angle and the presence of low back pain without correlation with spondylolisthesis. An intervertebral L5/S1 somatodesis gives an efficient stabilisation of the affected segment including tension reduction at the local ligaments.

Keywords: spondylolisthesis, biomechanical, interbody fusion, finite elements

CLINICAL AND RADIOLOGICAL SHORT- AND MID-TERM OUTCOME AFTER CEMENTED TOTAL KNEE ARTHROPLASTY

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Background: Total knee arthroplasty (TKA) is widely accepted for treatment of late stages of osteoarthritis. The purpose of the current paper was to retrospectively review patients operated in our clinic with total knee arthroplasty for osteoarthritis and to evaluate the clinical and radiological short and mid-term results of this procedure. **Material and methods:** All patients treated by the same team with TKA between 2005 and 2010 were followed up for a period of 1.7- 5.3 years those with diagnosis of osteonecrosis and rheumatoid arthritis were excluded from the study. Sixty-three cases of TKA with cemented components in forty-eight patients were studied. Were used WOMAC protocol and KSS (Knee Society Score) to evaluate patients clinically, and Knee Society Total Knee Arthroplasty Roentgenographic Evaluation and Scoring System for radiological analysis. **Results:** We watched radiolucent lines at the bone-cement interface and position of the implants. Excellent and good results were achieved in 91% of cases. Subjective self-assessment was usually worse than objective one. Radiolucency was found in 4 cases around medial tibial component and one case under the femoral component, without clinical symptoms of the loosening. **Conclusions:** Subjective scores were worse than objective clinical assessment. The clinical score was higher than radiological one. Suboptimal implantation has not led to implant loosening in short- and mid-term results.

Keywords: knee, osteoarthritis, total knee arthroplasty

TOTAL KNEE ARTHROPLASTY WITH AND WITHOUT PATELLA RESURFACING. MIDTERM RESULTS

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Background: To date there isn't a consensus regarding the need for patellar resurfacing in total knee arthroplasty (TKA). Following TKA anterior knee pain attributed to the patello-femoral joint is a common complaint. In this retrospective study our aim was to compare the results of resurfacing and nonresurfacing the patella, with special emphasis on knee pain and functional scores. **Material and methods:** We evaluated 106 TKAs, performed between January 2004 and December 2008, in a number of 89 patients diagnosed with primary knee osteoarthritis. There were 63 cases treated with patella resurfacing and 43 without. Mean follow up was 4.5 years (range 2-8 years). At the time of surgery the decision whether to resurface the patella or not was made upon taking into account the aspect of the articular surface and evaluating patella tracking. Clinical and subjective evaluation was based

on the Knee Society score (KS) and the WOMAC scores respectively. Every follow up visit also included a radiological evaluation to observe changes in the joint line and the congruency angle. **Results:** The mean value of the KS score was 93 for the resurfaced group compare to 83 for the nonresurfaced group at the final follow up evaluation. Regarding range of motion we found no difference between the two groups. In the resurfaced group the incidence of anterior knee pain was 7% compared to 25% for the nonresurfaced group. There were no revisions for patello-femoral complaints in the two groups. **Conclusions:** We obtained similar clinical results with and without patellar resurfacing. However, in terms of anterior knee pain and function, the nonresurfaced group showed somewhat poorer results. Additional randomized trials are needed to decide which technique is better in the long term.

Keywords: knee arthroplasty, patella resurfacing, clinical evaluation

S53P4 (BONALIVE®) BIOACTIVE GLASS USED AS BONE GRAFT SUBSTITUTE IN ACETABULAR REVISION SURGERY – PRELIMINARY RESULTS

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Background: In hip revision arthroplasty, surgeons usually still largely rely on the use of morselized bone allografts, but this method has inherent limitations and potential complications. Our aim was to study the use of S53P4 bioactive glass as a bone graft substitute for filling acetabular osseous defects in revision hip arthroplasty. **Material and methods:** We included a number of 17 patients on whom revision THR was performed between July 2010 and January 2012, using an acetabular reinforcement device and a combination of morselized bone grafts and S53P4 bioactive glass (BoneAlive®) in a 50:50 ratio to treat the defect, followed by the implantation of a cemented acetabular component. Mean age was 64 years (49-72), with 11 female and 6 male patients. Acetabular defects were classified according to Paprosky. At 3, 6 and 12 months postoperatively, clinical and radiological evaluations were made (observing graft incorporation, radiolucent lines, component migration and hardware failure). Mean follow up was 12 months. **Results:** The acetabular defects found were Paprosky type-II in 4 hips (35.3%) and type-III in 8 hips (64.7%). We observed bony incorporation in 15 cases. The filled defect appeared dense on X-rays, but glass granules were still observed at 6 months postoperatively. 2 cases (11.76%) showed signs of progressive radiolucency at the bone-cement interface, indicating component migration. Although asymptomatic, these patients are considered ~~high~~ risk and remain under close review. There was no case of hardware failure. **Conclusions:** The use of a mixture of morselized bone graft and bone substitute (bioactive glass) for filling large acetabular defects in revision arthroplasty of the hip shows good results on the short term. Bone substitutes will be especially important on the long term, due to the reduced availability of auto- and allografts. The potential extra benefit of the bioactive glass ~~antibacterial~~ effect must also be taken into account in future studies.

Keywords: bioactive glass, bone substitute, acetabular revision

MID-TERM OUTCOME OF CEMENTLESS TOTAL HIP ARTHROPLASTY USING CORAIL® STEMS AND DURALOC® CUPS

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Background: The use of cementless prosthesis in total hip arthroplasty developed to solve complications such as aseptic loosening and osteolysis, which were considered to be associated with the use of bone cement. The concept of an extensive hydroxyapatite coating for the fixation of femoral stem was introduced in the hope that we could achieve durable biological fixation while preserving normal periprosthetic bone activity. Our purpose was to assess mid-term results of uncemented primary total hip arthroplasty using Corail® stems and Duraloc® cups, implanted at our University Clinic of Orthopaedics, Târgu. Mureș. **Material and methods:** We studied a series of 184 consecutive uncemented arthroplasties performed between 1999 and 2004 with a minimal duration of follow-up of 8 years. The clinical evaluation was based on Harris Hip Score pre- and postoperatively and radiographically we assessed: the type of hip osteoarthritis, stability of prosthetic components and osteolytic lesions. **Results:** Harris hip score increased from a mean preoperative value of 46 points to 95 points at the last follow-up. After a minimum follow-up of 8 years (range, 8-13 years), 9 of the hips were revised, of which 6 were acetabular component revisions. The causes for revision were

aseptic loosening of the cup (1 case), late deep infections (1 case), and polyethylene wear (4 cases). 2 stems were revised for aseptic loosening and 1 stem for late deep infection. **Conclusions:** This mid-term study concluded that cementless arthroplasty using Corail® stems and Duraloc® cups gives good functional results and durable implant stability, with a low rate of complications and early return to normal activities.

Keywords: cementless total hip arthroplasty, corail stems, mid-term results

PATHOLOGY

MICROVASCULAR DENSITY OF THE BONE MARROW AS POSSIBLE PROGNOSTIC FACTOR OF THE MYELOYDYSPLASIC (MDS) SYNDROME

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Background: Angiogenesis plays a key role in solid tumor growth. The purpose of this work was to study the number of blood vessels in different types of MDS. **Material and methods:** We evaluated 35 BMBs from patients referred to the 1st Medical Department at the UMF Tg. Mures, grouped according to the WHO MDS clasification. The control group was represented by 5 BMB specimens without evidence of bone marrow malignancy. Bone marrow sections were stained immunohistochemically for the endothelial cell marker anti CD34 antibody (Dako, 1: dilution). In the same specimens the blood vessels number was assesed in 5 randomly chosen osteomedular spaces. **Results:** Of the patients with MDS, 4 had RA, 13 had RCMD, 10 had RAEB and 8 was MDS -U. In all type of MDS the vascularity was significantly higher (7 ± 2 in RA and RCMD, 24 ± 3 IN RAEB and 14 ± 3 in MDS-U) than that of the control group (3 ± 2), but was not different from that of the other MDS. When we compared bone marrow cellularity and blast count with vascularity, there was no correlation, and vascularity appeared to be independent of cellularity. **Conclusions:** Current treatment of MDS remains problematic. Increased angiogenesis in the bone marrove of MDS patients may suggest novel therapeutic aproaches in MDS.

Keywords: microvascular density, bone marrow, myelodysplasic (MDS) syndrome

APENDICULAR CARCINOID TUMORS OF CHILDHOOD

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Background: Appendicular Carcinoid tumors (CT) are very infrequent, being less than 0.1% of the appendicectomies carried out. We review our experience of CT in children along with a review of literature and also discuss the role of regular histologic examinations following appendectomy. **Material and methods:** We present four cases of pediatric CT of the appendix diagnosed from 2011 to 2012 that were first discovered on routine histopathological examination. The patients included three females and one male with an average age of 13 years at presentation, all of them presented with Acute Appendicitis picture. **Results:** Diagnosis was performed after appendectomy and pathologic examination, which revealed tumors under 2 cm in size, two of CT with unusual localization: one on the base with positive margin and one at the middle portion of the appendix with infiltration of mesoappendix and necrosis. In all cases Chromogranin A was the most stable marker and Ki-67 the tumor prognostic index was <2%, except in one case were we couldn't appreciate the proliferativ index Ki-67 and the differentiation grade because of extensive necrosis. **Conclusions:** According to theses findings we conclude that CT of appendix more often represent an incidental finding during appendectomy and it warrants an accurate and thorough histopathologic evaluation of appendectomy specimens in all cases.

Keywords: carcinoid tumor, children, pathological examination

THE IMPORTANCE OF PREOPERATIVE DIAGNOSIS, HISTOPATHOLOGY AND IMMUNOHISTOCHEMISTRY IN MEDULLARY THYROID CARCINOMA'S MANAGEMENT: REPORT OF TWO CASES.

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Background: Medullary thyroid carcinoma (MTC) is a rare malignant tumor with origin in the parafollicular calcitonin-producing cells of the thyroid. The only curative treatment is complete resection of the tumor and of the lymph nodes during the first surgical intention. To perform such an ample surgery, a preoperative diagnosis is mandatory. It can be made by fine needle aspiration (FNA) cytology and/or serum calcitonin level measurement. We present two recent cases in which the diagnosis of MTC was made before surgery. **Material and methods:** The first case is that of a 58 years old woman with a left thyroid nodule. Although the FNA cytology was repeatedly unsatisfactory, the diagnosis of MTC was established by the elevated serum calcitonin level. In the second case, that of a 45 years old woman, the diagnosis of MTC was established by FNA cytology and confirmed by an elevated serum calcitonin level. **Results:** In both cases the MTC had a characteristic histology: a typical tumor growth pattern, an abundant amyloid stroma and polygonal, round or spindle shaped cells with a finely granular dispersed nuclear chromatin. In immunohistochemistry these cells displayed a strong and diffuse Chromogranin and ACE immunostaining and only a focal positivity for Calcitonin. **Conclusions:** In no other thyroid tumor the preoperative diagnosis is as important as in MTC. The pathological examination is equally important in order to confirm the diagnosis, to define the tumor stage and the status of the surgical resection margins.

Keywords: preoperative diagnosis, medullary thyroid carcinoma, treatment, calcitonin, fine-needle aspiration cytology

FOLLICULAR DENDRITIC CELL SARCOMA OF THE TONSIL: A NEW CASE REPORT.

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Background: Follicular dendritic cell sarcoma (FDC) is a rare malignant tumor, those with an extranodal origin are extremely rare. The origin of this neoplasms is in the accessory cells, follicular dendritic cells of the tonsil. We found approximately 49 cases located in the tonsil reported in the literature; the male to female ratio was 1.2:1. The mean age of this patients was 49 years. **Material and methods:** We report a new case of follicular dendritic cell sarcoma of the tonsil in a 55 years old man. He had undergone diagnostic tonsillectomy due to left tonsillar enlargement. **Results:** Macroscopically, the features of the tumor were: size 15x10x6 mm, it was ill-defined, yellow-white firm mass with areas of hemorrhage. Microscopically, the tumor consisted of neoplastic cells characterized by eosinophilic cytoplasm. The nuclei of the tumor cells were ovoid, round with vesicular chromatin and distinct nucleoli. Numerous atypical mitotic figures were present. Well differentiated small lymphocytes were present surrounding the blood vessels. The diagnosis in our case was confirmed by immunoreactivity with CD21, CD23 and vimentin. **Conclusions:** The differential diagnosis of any tonsillar mass must include this type of tumor, the use of monoclonal specific markers helps us to avoid misdiagnosis.

Keywords: pathology, follicular dendritic cell sarcoma, extranodal

INFLAMMATORY PSEUDOTUMOR OF THE SPLEEN: A CASE REPORT

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Background: Inflammatory pseudotumor is a rare entity which can be found in different sites such as lung, respiratory tract, orbit, liver, gastrointestinal tract, the spleen being an uncommon location. Since 1984 there have been reported less than 90 cases, with an equal gender ratio (female:male), the age predilection being from middle age to older age (range of 20-81 years old). Its etiology still remains unknown even if viral, autoimmune or infectious processes were speculated. **Material and methods:** We present the case of a 68 year old female with a history of mammary neoplasm 10 years ago who presented a lesion in the inferior pole of the spleen which was found at a CT scan. A laparoscopic splenectomy was performed. **Results:** Macroscopy revealed a 50 mm nodular well-circumscribed, yellow mass, at microscopic evaluation had a mixed population of inflammatory and spindle cells. Immunohistochemical reaction showed that the spindle cells were positive for vimentin, desmin and smooth-muscle actin along with a numerous population of CD68-positive cells. **Conclusions:** Inflammatory pseudotumor of the spleen is a rare process which occurs in different organ systems, the spleen being an uncommon finding. It has non-specific signs at clinical and paraclinical examination being difficult to diagnose pre-operatively.

Keywords: pathology, inflammatory, pseudotumor, spleen

EXPRESSION OF THE SOMATOSTATIN RECEPTORS TYPE 2A AND TYPE 5 IN GH PITUITARY ADENOMAS: AN IMMUNOHISTOCHEMICAL STUDY OF TWO NEW MONOCLONAL ANTIBODIES

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Background: Somatostatin analogues (SA) therapy is indicated for acromegalic patients with high risk for surgery, for those who are unlikely to be controlled by surgery (with invasion of the cavernous sinus) and for those who refuse surgical treatment. The response to SA seems to be predicted by expression of the somatostatin receptors (SSTR). The most common types of SSTR in human pituitary adenomas are 2A and 5. Octreotide and lanreotide act mainly via SSTR2A and pasireotide, a new multireceptor-targeted SA binds with high affinity to SSTR5. Compared with the polyclonal types, the new monoclonal antibodies described by Schultz are highly specific and much easier to assess. **Material and methods:** The immunohistochemical expression of SSTR2A and SSTR5 in 43 GH pituitary adenomas was determined. The tumors were fixed in Bouin-Hollande fixative and embedded in paraffin. The optimal dilution for each antibody was determined on normal pituitary tissue obtained from an autopsy case. The slides of pituitary adenomas were then incubated with the primary antibodies: SSTR2A - clone UMB-1 at a 1/4000 dilution and SSTR5 - clone UMB-4 at a 1/1000 dilution. Antigen retrieval and detection was performed using the labeled-streptavidin-biotin (LAB-SA) system. The aspect and the localization of the immunostaining, the percentage of positive tumoral cells and the intensity of the staining were evaluated. **Results:** Both SSTR2A and SSTR5 are expressed on the plasma membrane of the cells, but the expression of the SSTR5 was weaker than SSTR2A. In our series, SSTR2A was present in 91% of the cases and SSTR5 in only 83%. **Conclusions:** Due to the high variability between the percentage of positive tumoral cells and the intensity of the staining, further studies are required to be done in order to compare these results with the clinical and biochemical data. These correlations can be useful in choosing optimal medical therapy.

Keywords: GH adenomas, somatostatin analogues, somatostatin receptors

PRIMARY SMALL CELL CARCINOMA OF THE UTERINE CERVIX, AN UNCOMMON AND AGGRESSIVE TUMOR

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Background: Small cell carcinoma is a variant of poorly differentiated neuroendocrine carcinoma. Primary small cell carcinoma of the uterine cervix (SCCUC) is a rare neoplasm with a highly aggressive clinical course and poor prognosis. Treatments for small cell carcinoma of the uterus include surgery, radiation, chemotherapy, and immunotherapy. **Material and methods:** We describe the case of a 33 year-old female patient, who presented with abnormal vaginal bleeding. Conventional Pap smear and cervical biopsy showed only necrotic tissue. Cervical amputation was performed. **Results:** Gross examination of the surgical specimen revealed a 35x35 mm whitish-grey tumor infiltrating the cervical wall. Microscopic examination showed small tumor cells with scant cytoplasm, hyperchromatic spindled nuclei with inconspicuous nucleoli. The tumor cells showed positive immunoreactivity for chromogranin A, neuron-specific enolase (NSE), and cytokeratin. Immunohistochemical staining for p63 was negative. **Conclusions:** Because SCCUCs are uncommon and highly aggressive neoplasms, an early and accurate diagnosis combined with aggressive treatment play an important role in the management of this tumor. Immunohistochemistry offers an additional and useful assistance in the differential diagnosis with other cervical tumors.

Keywords: small cell carcinoma, uterine cervix, cervical cancer

HYALINIZING TRABECULAR TUMOR, AN UNUSUAL AND CONTROVERSIAL LESION OF THE THYROID

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Background: Hyalinizing trabecular tumor (HTT) is a rare neoplasm of the thyroid first described by Carney in 1987 as hyalinizing trabecular adenoma. The tumor is of follicular cell origin with a trabecular growth, marked intratrabecular hyalinization and a characteristic plasma membrane staining pattern with Ki-67 (MIB-1). Although rare cases of malignant HTT have been recorded, and nuclear and genetic similarities suggest a relation to papillary thyroid carcinoma, HTT is considered to be a benign neoplasm. **Material and methods:** We describe the case of 41 year-old female patient, who underwent a right thyroid lobectomy for a single nodular lesion, without a previous fine needle aspiration cytology (FNA). Routine histopathologic and immunohistochemical stainings were performed for an accurate diagnosis. **Results:** On gross examination of the surgical specimen a single, solid, well circumscribed nodule of 15 mm was found. On microscopic examination the tumor featured a trabecular growth with intratrabecular hyalinization. Tumor cells showed acidophilic finely granular cytoplasm, and nuclei with prominent grooves and numerous cytoplasmic pseudoinclusions. Tumor cells showed immunopositivity for thyroglobulin and were negative for chromogranin A. Ki-67 (MIB-1) didn't show the characteristic plasma membrane staining pattern. **Conclusions:** HTT is a curious and rare neoplasm of the thyroid which poses some differential diagnostic difficulties, especially in fine needle aspiration cytology specimens. Immunohistochemistry offers a useful assistance in the differential diagnosis with other tumors.

Keywords: hyalinizing trabecular tumor, thyroid tumor, immunohistochemistry, fine needle aspiration cytology

MICROPAPILLARY CARCINOMA - A RARE VARIANT OF UROTHELIAL CARCINOMA WITH AGGRESSIVE CLINICAL COURSE

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Background: Micropapillary urothelial carcinoma is a rare variant of urothelial carcinoma with an aggressive clinical course. Usually it has an advanced stage at first presentation, with a high metastatic potential and a poor outcome. Because clinically it does not differ from conventional urothelial carcinoma, the pathological findings are crucial for correct diagnosis and therapeutic decision. **Material and methods:** We report the case of a 68-year-old man who presented with macroscopic haematuria. A transurethral resection was performed which showed an exophytic and muscle invasive infiltrative urothelial carcinoma. The exophytic component was high grade papillary carcinoma, while in the infiltrative component a micropapillary growth pattern was identified. Radical cystoprostatectomy (RC) with lymph node dissection was performed subsequently. **Results:** The pathological examination of the RC specimen revealed an ulcerated bladder mucosa with extensive in situ carcinoma, with only a small infiltrative tumour present on the right lateral wall of the bladder. The architecture (nests and papillae surrounded by stromal reaction) and cell morphology (abundant eosinophilic cytoplasm and nuclei with prominent nucleoli) were characteristics of a micropapillary urothelial carcinoma. The particularity of this case resides in its aggressiveness. Lymph node metastases were detected in six right ilio-obturator lymph nodes. Although the bladder tumour was very small, it had a micropapillary growth pattern. **Conclusions:** Micropapillary carcinoma is a highly aggressive variant of high grade urothelial carcinoma with specific morphological characteristics. Any amount of micropapillary component is significant in urothelial carcinoma and should be reported because it encompasses an aggressive behaviour and poor prognosis. The presence of this component should alert urologists to apply an aggressive therapy.

Keywords: Urology, micropapillary, urothelial carcinoma, prognosis

PEDIATRICS

CRUSTED SCABIES IN AN IMMUNOCOMPROMISED CHILD -CASE REPORT-

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Background: Scabies is an infectious disease caused by *Sarcoptes scabiei* var. *hominis*, which infests persons of all races and social classes. Crusted (Norwegian) scabies is a more severe form which affects immunocompromised individuals such as those infected with HIV, HTLV-1 virus or malignancies. **Material and methods:** The 4-year-old female patient was diagnosed with precursor-B acute lymphoblastic leukemia. During the first 1,5 years of treatment conducted mainly in hospital, a favorable course of the disease was noted, achieving a complete hematological remission. During the maintenance therapy followed at her crowded, low socio-economic background home environment, she became infested with scabies. The infestation progressed to crusted form, with no improvement after topical scabid therapy. Shedding of the thick skin crusts led to severe hypoproteinemia, anemia, zinc deficiency, immunodeficiency. After 8 months of crusted scabies the patient developed sepsis with *Staphylococcus epidermidis*, arthritis, acrodermatitis enteropathica, neurological signs with peripheral type left sided facial palsy, severe pancytopenia, DIC and succumbed at her home several days later. **Results:** Immunocompromised, debilitated, disabled persons are predisposed to crusted scabies. Ivermectine 200 mcg/kg/dose per orally, repeated after one week is the treatment of choice in cases which do not respond to topical therapy. This medication however is not approved by the FDA (Food and Drug Administration) and is not introduced in Romania either. Infection with HTLV-1 virus predisposes to development of crusted scabies as well as to T-cell acute lymphoblastic leukemia. **Conclusions:** Low socio-economic status of children with leukemias is an independent unfavorable prognostic factor for survival. Ivermectine should be approved and should be available for the treatment of such rare, refracter crusted scabies cases.

Keywords: pediatrics, pediatrics, crusted scabies, leukemia

SERUM LIPIDS LEVEL AS A RISK FACTOR IN CHILDREN WITH CANCER

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Background: Lipids are the major cell membrane components essential for various biological functions including cell growth and division for the maintenance of cell integrity of normal and malignant tissues. The changes in lipid profile have long been associated with cancer. The objective of this study was to investigate the alterations of plasma lipids in cancer patients in comparison with age matched controls and the relationship between the level of blood lipids and BMI of pediatric oncologic patients. **Material and methods:** Cholesterol (C), triglycerides (TG) and body mass index (BMI) were obtained in 155 children who were divided into two groups: one control group, of 91 healthy children and one of 64 children with oncologic diseases. The researched parameters were obtained at the time of diagnosis. We studied the biochemical parameters and z-scores for BMI compared to the two groups and performed statistical correlations. **Results:** Altered values of blood lipids were observed at the time of diagnosis of oncologic patients comparing with the control group. We found a statistically significant difference among the blood triglycerides, included elevated TG on oncologic patients (mean 113.9 mg/dl compared to 80.92 mg/dl on control group, $p = 0.0001$). Total cholesterol was significantly lower statistically in the oncologic group comparing to the control group (135.9 mg/dl versus 160.3 mg/dl, $p = 0.0001$). BMI could not be correlated with the values of triglycerides in the oncologic group ($p = 0.08$; $r = -0.21$) or with cholesterol value ($p = 0.36$; $r = -0.11$). **Conclusions:** This study shows an inverse relationship between the lipid levels and the occurrence of cancer. Therefore, the lower plasma lipid status may be a useful indicator to detect the initial changes seen in cancer.

Keywords: children, cancer, lipid level

KEY ECHOCARDIOGRAPHIC PARAMETERS IN EVALUATION OF THERAPEUTIC RESPONSE TO PULMONARY VASODILATOR TREATMENT OF CHILDREN WITH PULMONARY ARTERIAL HYPERTENSION

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Background: Pulmonary arterial hypertension (PAH) is a rare pathology with multiple etiologies, and is defined as an increase in median pulmonary arterial pressure (mPAP) ≥ 25 mmHg, a pulmonary capillary wedge pressure of ≤ 15 mmHg and a normal or reduced cardiac output. In children, most cases of PAH are associated with congenital heart disease (CHD). Echocardiography is a non-invasive imaging method with a key role in diagnosis of PAH and in monitoring the therapeutic response to pulmonary vasodilators. **Objectives:** to determine the most useful echocardiographic parameters in evaluation of therapeutic response to pulmonary vasodilators in children with PAH associated with CHD. **Material and methods:** Echocardiographic assessment of children diagnosed with PAH associated with CHD, at the time of initiation of pulmonary vasodilator therapy, further evaluations being performed at intervals of 3 months. **Results:** The positive response to pulmonary vasodilator treatment was demonstrated in a previous study by correlation between NYHA functional class, 6-minute walk test and the following echocardiographic parameters: reduction in right ventricle size, improved tricuspid annular plane systolic excursion (TAPSE), RV performance index, left ventricle eccentricity index. In addition to the improvement of these parameters, in 4 cases of PAH the appearance of a persistent ductus arteriosus Doppler color flow was documented by echocardiography. **Conclusions:** Along with the echocardiographic variables that reflect morphological and functional consequences of right ventricle overload, the Doppler evaluation of persistent ductus arteriosus can be considered a useful echocardiographic parameter in the assessment of therapeutic response to pulmonary vasodilators.

Keywords: pulmonary, arterial, hypertension, echocardiography, children

THE RELATIONSHIP BETWEEN IRON DEFICIENCY ANEMIA AND HELICOBACTER PYLORI INFECTION IN CHILDREN: WHERE IS THE TRUTH?

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Background: Compared to the already known causes of iron deficiency anemia, several studies have shown its association with H. Pylori infection. Nevertheless, it's still an issue under debate if H. Pylori is causally related to iron deficiency anemia in children and if its treatment would improve the body iron stores. **Material and methods:** In order to have a clear image of the issue concerning the relationship between H. pylori infection and iron deficiency anemia in children, and also about its pathological implication both on short and long term, we examined a group of hospitalized children (Pediatric Clinic 1 and Pediatric Clinic 2 Targu Mures) diagnosed with iron deficiency. Each child was serologically investigated, checking the values of hemoglobin, serum iron and anti H. pylori titer. **Results:** Iron deficiency was relatively common in children included in the above mentioned study (25.41%), occurring in 26.95% versus 22.58% of the children diagnosed with positive and negative H. pylori respectively. Most of the patients presenting iron deficiency associated with H. pylori infection were schoolchildren with ages between 5-9, rural and poor living conditions being significantly related to H.pylori infection ($p < 0.05$). The most common symptoms in the infected patients who also presented iron deficiency were epigastric pain and anorexia ($p < 0.05$). Less common symptoms were nausea \pm vomiting, weight loss, haematemesis ($p > 0.05$). **Conclusions:** Although iron deficiency is quite common in children, this can not be attributed to the increased prevalence of H.pylori infection.

Keywords: anemia, Helicobacter pylori, child

RESEARCH CONCERNING THE CORRELATIONS BETWEEN URINARY TRACT INFECTIONS AND CONGENITAL ANOMALIES OF THE RENO-URINARY TRACT

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Background: Congenital anomalies of the reno-urinary system are risk factors for the development of urinary tract infections. Besides the severity of the malformation, urinary infection is always associated with poor prognosis for these patients. Late diagnosis of the malformation background, after several urinary tract infection episodes, contributes to the development of chronic pyelonephritis that may lead to chronic renal failure. **Material and methods:** The study involved patients with reno-urinary tract malformations treated at the Pediatric Nephrology Department of Tg. Mures over a period of 6 years, who associated urinary tract infection. **Results:** Out of the total of 432 patients with congenital malformations of the urinary system, 270 had at least one or several episode(s) of urinary tract infections in their medical history. Vesicoureteral reflux and obstructive lesions of the urinary tract were most frequently associated with urinary infections. During the time when no ultrasound screening had been performed in neonatal period, the malformation background was usually diagnosed at the time of the first urinary infection episodes. **Conclusions:** The incidence of urinary tract infections in patients with congenital malformations of reno-urinary tract depends on the type of the underlying malformation, and the time of diagnosis of the malformation background. Prevention of irreversible complications requires early diagnosis of the urinary system malformations that can be performed through ultrasound screening in the neonatal period.

Keywords: urinary tract infection, ultrasound screening, congenital anomalies of reno-urinary tract

ROLE OF TRANSFONTANELLAR DOPPLER ULTRASOUND MONITORING AND SERIAL LUMBAR PUNCTURES IN PREOPERATIVE MANAGEMENT OF POSTMENINGITIS HYDROCEPHALUS IN A NEWBORN INFECTED WITH LISTERIA MONOCYTOGENES

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Background: Infection with *Listeria monocytogenes* in the perinatal period is challenging due to its complexity and long term outcome. It could end with the exitus of the patient or it can lead to several neurological sequelae. **Material and methods:** The authors present a case of a premature infant with *Listeria monocytogenes* sepsis and meningitis, complicated with hypertensive hydrocephalus. **Results:** T.A, a premature at 35 week gestational age, born with 2350 g, shows purpura trombocytopenica at birth, and respiratory distress syndrome, due to transplacental infection with *Listeria monocytogenes*, confirmed by hematocultures and cultures from the mother and uterine collum. On the second day of life the infant presented seizures, treated with fenobarbiton. After healing of the primary infection, we took a routine head ultrasound, that showed hypertensive hydrocephalus. Serial lumbar punctures were done after Doppler guidance in order to decrease the intracranial hypertension before ventriculo-peritoneal shunt could be put in place. **Conclusions:** Head ultrasound and Doppler measurements helped the practitioner to decide the best moment to make depletive lumbar puncture.

Keywords: *listeria monocytogenes* infection, premature, hydro

POSSIBLE ASSOCIATION OF THE VEGF GENE POLYMORPHISM WITH EPILEPTIC SYNDROMES IN PEDIATRIC PATIENTS

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Background: Epilepsy is the most common neurological disease worldwide. The effect of seizures could be damage of vulnerable

cells which is possible to be protected by VEGF. Vascular endothelial growth factor (VEGF) mediates several biological processes including vascular permeability, angiogenesis, and neuroprotection. Some recent studies shown that VEGF plays a protective role after seizures. The genetic variation in the VEGF gene influence levels of VEGF protein expression. We examined the possible association of the VEGF gene polymorphism with epilepsy in pediatric patients. **Material and methods:** The insertion/deletion (I/D) polymorphism of the VEGF gene were determined by PCR-RFLP (restriction fragment length polymorphism) analysis in patients with epilepsy (n= 50) (IGE, symptomatic epilepsy) and normal control subjects (n=33) (children which did not have a history of neurological disorders) admitted in Department of Pediatric Neurology in Tg Mures. Genomic DNA was extracted from whole blood samples using standard methods. Two PCR primers was used to amplify the associated gene. Detection was performed with agarose gel electrophoresis. Genotypes and allelic frequencies for the VEGF gene polymorphisms in both groups were compared. **Results:** We found an increase frequency of the I/I genotype in the epileptic patients compared with control (30% vs 21%) with $p = 0,53$, $OR = 1,53$. Also the frequency of I allele was increased compared with control (47% vs 41%) but statistically insignificant ($p=0,52$, $OR=1,28$). **Conclusions:** Our study suggest that the I/D polymorphism in the promoter region of the VEGF gene is not associated with epilepsy in pediatric patients. Prospective studies in larger epileptic pediatric patients are needed to elucidate the role of the VEGF as a protective neuronal cell after seizures.

Keywords: epilepsy, polymorphism, VEGF, gene

CONSIDERATIONS ABOUT SEVERAL CASES OF ULTRASONOGRAPHIC DISCOVERED URINARY CALCULI IN INFANTS

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Background: Urinary calculi disease has not been well studied in infants, but all the authors agree that in children the disorder is present at any age, from newborn period to childhood. **Material and methods:** The goal of this study is to analyse several cases of urinary calculi in infants. The authors found 7 cases of urinary calculi in infants (age 3-12 months) in the last 10 years and all of them were ultrasonographic findings **Results:** In 3 cases, calculi were located on one kidney, and in 4 cases, they were located on both kidneys. In the last group, we found 3 cases with nephrocalcinosis, and one case of bilateral calculi (after treatment with Furosemid). About 40% of children with lithiasis have a family history of calculi; males seem to be more affected, and most of the children have metabolic disorders. **Conclusions:** In every case with signs and symptoms suggestive for kidney involvement abdominal ultrasonography is necessary for diagnosis.

Keywords: Pediatrics, urinary calculi, ultrasonography, children

STAGE 4S NEONATAL NEUROBLASTOMA

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Background: Malignancies in the neonatal period are rare, but neuroblastoma is the most common type described during this period of life. Neuroblastoma is a solid mass tumor composed of neuroblasts originating in neural crest cells. More than 90% of these tumours arise in the adrenal gland. The International Neuroblastoma Risk Group Staging System describe four stages of the disease. Despite the dissemination of the disease, neonatal neuroblastoma may have a good prognosis with appropriate therapy. **Material and methods:** the authors present a rare case of neonatal neuroblastoma diagnosed in Mureş Regional Neonatal Unit. **Results:** A term female newborn without a family history of malignant disease, birth weight=3750 g, head circumference=34 cm, length=53 cm, Apgar score 9 at 1 and 5 minutes, presenting at birth multiple 'blueberry muffin' skin nodules disseminated all over the body, hepatomegaly, and an abdominal mass detected during routine neonatal examination. Abdominal ultrasound revealed a round, inhomogenous tumor mass of 6x7 cm at the upper pole of the right kidney, and head ultrasounds have detected brain metastases. Correlating clinical and histopathological findings (skin nodule biopsy and bone marrow aspirate), the case was interpreted as a stage 4S undifferentiated metastatic neuroblastoma (liver, brain, bone marrow and subcutaneous metastases) - the reason for initiating complex treatment. Urine catecholamines were within normal range. The patient was transferred to the Pediatric Oncology for chemotherapy at 12 days of life. **Conclusions:** due to difficulties of diagnosis and staging the management

of neonatal neuroblastoma require a combined expertise from neonatologist, surgeon, radiologist and pediatric oncologist.

Keywords: neonatal neuroblastoma, neonatal malignancies, neo

RELATIONS BETWEEN RISK-SCORE FOR MALNUTRITION AND NUTRITIONAL STATUS IN A GROUP OF CHILDREN FROM A PEDIATRIC CLINIC

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Background: Malnutrition in children is an important public health issue associated with impaired growth, developmental and general-health involvement, connected with high healthcare costs. Objectives: assessment of relations between malnutrition risk-score (applying a specific scale) and the nutritional status. **Material and methods:** A prospective study was performed including a group of 326 children hospitalized in Pediatric Clinic no.1 during May 2011 - January 2012; the patients were evaluated for malnutrition risk using Strong-Kids-Screening-Tool, while nutritional status was assessed by anthropometric measurements. Statistical analysis were performed using: Mann-Whitney, Chi-square and Kruskal-Wallis-tests. **Results:** 35.27% of investigated children had an increased risk of malnutrition (score 4-5), 60.12% had moderate risk (score 2-3) and 4.60% low risk (score 0-1). The z-score average for Weight-for-height (WFHZ) was -0.29SD; 14.73% of children had WFHZ below -2SD, representing acute malnutrition. The z-score average for Height-for-age (HFAZ) was -0.23SD; 11.34% of the patients had values of HFAZ below -2SD, chronic malnutrition respectively (with statistically significant differences between WFHZ and HFAZ, in children with adequate nutritional status compared to those with acute and chronic malnutrition, $p=0.0001$). Acute malnutrition was associated in 10.4 % with score 3, in 79.16 % with score 4 and in 10.41% with score 5 (chi square test $p=0.0001$). Chronic malnutrition was associated in 2.70% of the cases with score 0 and 1 respectively, in 16.21% with score 2, in 21.6 % with score 3, in 37.8 % with score 4 and 18.91% with score 5 (chi square test $p=0.0002$). **Conclusions:** An association between the risk-score and malnutrition degree was found, for acute - as well as for chronic malnutrition: children with adequate nutritional status predominantly associated scores 0,1,2 and 3; those with acute or chronic malnutrition associated predominantly scores 4 and 5. Strong-Kids-Screening-Tool is useful for evaluating malnutrition in our pediatric population.

Keywords: malnutrition, child, score, risk, anthropometry

CLINICAL FEATURES AND HISTOPATHOLOGICAL PROFILE IN STEROID-RESISTANT NEPHROTIC SYNDROME IN CHILDREN

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Background: Nephrotic syndrome (NS) is a clinically heterogeneous disease characterized by different histological variants and genetic determinants. NS generally has a favourable long-term prognosis, about 90% of affected children exhibit an excellent glucocorticoid responsiveness, but most suffer at least one relapse. Steroid-resistant nephrotic syndrome (SRNS) remains one of the most intractable causes of end-stage renal disease in the first two decades of life. Steroid resistance develops in 10 % of children and many of these exhibit FSGS. Idiopathic SRNS accounts for more than 10% of children who progress to end-stage renal disease (ESRD). Treatment of SRNS remains a difficult challenge in pediatric nephrology. Objectives of study: to study the clinico-histopathological profile and outcome of children with SRNS. **Material and methods:** We evaluated clinical features, laboratory data and histopathology of 65 children with nephrotic syndrome seen at the 2nd Pediatric Clinics from Târgu-Mureş. **Results:** 16 patients (56.25% boys, average age at diagnosis 7.53 ± 4.48 years) with steroid resistant nephrotic syndrome were included in this study. 14 patients had impure nephrotic syndrome, microscopic haematuria was present in 11 (68.75%) patients, hypertension in 12 (75.00%) patients. Percutaneous renal biopsy was performed in 8 cases (50.00%), presenting focal segmental glomerulosclerosis (FSGS) in 5 patients (31.25%), membranoproliferative glomerulonephritis (MPGN) in 2 patients (12.50%) and membranous

glomerulopathy (MGN) in one (6.25%) patient. **Conclusions:** The impure form is more frequent than in steroid-sensitive nephrotic syndrome. The most dominant lesion is focal segmental glomerulosclerosis. According to literature data the incidence of FSGS and steroid-resistant nephritic syndrome has increased in the second half of last decade, confirmed in our study. Early genetic diagnosis might help to avoid ineffective but harmful immunosuppressive therapy. Prospective studies or at least standardized treatment for complicated cases is urgently needed.

Keywords: child, steroid-resistant nephrotic syndrome, FSGS

DIFFICULTIES IN MANAGING A PEDIATRIC PATIENT WITH PHENYLKETONURIA

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Background: Phenylketonuria (PKU) is a metabolic disorder associated with deficient activity of an enzyme, causing improper hydroxylation of phenylalanine (Phe) to tyrosine, which results in neurological disabilities (retardation); the only available treatment is diet. **Objectives:** identification of problems related to follow-up and treatment management of a child with PKU, in a pediatric department. **Material and methods:** Evolution of a six-month infant with dietary treatment for PKU, in which phe-level is periodically assessed by dry-spot (fluorimetric method). **Results:** An infant-boy(SV), born in May 2012, with 3950 g, detected with Phe-level >3mg/dl during neonatal-screening, with 7mg/dl when re-tested (confirming diagnostic), had Phe-value 9mg/dl when first admitted in our department. Specific diet started at 35 days of life, and needed calculation of daily Phe necessary (which determined the maximum permitted amount of breast-milk), caloric, fluid needs, and of each nutrient principle (influencing intake of dietetic products- Phe free formula, proteic substitute respectively). With an initial intake of 280 mgPhe, after one month value decreased to 1.1 mg/dl (normal-level under diet 3-5mg/dl); intake was supplemented with 20 mgPhe/day, the level being maintained below 2mg/dl for 2 months; then solid foods started and values have stabilized at 4.5-4.7mg/dl. The baby grew well, is periodically evaluated by neurologist, the family is compliant. Associated diagnoses: cramps, hyperbilirubinemia, anemia, transaminases elevation, hypoproteinemia, hypertriglyceridemia, constipation- age-related functional disorders or treatment consequences complicated management. **Conclusions:** Beyond issues of new-born-screening implementation, PKU confirmed cases encounters multiple difficulties: diet starts late (ideally before 20 days of age), there are no dietitians in medical team, diet should be individualized (by age, weight, individual needs, tolerance for Phe), weekly monitoring (as recommended up to 4 years) is not possible, determination of serum Phe-level, genetic and co-enzyme deficiency testing are not accessible. Improve the monitoring activity require better collaboration and communication between regional centers and subordinated districts, professionals training, finding of non-dietary treatment alternatives.

Keywords: phenylketonuria, child, diet, follow-up, management

PHARMACY

SIMULTANEOUS DETERMINATION OF CEPHALOSPORINS BY CAPILLARY ELECTROPHORESIS

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Background: Cephalosporins are currently probably the most frequently prescribed antibiotics in the world. The determination of cephalosporins is usually performed by high performance liquid chromatography (HPLC). In recent years, capillary electrophoresis (CE) has proved to be a powerful analytical tool in the analysis of pharmaceutical substances. Several studies regarding applications of capillary zone electrophoresis (CZE) and micellar electrokinetic capillary chromatography (MEKC) have been published before. Our aim was to elaborate and optimize a new CE method for the simultaneous separation of cephalosporins from different generations and to study their electrophoretic behavior. **Material and methods:** In this study we analyzed six frequently used cephalosporin derivatives: cefalexin (CFL), cefadroxil (CFD), cefaclor (CFC), cefuroxim (CFR), ceftazidim (CZI), ceftriaxon (CTR). The selected cephalosporins were studied by means of CZE and MEKC respectively. **Results:** After a preliminary study the determination of cephalosporins was performed at a pH 6.8, using a 25 mM disodium hydrogenophosphate - 25 mM sodium tetraborate mixed buffer, + 25 kV voltage at a temperature of 25 °C. We achieved a baseline separation in approximately 10 minutes, the migration order being: CFD, CFL, CFC, CFR, CZI, CTR. The use of MEKC, by adding an anionic surfactant, 50 mM sodium dodecyl sulfate to the buffer solution, increased separation resolution. We also evaluated the analytical performances of the optimized methods. **Conclusions:** CE proved to be a useful method for the determination of cephalosporins from complex mixtures. The method is easy to handle, exhibit good reproducibility, requires a low amount of sample and has a relatively short analysis time. Therefore, the method can be useful for researchers interested in measuring cephalosporins from biological and environmental samples.

Keywords: cephalosporins, capillary zone electrophoresis, micellar electrokinetic capillary chromatography

EFFECTS OF FLUOXETINE ADMINISTRATION ON DIFFERENT FAT CELLS

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Background: Fluoxetine is a widely used selective serotonin reuptake inhibitor antidepressive drug, which induces weight gain in human subjects after chronic administration. The aim of our study was to investigate the morphological aspects of different fat cells after chronic fluoxetine administration in rats. **Material and methods:** Fluoxetine was administered perorally in a 15 mg/kgbw/day dose, for 32 days to a group of female Wistar rats consisting of 8 adult animal. The body weight change was monitored weekly in comparison with a control group (N=8). The forced swimming test was performed to evaluate the utilized dose adequacy, and at the end of the study the animals were sacrificed. Samples of perirenal, brown and subcutaneous adipose tissue were obtained from defined sites. Tissues were fixed in paraffine blocks, and were examined utilizing HE coloration with optical microscope. Adipocyte morphology was evaluated using a computed morphometric analysis. **Results:** Comparing the body weight of the control and treated groups no significant influence was observed: body weight was +18.12 g in the control vs +15.00g in the fluoxetine group. Fat cells presents particular aspects: mature adipocytes presence was characteristic in the control group's perirenal adipose tissue and young elements predominancy was observed in the same adipose tissue from animals treated with fluoxetine. Subcutaneous and brown fat cells shows similar microscopic characteristics both in the control and treated groups. Scanning the vacuolised area (fat cells obtained from perirenal adipose tissue) and comparing data between groups a significant increase of preadipocyte/ total adipocyte surface was observed (7.95% in the control vs 25.15% in the fluoxetine group, p= 0.01). **Conclusions:** Fluoxetine administered chronically to rats in an efficient dose did not affect the animals' body weight, but induced a significant morphological modification in the perivisceral adipose tissue. It requires further investigations to clarify the mechanisms which leads to the increased number of preadipocyte.

Keywords: fluoxetine, weight gain, fat cells, visceral adipose tissue

THE PRELIMINARY EXPERIMENTAL APPROACH IN DEVELOPING A SINGLE-LAYER DRUG-IN ADHESIVE TRANSDERMAL SYSTEMS

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Background: Transdermal systems (patches) are flexible preparations, which are designed for topical administration, in order to deliver an active ingredient-(AI) across the skin, for systemic effects, at a predetermined and controlled rate. When a preprogrammed patch is worn on the skin, as long as the concentration is higher in the patch than in the blood, the drug will keep diffusing into the blood, maintaining a constant level in the plasma. The "single-layer drug-in adhesive" technology became the preferred one for issuing the passive diffusion, due to the simplicity of the device. The presented preliminary studies aimed the identification of the main required technological steps, as a first stage in developing further new therapeutic patches of this type.

Material and methods: Experimental-patch (E-Patch): nicotine-(AI); Eudragit-E-12.5/Durotak-387-2051-(adhesive); 3M-Scotchpak-9723-(backing); acetate cellulose/3M-Scotchpak-9742-(release liner). Reference-patch (R-Patch): Nicotinell 14mg/24h, 20 cm² (Novartis). Release of nicotine *in-vitro*, by dissolution: 100 ml water. Release of nicotine *in-vitro*, by skin permeation/diffusion: Franz-cell; porcine ear skin (1mm, 0.77 cm²), 10 ml saline solution (receptor). Nicotine assay in collected samples: spectrophotometric method (261 nm). **Results:** The E-Patch was prepared in form of "AI-in-adhesive solution" spread onto the surface of the backing membrane and dried for 10 min. Two samples of 20 cm² (35 mg AI-as theoretical content) and 0.77 cm² (1.3475 mg) of this patch were compared with the R-Patch in similar form of samples. The calibration curve of absorbance-(y) as a function of the AI concentration-(x) was determined as follows: $y = 0.1872x + 0.0690$ ($R^2 = 0.9949$). The amounts of AI-(% of initial content) released from E-Patch versus R-Patch were determined as: 91.40/97.45 by dissolution in water and 29.92/32.60 by diffusion through animal skin, during a 24h period in every case. **Conclusions:** The studied experimental-patch showed similar behavior to the used reference-patch, in terms of the *in-vitro* availability of the active ingredient by dissolution and animal-skin permeation.

Keywords: transdermal patch, drug-in adhesive, technology

ANTIMICROBIAL ACTIVITY OF THYME ESSENTIAL OILS AND THE POLYPHENOLIC CONTENT OF DIFFERENT THYMUS SPECIES

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Background: Thymus species are popular spices and volatile oil-containing drugs from the Lamiaceae. Their volatile oils contain mainly thymol and carvacrol, their quality is generally determined by their essential oil content. **Material and methods:** Different Thymus species (Thymus vulgaris, Thymus serpyllum, Thymus pulegioides, Thymus glabrescens) were collected from the Medicinal Plant Garden of the University of Medicine and Pharmacy from Tg. Mureş (Romania). Antimicrobial activity of the essential oils obtained from the above mentioned Thymus species by distillation using the Neo-Clevenger method was studied and the polyphenol content was also determined from hydrophilic extracts of Serpylli herba, Thymi pulegioides herba and Thymi glabrescens herba by LC-MS technique and the methanolic extracts were analysed by thin layer chromatographic analysis. **Results:** Essential oil of Th. vulgaris and Th. serpyllum showed the highest activity against the microorganisms investigated in this study, which correlates their thymol content. **Conclusions:** The detected polyphenolic compounds, together with essential oil constituents, might be considered as potential active ingredients of the examined aromatic plants.

Keywords: Thymus sp., volatile oil, polyphenols, agar diffus

INFLUENCE OF ATYPICAL ANTIPSYCHOTICS ON LIPID METABOLISM. EXPERIMENTAL MODEL IN RATS

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Background: Atypical antipsychotics, first line medication in schizophrenia have metabolic effects in humans related to weight gain and insuline resistance, wich were not detected during preclinical studies. The purpose of this study was to create such an experimental model in rats. **Material and methods:** Three groups of 12 animals each were treated for 6 weeks with 0.31 mg/kg bw amilsuprid, 0.16 mg/kg bw olanzapine or 0.245 mg/kg bw risperidone, and an additional group served as control. At the end of the experiment laboratory parameters were determined (total cholesterol, HDL cholesterol, LDL cholesterol, triglycerides, transaminases, glycemia) and samples of perivisceral adipose tissue ang organs were processed histologically. "t" Student was used as a statistical test, setting signifiance was set as $p < 0.05$. **Results:** Antipsychotic treatment significantly affects glycemia in all treatment groups, but atherogenic lipid fraction are significantly elevated only in olanzapine group. **Conclusions:** Experimental rat model presents limitations on extrapolating results to the human species, mainly due to differences in eating behavior.

Keywords: Pharmacology, experimental model, atypical antipsychotics, lipid profile

THE SCIENTIFIC VALUE OF THE FACULTY OF PHARMACY'S HERBARIUM

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Background: The herbarium of the Pharmaceutical Botany discipline gathers together the Romanian flora and, to a limited extent, flora of some European countries. The lack of data about herbarium and specific knowledge regarding its scientific value required us to inventory and process data. **Material and methods:** With the inventory of herbarium sheets (work carried out over several years), plant nomenclature was revised in accordance with the International Code of Botanical Nomenclature (Vienna Code, 2006) and with Flora Europaea. Then we started to arrange the herbarium sheets of the collection, plants being arranged in their evolutionary order. In the orders, families, genera and species were inventoried in alphabetical order. **Results:** The herbarium is taxonomic and comprises 2039 herbarium sheets. Plants were collected by the staff of the Pharmaceutical Botany and Pharmacognosy discipline, but some specimens come from exchange with similar institutions in the country, sheets edited by Flora Romaniae Exsiccata. These plant inventories allowed us to obtain important scientific data that was not suspected at baseline. Thus, we distinguished plants of historical note for Romanian flora, plants collected by our great botanists: A. Arvat, Al. Beldie, Al. Borza, N. Boşcaiu, Al. Buia, G. Bujorean, C. Burduja, V. Butură, P. Cretzoiu, P. Enculescu, S. Forstner, E. Ghişa, M. Godvinski, G.P. Grinţescu, M. Guşuleac, E. I. Nyárády, A. Paucă, M. Péterfi, E. Pop, I. Prodan, M. Răvăruţ, I. Todor, E. Ţopa, K. Ungar, L. Waltz, as well as by famous specialists from the Faculty of Pharmacy in Tg-Mureş: S. Jablonskay, G. Rác, C. Csedő, Z. Kisgyörgy, etc. All these leaders of Romanian botany contributed to the knowledge of flora in different parts of the country. Scientific value of the herbarium is completed by the presence of a large number of plants that are endangered today at both the European and national level. After reviewing the records contained in a number of international and national documents, from the 2039 inventoried herbarium sheets, 253 plant species are threatened with extinction. **Conclusions:** Only relevant materials have been inventoried, which had all the necessary data for making a scientific herbarium. Plants included in 109 families (2039 herbarium sheets) were processed. In the studied Herbarium, there are plants of historical importance for Romanian flora, collected by the most famons Romanian botanists. For pharmacy students to effectively use data from herbarium as well as other interested individuals the data labels were translated using Botanic Multilingual Dictionary of C. Váczy.

Keywords: herbarium, scientific, scientific value

QUALITATIVE AND QUANTITATIVE DETERMINATION OF FREE RADICALS SPIN TRAPS USING DIFFERENT METHODS

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Background: In the present work we will investigate free radical trapping capacity of some beta-blockers and other possible spin traps. We have generated oxygen centered free radicals by different Fenton-type reactions and also nitrogen centered radicals like DPPH (diphenylpicrylhydrazyl). **Material and methods:** Electronic paramagnetic resonance, electrochemical and spectrophotometric methods are used for free radicals and spin traps investigations. Some beta blockers (carvedilol, metoprolol, atenolol and pindolol) and nitron (PBN- phenyl N-tertbutylnitron) has been used for spin trapping ability study. **Results:** The change in the concentration of free radicals in the system, was expressed by integrating the results of electronic spin resonance determinations and interpretation of double integration values. By spectrophotometric determination we measured the absorbance of diphenylpicrylhydrazyl free radical solution, its absorbance decreases visibly after adding the beta-blocker. **Conclusions:** ESR results can be related to the electrochemical response. Carvedilol, metoprolol and pindolol are potent OH-free radical scavengers that because of their lipophilicity might become enriched in myocardial membranes. There, carvedilol and metabolites might exert antioxidant effects by interrupting continuously ongoing lipid peroxidation chains. Atenolol has also some effect, but we must take into account that the beta blocker metabolites and stereoisomers involves multiples interaction pathways with free radicals as well.

Keywords: drug analysis, free radical, spin trap, beta blockers

MOLECULAR MODELING STUDY OF SOME ANTIBIOTICS, THEIR DEGRADATION PRODUCTS AND β -CYCLODEXTRIN COMPLEXES

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Background: Benzylpenicillin (BP), phenoxymethylpenicillin (PMP), ampicillin (AMP) and amoxicillin (AMX) are widely used beta-lactam antibiotics. Inclusion complexes of these antibiotics with beta-cyclodextrin might be useful to the drug delivery process. Previous studies showed that this auxiliary substance stabilizes the studied antibiotics in acidic environment. Throughout these investigations was observed changes in these antibiotics degradation kinetics in presence of beta-cyclodextrin. The aim of our study was to investigate the reason of this phenomenon. **Material and methods:** Molecular modeling and docking study was carried out, using the MM+ molecular mechanics method of the HyperChem software. The bond energies of beta-cyclodextrin and the antibiotics and their degradation products were calculated in vacuum and water periodic box. **Results:** In the case of BP the most stable complex is the one formed between the beta-cyclodextrin and the parent compound both in vacuum and in water periodic box. In the case of PMP penillic acid - the first degradation product of PMP - has a higher binding affinity to beta-cyclodextrin in vacuum than the parent compound and the other degradation products. Hydroxyphenylglyl amoxicillin and hydroxyphenylglyl ampicillin form more stable complex with beta-cyclodextrin than AMX and AMP. **Conclusions:** The observed significant differences in bond energies suggest that if it exist a degradation product with higher affinity to beta-cyclodextrin that compete for cyclodextrin cavity, the uncomplexed parent compound degradation shifts from a first order kinetic process to an autocatalytic shaped one.

Keywords: Pharmacy, β -lactam antibiotics, β -cyclodextrin, molecular modeling

SEPARATION OF AMLODIPINE ENANTIOMERS BY CAPILLARY ELECTROPHORESIS USING CYCLODEXTRINS AS CHIRAL SELECTORS

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Background: The purpose of this study was to separate by means of capillary electrophoresis the enantiomers of amlodipine using cyclodextrins as chiral selectors, investigate the influence of the pH and the temperature on the resolution of separation. Amlodipine is a long-acting calcium channel blocker used as an anti-hypertensive. Cyclodextrins are able to form inclusion complexes in aqueous solution with many drugs by taking up a drug molecule into the central cavity. **Material and methods:** The stereoselective analysis of amlodipine is achieved on Agilent Technologies 7100 CE equipped with diode array UV detector at 238nm and 701 ChemStation software. We used uncoated fused-silica capillaries 48 cmx50 mm and different type of cyclodextrins (alpha-cyclodextrin, 2-hydroxypropyl-beta-cyclodextrin, randomly methylated-beta-cyclodextrin, gamma-cyclodextrin) as chiral selectors. The amlodipin concentration was 0.1%(m/v) in methanol. The initial background electrolyte consisted of 25 mM phosphoric acid buffers with pH 2,00. The pH was adjusted with 0.1 M NaOH. **Results:** Amlodipine is a dihydropyridine calcium antagonist with pKa 8.6 at 25 °C. The influence of the pH buffer was studied at different pH values between 2-6, and we found 5.2 as the best pH value for enantioseparation of amlodipine. It was found that 2 HP-beta-CD were favorable for their separation. **Conclusions:** Capillary electrophoresis due to its high efficiency and good compatibility to ionic analytes in the chiral analysis seems to be an ideal method for the chiral separation of amlodipine enantiomers. For the separation of amlodipin enantiomers, (2-hydroxypropyl)-beta-cyclodextrin (2 HP-beta-CD) was an appropriate chiral selector providing a complete enantioresolution.

Keywords: analytical chemistry, chiral selector, cyclodextrins, amlodipine, enanti

MONITORING THE INGESTION OF PARABENS WHEN USING DENTAL CARE PRODUCTS

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Background: Parabens are used as preservatives in food, cosmetic and pharmaceuticals industry. They are known xenoestrogens and there are limits for their daily intake. Many papers focused on their deleterious health effects and percentage of skin absorption. Their ingestion when using dental care products was not monitored. **Material and methods:** 25 healthy volunteers were requested to use (in the way recommended by the manufacturer) a mouthwash containing a mixture of methyl and propylparaben. The amounts of ingested and recovered parabens after using the mouthwash were measured using a HPLC-UV technique and were used to estimate the ingestion of the studied substances. 8 volunteers were requested to use the mouthwash for a shorter period of time (10 seconds) than that recommended by the manufacturer (30 seconds). Another 3 volunteers were requested to use a toothpaste containing parabens to evaluate ingestion from this type of product, too. **Results:** Using a mouthwash, ingestion of parabens was found insignificant compared to the ADI. An average person is allowed (EU regulations) to be exposed to 0-700 mg parabens/day. Using the mouthwash as recommended by manufacturer, ingestion never exceeded 6 mg at single use. From toothpaste, ingestion of parabens was even lower: never exceeded 1.5 mg at single use. Even if this products are used 2-3 times/day far lower amounts than that accepted will be ingested. Contrary to expectations, reducing the time of keeping the mouthwash in the oral cavity (from 30 seconds to 10 seconds) increased the amount of ingested parabens. **Conclusions:** The results of this study show that using dental care products containing parabens is not a health hazard if done as recommended by the manufacturer. However, taking into account Wilson's principles of teratology and the new toxicological findings regarding propylparaben, these types of products should be avoided if possible by pregnant women.

Keywords: parabens, dental care products, xenoestrogens

TWO METHODS FOR TESTING THE WHITENING TEETH CAPACITY OF HYDROGEN PEROXIDE USED IN DENTAL GELS

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Background: Hydrogen peroxide teeth whitening is the most common cosmetic method for removing exogenous stains from the healthy teeth. The action on the enamel is known as being a chemical one. The most difficult part is to find a method for assessing the whitening capacity of the dental products that can be validated. The presented studies aimed to explore two different methods for testing the whitening teeth capacity of hydrogen peroxide. **Material and methods:** Products tested: gels based on Ultrez-21, containing hydrogen peroxide-(H₂O₂) 10%, 20%, 30%, respectively. Method-1: clean and dry devitalized human teeth, with similar size and color, in groups of 5 teeth fixed on 3 gypsy pedestals; UV-lamp; photo-camera. Method-2: FeSO₄ 0.497% w/v (FeSO₄·7H₂O), 2-2'-dipyridine 1% w/v in alcohol, ammonium acetate 20% w/v; spectrophotometer. **Results:** Method-1: photos of the teeth in three stages were obtained: 1-before the treatment; 2-after 10 min under the action of the gels; 3-after 30 min under the action of the gels, with successive exposure to UV light for 10 minutes, as whitening accelerator. Method-2: the concentrations of the H₂O₂ in gels were determined, based on a calibration curve ($y = 0.328x + 0.0095$, $R^2 = 0.9993$) obtained by measuring at 520 nm the absorbance-(y) of etalon-solutions containing known amounts of FeSO₄·7H₂O-(x) in the presence of 2-2'-dipyridine and ammonium acetate. **Conclusions:** The whitening capacity of the hydrogen peroxide applied in form of dental gels can be evaluated by two different methods: an *ex-vivo* treatment of the devitalized teeth by comparing the colors in the photos taken before/after-treatment; and a spectrophotometric method by using a redox reaction, indirectly measuring the discoloration of an aqueous solution containing a known amount of a colored complex. The correlation of these two types of results allows us to further develop a methodology for whitening capacity estimation of a dental gel based on its hydrogen peroxide content.

Keywords: dental gels, whitening teeth, hydrogen peroxide, drug analysis

ENANTIOSEPARATION OF OFLOXACIN BY CAPILLARY ELECTROPHORESIS

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Background: Ofloxacin, a member of fluoroquinolone group is a synthetic antibacterial agent with a broad spectrum of activity. It is a chiral compound and the antibacterial activity of *S*(-) ofloxacin (levofloxacin) is approximately 8 to 128 times higher than that of *R*(+) enantiomer and twice as higher than that of the racemate. Nowadays, regulatory authorities indicate that preferably only the active enantiomer of a chiral drug should be brought to the market. Our aim was to develop an enantioselective separation method by capillary electrophoresis (CE) using neutral cyclodextrin derivatives as chiral selectors. Although through different mechanisms dependent on the individual chiral selectors, chiral resolution in CE results from stereospecific interactions of the selector molecules displaying different affinities for the two enantiomers of the compounds giving rise to a difference in the respective migration velocities under the applied electric field. **Material and methods:** Guest-host interactions of ofloxacin with four cyclodextrins, beta-cyclodextrin (β-CD), gamma-cyclodextrin (γ-CD), 2-hydroxypropyl beta-cyclodextrin (HP-β-CD) and randomly methylated beta-cyclodextrin (RAMEB) were tested by CE with UV spectrophotometric detection, in borate and phosphate running buffers. The influence of electrophoretic parameters like buffer pH and concentration, applied voltage, temperature and cyclodextrin concentration have been studied in order to obtain better chiral resolution. **Results:** The best separation was achieved using a 50 mM phosphate buffer, at pH 3.1, applying a voltage of 20 kV at a temperature of 20 °C and 40 mM RAMEB as chiral selector added to the background electrolyte. Under these experimental conditions the chiral separation occurred in 6 minutes. **Conclusions:** Differences in their affinity to host molecules resulted in separation of the two enantiomers, thus EC proved to be an eligible method for the chiral separation of ofloxacin.

Keywords: cyclodextrin, ofloxacin, chiral selector, capillary electrophoresis

MATHEMATICAL MODELING OF AN IN-VITRO DISSOLUTION PROFILE

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Background: *In-vitro* dissolution test represents an important element in developing new therapeutic products. The amount of the drug released can be determined by this test as a function of time, in form of the "dissolution/release profile". The release process kinetic can be easily and accurately described by mathematical equations, using specialized softwares. The presented application aims to emphasize the main steps in modeling an *in-vitro* dissolution profile by using this kind of special software. **Material and methods:** Analyzed system: matrix-type. Known characteristics of the analyzed *in-vitro* dissolution profile: amount released (% from initial content)/ time (min) = 33.01/5, 60.41/30, 80.66/60; 96.13/80; area under curve (AUC) at 80 min= 2211.27 (mg×h/ml). Software/mathematical functions: DDSolver (Add-In Program)/ 37 of its functions. **Results:** 37 individual graphics were generated by analyzing the dissolution profile in the "Dissolution Data Modeling" module of the used software. Each graph was separately generated in form of "predicted/observed" curves, accompanied by the primary and secondary kinetic parameters of the applied mathematical function. The program also displayed, for each function (model), the adjusted values of R^2 and also the AIC and MSC as parameters which could indicate the "goodness of fit" between the two generated curves. These last three parameters were further analyzed by graphical method, both individually and comparative, in order to identify which of them is the most adequate in assessing the "fit" of the model equation. **Conclusions:** R^2 adjusted has proven to be the most selective criteria for a proper selection between the applied mathematical functions. Based on the R^2 adjusted values, the "best model" to study the kinetic of the drug release process from the analyzed system is the Logistic-3 function ($k= 0.0374$).

Keywords: mathematical modeling, in-vitro dissolution, kinetic of release

SINGLE VERSUS DUAL CYCLODEXTRIN SYSTEMS FOR THE CHIRAL SEPARATION OF SOME H1 – ANTIHISTAMINE DERIVATIVES

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Background: Cyclodextrins (CDs), the most frequently used chiral selectors in capillary electrophoresis are cyclic oligosaccharides, having an external hydrophilic surface and a hydrophobic cavity, in which other compounds by hydrophobic interaction can be included. There are a wide number of CD derivatives currently available, both uncharged (neutral, modified) and charged ones (positively, negatively). In this work a study of the effect of the chiral selector system on the enantioseparation of H1 antihistamines is described. Our aim was to investigate whether dual cyclodextrin systems, consisting of a charged and an uncharged cyclodextrin are more suitable for the chiral separation of antihistamines than single CDs. **Material and methods:** A screening with different CDs as chiral selectors (four neutral and one ionizable CD derivative) at different pH values was performed. The separation efficiency was evaluated taking into consideration resolution, selectivity and migration times. In the end the most efficient chiral separations using single CDs were compared with the ones obtained with the dual CD systems. **Results:** Although, some of the enantiomeric pairs were baseline separated at low pH values with various single CDs, the dual CD system (neutral + charged CD) led to the baseline separation of all enantiomers. The most efficient enantiomeric separation was achieved using 10 mM β -CD and 15 mM SBE- α -CD in 25 mM phosphate buffer (pH 6.85). **Conclusions:** The use of single CDs led to baseline resolution of some of the enantiomeric pairs, but the dual CD system dramatically increased the resolution of the separation and also reduced the analysis time, being also suitable for the simultaneous chiral separation of the studied antihistamines.

Keywords: enantiomeric separation, dual cyclodextrin system, antihistamines

PHYSIOLOGY

ASSESSING HIPPOCAMPAL EPILEPTOGENESIS BY MULTIPLE ANIMAL MODELS

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Background: At the base of human temporal lobe epilepsy lays an increased neuronal excitability. This is probably due to changes in the number and/or activity of inhibitory interneurons that allows the synchronized firing of a large neuronal population. For a better understanding of the fundamental processes of epileptogenesis we used two animal models to study the morphological and electrophysiological changes in the epileptic brain. **Material and methods:** We induced epilepsy in Wistar rats by two methods. In the case of kindling we surgically implanted stimulation electrodes in the amygdala and recording electrodes over the cortex and bilaterally in the hippocampus; than using daily sub-convulsive stimulation we elicited seizures. In other animals we induced seizures by systemic dosage of pilocarpine. Both batches were constantly observed by video and after the appearance of spontaneous seizures we sacrificed the animals. 60µm thick slices were cut from the brain and Nissl staining and triple-immuno-labeling was performed. In order to identify perisomatic inhibitory interneurons we used parvalbumin (PV), for dendritic inhibition we labeled with somatostatin (SOM) and neuropeptide Y (NPY). **Results:** We induced stage 5 seizures with kindling and observed stage 5 spontaneous seizures in the pilocarpine model. We compared the cell death in the the hippocampus of both models with control (assessed by Nissl staining). The pyramidal cells of CA1 area almost completely disappeared; also the thickness of all layers in both CA1 and CA3 regions was reduced. The number of NPY+ cells in all areas of the hippocampus was reduced. The number of perisomatic inhibitory interneurons increased in all layers except stratum oriens. **Conclusions:** We found that both models are suitable to study epileptogenesis. The difference in the changes of the two interneuron populations may explain the modified activity of the neuronal network in epilepsy.

Keywords: epilepsy, epileptogenesis, immunolabeling, kindling, pilocarpine

PNEUMOLOGY

CLINICAL AND RESPIRATORY FUNCTIONAL CONSIDERATIONS REGARDING THE SMOKER, EX-SMOKER AND NON-SMOKER PATIENTS WITH COPD

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Background: Aim of the study: The analysis of associations of comorbidities in patient with COPD smokers, nonsmokers and ex-smokers. **Material and methods:** There have been compared three lots of patients with COPD (35 smokers, 33 non-smokers and 35 ex-smokers with ≥ 10 packs of cigarettes/year). The age of the patients in the moment of the diagnosis of COPD was lower in smokers and ex-smokers (28.5% < 55 years in smokers, 25% in ex-smokers, 18 % in non-smokers). 19.4% of the patients were female (F:M = 1:4). Occupational exposure has been frequent in all the three lots: 60.6% in non-smokers, 50% in ex-smokers and smokers. 27% of non-smoker patients were normo/underweighted comparing with those of 64.3% of ex-smokers and smokers. Smoker and ex-smoker patients presented more frequent comorbidities: cardiovascular (arterial hypertension, chronic cardiac ischemia, arrhythmies, cor pulmonale), diabetes, depression and tuberculosis. **Results:** Pulmonary neoplasm was more often found in patients with COPD (9% in non-smokers, 15.7% in ex-smokers and smokers). The values of the maximum expiratory volume per second (48.6%) and the medium Tiffneau index (65%) were more increased in non-smoker patients than in ex-smokers (44.7% respectively 61.3%) and smokers (45.7% respectively 50.5%). **Conclusions:** COPD was present in non-smoker patients with occupational exposure. The pulmonary function had been less affected in non-smoker patients than in smoker and ex-smoker ones. Non-smoker COPD patients presented less co-morbidities. Bronchopulmonary cancer was more often found in patients with COPD (15.5%) against the general population. The association of occupational exposure and smoking increases the COPD risk in younger people and the risk of bronchopulmonary cancer.

Keywords: COPD, smokers, non-smokers, ex-smokers, co-morbidities

ATYPICAL ONSET OF SYSTEMIC LUPUS ERYTHEMATOSUS WITH OBLITERATIVE BRONCHIOLITIS AND RESPIRATORY FAILURE

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Background: Aim of the study: Case report of an atypical onset of systemic lupus erythematosus with obliterative bronchiolitis. Differential diagnosis of bronchiolitis. **Material and methods:** Case report of systemic lupus erythematosus with an apparently sudden onset with respiratory manifestations. **Results:** We present the case of a 61 year old female (smoker, with a recent myocardial infarction) admitted in the Pulmonology Clinic for resting dyspnea and dry cough. Clinical examination: diffuse crackles, sweating, cyanosis, alopecia, arthralgia. Chest X-ray: diffuse interstitial fibrosis and lymphadenopathy. Respiratory functional tests: severe mixed ventilatory dysfunction. SaO₂ (90% at rest) dramatically decreased during a minimal effort. Immunological investigations revealed increased antiDNA antibody. Thoracic CT scan: bronchiolitis obliterans, interstitial fibrosis and diffuse bronchiectasis, dorsal kyphosis, diffuse osteoporosis and advanced atherosclerosis of the aorta. Bronchoscopy with biopsy, CT scan and serum angiotensin-converting enzyme negative excluded sarcoidosis or lung tumour. Patient refused lung biopsy. Skin biopsy confirmed the presence of systemic lupus vasculitis. **Conclusions:** The particularity of the case is the asymptomatic slow evolution of a severe collagenosis with late diagnosis in the period of complications. We consider the acute myocardial infarction due to the underlying lesions (vasculitis, advanced atherosclerosis). Determining of the respiratory manifestation (bronchiolitis obliterans with diffuse interstitial fibrosis and respiratory failure) allowed the emergence of broad investigation in pulmonology service and diagnosis. The patient received long term oxygenotherapy, inhaled corticoids and bronchodilators, vasoactive agents, platelet aggregation inhibitors and immunosuppressive medication. After 2 weeks the patient presented a clear improvement of the respiratory and systemic symptoms.

Keywords: systemic lupus, obliterative bronchiolitis, vasculitis

PSYCHIATRY

SPECTRUM OF ANXIETY DISORDERS IN CHILDREN: FEATURES OF CLINICAL AND PSYCHOLOGICAL EVOLUTION

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Background: Anxiety is characterized by a sense of imminent danger, consisting of high emotional reaction with anticipation of danger. Anxiety is a state of nervous tension, fear, of high intensity, related to an object that is not well differentiated. The type of anxiety, duration and intensity depend on the age of the child, on the quality of his attachment relationships, the nature of the anxious situation, previous experience of separation and its effects.. Anxiety spectrum disorders in children is vast, we will describe the clinical manifestations of separation anxiety and generalized anxiety. Fear of separation from the primary attachment figure is natural in the early life of a child. It speaks of a genetic transmission of the predisposition to anxiety, which gets worse or fades in the development of the psychological process and constant interaction with the environment. **Material and methods:** The study proposes the following of patients with anxiety disorders under clinical and psychological evolution, in the casuistic of the NPP Clinic in Targu Mures, in the year of 2012. Patients were examined physically and psychologically, there were applied different scales specific for children: STAI-C for schoolers, MASC for patients between 10 and 17 years old, SCARED-R for teens and preteens, and semi-structured clinical interview. Also different questionnaires were used for parents: parent version Scared-R, CBCL, EATQ, questionnaires about children's temperament, assessment tool for separation anxiety. Diagnosis was made according to the criteria ICD-10 and DSM-IV TR. **Results:** Anxiety disorders are the most prevalent pathology in child psychopathology, diagnostic requires the existence of dysfunction in all areas of life: social and family. **Conclusions:** Separation anxiety occurs at all ages but most commonly in prepubertal. For diagnosis of generalized anxiety behaviors are important also the indirect child somatic symptoms.

Keywords: anxiety, child, psychological features

ASSESSING STRESS LEVELS IN FAMILIES OF PATIENTS WITH ALZHEIMER'S DISEASE

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Background: Dementia is a syndrome characterized by deterioration of intellectual functions (cognitive and emotional) severe enough to interfere with daily activities and quality of life in a patient in a state of full consciousness, that affects both patients and their families. Care for a patient with this diagnosis is to not only to treat symptoms, but to have care about family members and caregivers. **Material and methods:** We have evaluated 32 families of patients diagnosed with Alzheimer's disease in terms of reactive stress levels ,using SCB (Screen for caregivers burden) scale, a 10-item self-assessment scale. They were evaluated for two months in a specialized outpatient unit. **Results:** Most people diagnosed with dementia are cared for at home. Responsibility for patient care is often assumed by a family member, both physically and emotionally overloaded. Of the 68 people who completed the questionnaire, 27 were primary caregivers family members, 2 were outside the family and 3 of the patients are cared for by medical staff, being institutionalized. The remaining respondents are family members who are not directly involved in patient care. Primary caregivers had a significantly higher stress scores than other family members and those employed to take care of patients. **Conclusions:** The vast majority of caregivers described symptoms such as irritability, fatigue, sleep disturbances , feelings of helplessness, anger, shame, guilt and emotional lability. Further studies are needed to clarify the intensity of these symptoms and the need for clinical and social intervention, as much as systemic psychotherapy in these families.

Keywords: dementia, psychotherapy, caregivers, Alzheimer's disease, stress

MEDICO-LEGAL IMPLICATIONS IN DEMENTIA

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Background: Mental capacity problems / mental competence and discernment frequently occurs in patients with Alzheimer's disease and are usually clinical and ethical challenges for physicians who treat these patients. **Material and methods:** Epidemiological data analysis of forensic reports conducted at IML Tg Mures in December-January 2011. Were analyzed arising civil matters in patients with dementia at different stages. **Results:** All forensic performed were civil matters, as we have found no criminal aspect. A person diagnosed with Alzheimer's disease or other dementia will deteriorate in mental terms (cognitive, volitional, behavioral, functional) gradually over several years. Finally, the person will not be able to manage legal affairs, to manage himself financially and personally. **Conclusions:** Timing is put under ban when there are minimal symptoms (early stages) and reviewing forensic commission, given the evolving nature of the disease.

Keywords: judgment, injunction, Alzheimer's disease

RETT SYNDROME: CLINICAL, ETIOLOGICAL AND THERAPEUTIC CONSIDERATIONS. CASE REPORT

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Background: Rett syndrome is an inherited neurodegenerative disorder that almost occurs in girls, with an incidence of 1:15000 or 1:20000. Neuro-psycho-motor development and somatic development are normal in the first year of life, then notified the microcephaly and progressive loss of mental acquisitions: language and neuro-motor acquisitions. Among the early neurological symptoms ataxia and tremor hands are included. Rett syndrome-specific symptoms include the loss of spontaneous use of hands and the appearance of stereotype movements in median line called "washing hands", also hitting or rubbing them. Respiratory disorders are also present with outburst of hyperventilation, apnoea and cyanosis. All patients present autistic behaviour. Most patients EEG shows changes still in the early stages of the disease, later seizures appear. The disease has 4 stages: initial developmental stagnation, than regression, than apparent stabilization and finally severe motor skills deterioration. **Material and methods:** We presented the case of a 5 years old girl who presented to Neuropsychiatric clinic 2 years ago to whom we made neurological, psychiatric and psychological examination, EEG; our diagnosis has been Rett syndrome in stage 3 with apparent stabilization. The patient needed symptomatic treatment, physical therapy and multisensory stimulation. **Results:** Rett syndrome is an X linked dominant disorder caused by mutation in MECP2 (methyl-CpG binding protein 2) gene. The few boys surviving with Rett syndrome have mental retardation and spastic paraparesis. Diagnosis was based on the indispensable criterions, clinical associate symptoms and exclusion criterions. **Conclusions:** This disease has a progressive encephalopathy evolution towards degradation loss of neuro-motor and mental acquisitions, leading to dementia with autistic symptoms.

Keywords: Rett syndrome, aetiology, treatment

PSYCHOTIC SYMPTOMS AS RISK FACTOR FOR SELF-HARM BEHAVIOUR IN BORDERLINE PERSONALITY DISORDER

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Background: Several curent researches emphasise that self-injury behaviour of borderline personality disorder seems to be correlated with psychotic states. This self-harm behaviour represents the most frequent cause for requesting medical services and

provoke a significant financial burden. The main purpose of this study was to evaluate if the psychotic states should be considered risk factor for self-harm behaviour in borderline personality disorder. **Material and methods:** 36 patients diagnosed with borderline personality disorder in Psychiatric Clinic nr 2 Tg. Mures between 2001-2012 completed MINI and SCID -II Inventory and a questionnaire about suicidal and non-suicidal self-injury. The patients with psychotic comorbid disorders like psychotic episode, schizophrenia, bipolar disorder or delusional disorder were excluded. **Results:** The results obtained ($p=0,0924$, $RR=1,697$, $IC=0,8798-3,273$) indicate a positive, not statistically significant association between the psychotic states and different types of self-harm behaviour. **Conclusions:** For these 36 borderline patients, psychotic states did not predict the self-harm behaviour.

Keywords: borderline personality, personality disorders, psychotic symptoms,, self-harm

PUBLIC HEALTH

CANCER EDUCATION IN SCHOOLS

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Background: Malignant tumours are the second leading cause of death in Romania. Our objective was to continue applying the IUAC (International Union Against Cancer) program "cancer education in schools" in order to raise awareness among high school students regarding some basic concepts in cancer prevention. **Material and methods:** There were 627 students involved in the above mentioned health program during educational classes held in target schools, based on the manual for this international program. At the end of these courses, students completed the standard questionnaires of this program. **Results:** We consider that our results were very good, because most student participants gained basic knowledge on cancer prevention in their age group. **Conclusions:** The IUAC program proved useful for high school students in improving their knowledge about cancer prevention. Only a few students from two vocational schools failed it. Next, we propose to double our efforts in order to extend this program.

Keywords: cancer, health education, international program

FOCUSING ON LOCAL COMMUNITIES' SPECIFICITIES IN THE STUDY OF SMOKING BEHAVIOR

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Background: The presentation has a comprehensive background provided by UMF, Romania and Davidson College, USA joint research, containing previous results. Our data draw the attention that attitudes toward psycho-active drugs need to be assessed in relation to the characteristics of the local community to which the person belongs. Similarly, prevention activities should consider the cultural features of the target group. We explore motivational elements taking visual forms that determine through the deeper psychological structures the attitudes toward smoking. Our investigations are built to the Jungian idea that the behavior is led by internal images, and by reactivation of experiences' condensed into units. **Objectives:** To study the variety of adolescents' drug use habits belonging to local community by using traditional epidemiological analysis - smoking habits are presented, We analyze the historically conditioned common attitudes and the fundamentals of deeper psychological structures - we investigate smoking-related images through symbol analysis. **Material and methods:** We used a questionnaire and a projective method; the collected data were subjected to symbol analysis. As a result, we obtained answers about the orientation of the needs, desires, and motivations of the interviewees, and about the internal models and motivations leading their behavior. Our data emphasize the subjective importance of the drug consuming behavior and within this of the smoking for the participants. A total of 100 students in Tîrgu Mures and Eger (mean age 16.5 years) were included. **Results:** The specific community life of the individual results in significant differences in their attitudes towards smoking. We obtained different pictures about the two populations concerning the predictive and protective factors' systems as well. **Conclusions:** The cultural features differences of the target group should be respected in the prevention, by mobilizing those community resources which are rooted in the shared desires, fears, and daily practices, rituals, and values.

Keywords: smoking attitude, cultural specificities, internal images

FORENSIC PSYCHIATRY IN PARTICULAR CASE-DEMENTIA. CASE MANAGEMENT

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Background: Dementia in all its forms, represents a major cause of functional limitation among older people worldwide and continues to be a major public health problem due to increased aging of the population. **Material and methods:** This case report of forensic psychiatry describes a female patient about 82 years, from rural areas, with 8 years of school, diagnosed with early senile dementia. Forensic psychiatry has to demonstrate the (in/)existence of the possibility to exhibit (display) one's free will at some point, involving a comprehensible or incomprehensible motivational background. **Results:** The difficulties of reconstruction were given during the onset of dementia when behavioral changes occur less visible with deficient information processing. In such cases, there are regularly mismatches among the non medical pieces of evidence, especially regarding the cognition apparently preserved. **Conclusions:** It is strongly recommended that the person with incipient dementia and all family members to discuss legal and financial concerns as early as possible, to take specific safety measures in order to avoid to become victims by manipulation.

Keywords: mental competence, dementia, behavioral changes

SCIENTIFIC PUBLICATION WORLDWIDE. A DESCRIPTIVE STUDY.

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Background: Using UMF Tg Mureş journals databases we aimed to assess a possible existing pattern in scientific publication in Europe versus North America. Evaluating journal characteristics such impact factor in relation with paper issues (authors country, related articles), we tried to establish publications features. **Material and methods:** 75 articles were randomly included in the study from five orthopedics journals. (Acta Orthopaedica, Clinical Orthopaedics and Related Research, European Spine Journal, Journal of Bone and Joint Surgery and Journal of bone and mineral research), The impact factor of each journal was evaluated. Data concerning author's country/region and related articles were evaluated. Descriptive statistics were performed using GraphPrism5 demo version. **Results:** We found 36 papers (48%) from Europe and 30 (40%) from North America. The others studies came from the rest of the world. The articles Impact Factor mean was greater in North America with 1.06 ($p=0.013$). Also, the number of related articles is larger (difference of the mean is 622 $p=0.2841$). **Conclusions:** Considering those results we can state that: it is obvious that Americans scientists publish in journals highly cited. The novelty of the papers is greater in Europe. Coming the following studies will provide more data in order to testify these study conclusions. Acknowledgements: This paper is partially supported by the Sectoral Operational Programme Human Resources Development, financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/89/1.5/S/60782.

Keywords: impact factor, publication pattern, scientific paper

RHEUMATOLOGY

WHAT IS MOST IMPORTANT IN EARLY ATHEROSCLEROSIS IN PATIENTS WITH RHEUMATOID ARTHRITIS?

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Background: Cardiovascular diseases are still the major cause of mortality in patients with rheumatoid arthritis (RA) meaning in part by association between RA and premature atherosclerosis (AS). RA is a systemic disease whose epidemiological data suggest that other mechanism than the classical atherosclerotic risk factors may play a significant role. The aim of this study is to evaluate traditional and specific (contributive) risk factors in early atherosclerosis in patients with RA. **Material and methods:** We performed an observational study, we examined 106 patients with RA diagnosed according with ACR 1987 criteria, who were admitted in University Clinic of Rheumatology, Tg.Mures. Carotid intima media thickness (IMT) was measured in the common carotid arteries by high resolution B-mode ultrasound. We evaluated traditional risk factors (age, gender, smoking, arterial hypertension-TA, cholesterol-CT, high density lipoprotein cholesterol-HDLc) and contributive-autoimmune risk factors (rheumatoid factors-RF, antinuclear antibodies-AAN, anticardiolipine antibodies-ACA, antipeptide cyclic citrullinate antibodies-CCP). EpiInfo, SPSS were use for descriptive and multivariate analysis. **Results:** 83 of patients were female, and 18 patients were male, average age was 54 ± 11 , 76 (SD), 53 patients presented TA with or without treatment, and 63/66 patients had elevated CT/HDLc. We found positive antibodies, CCP in 86 patients (82%), RF in 87 patients(81%), AAN in 39 patients (36, 8%), ACA in 32 patients (30, 2%). In prediction of IMT most important risk factors were AAN ($p=0.0017$), ACA ($p=0.0078$) and age ($p<0.0001$), TA ($p=0.048$) and gender ($p=0.001$). We found positive correlations between IMT and AAN ($r=0.41$), IMT and ACA ($r=0.43$). **Conclusions:** Contributive risk factors are candidate triggers of inflammatory responses, and play an important role in the pathogenesis of atherosclerosis in patients with RA. Antibodies are prevalent in RA, and are associated with early atherosclerotic changes.

Keywords: rheumatoid arthritis, intima media thickness, antibodies

EFFECTS OF PLAQUENIL ON SYSTEMIC LUPUS ERYTHEMATOSUS OUTCOME

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Background: The aim of this study was to evaluate the effects of Plaquenil (HQ) on clinical and serological outcome in patients with Systemic Lupus Erythematosus (SLE), treated in Rheumatology Clinic, UMF Tg.Mures, between 2010-2012. **Material and methods:** Retrospective longitudinal study on patients with more than four ACR (American College Of Rheumatology) criteria of SLE treated with Plaquenil 400mg/day ($n=136$), 54 patients having secondary antiphospholipid syndrom (AFLS) to SLE. A multivariated analysis was performed including joint, pericardial and cutaneous, trombotic involment, as well as double stranded antinuclear antibodies (DNS2sAb), anticardiolipine antibodies (ACLab), serum creatinine, blood glucose, platelet count. **Results:** There was no relapse of thrombotic events and hyperglycemia, patients treated with Plaquenil having a favorable outcome regarding steroid diabetes and AFLS manifestation. **Conclusions:** The use of Plaquenil in moderate cases of SLE with secondary AFLS was significantly associated with a good outcome, patients being protected from hyperglycemia and new flares of AFLS. Our results are concordant with data from literarure, regarding the benefit of antimalarial agents in SLE on diabetes, AFLS and atherogenesis.

Keywords: systemic lupus erythematosus, plaquenil, secondary antiphospholipid syndrome

CORRELATIONS FOR DISABILITY INDEX IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: The objective was to evaluate the correlations between disability index in rheumatoid arthritis (RA) patients and clinical, biological and structural parameters. **Material and methods:** This analytical - observational, longitudinal, prospective and retrospective cohort study was conducted on a number of 148 RA patients, during 2008-2011. The patients were evaluated clinically, biologically at the initial visit and at 3, 6, 9 and 12 months (V1-V4). During each visit a HAQ-DI questionnaire was completed for each patient. DAS28, delta DAS28, delta HAQ were determined. In order to establish joint destruction, comparative radiographs of hands and feet were evaluated, using the modified Sharp score. In order to establish correlations between parameters DAS28, HAQ-DI during the five visits were compared to each other, respectively with the immunological markers (antiCCP antibodies, RF) and radiological progression. The obtained data were statistically analyzed by using MedCalc. **Results:** Delta DAS28 was correlated with delta HAQ-DI at all four visits, the strength of correlations and statistical significance increasing progressively from one visit to another. The final disability score was correlated with the final disease activity score and initial disability index in both groups, with no correlation with the radiological progression in the bone/ cartilage, with initial activity of the disease or with the presence/ absence of RF and antiCCP or with theirs titer. **Conclusions:** The disability score of patients with RA depends primarily on the degree of disease activity.

Keywords: rheumatoid arthritis, DAS28, HAQ-DI, radiological progression

DEATH OF THE RHEUMATOID ARTHRITIS PATIENTS IN THE INTENSIVE CARE UNIT

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Background: Despite the new improvements of the medical management of patients (pts.) with rheumatoid arthritis (RA), the survival of those patients has not improved. Rheumatoid arthritis is a systemic rheumatic disease that alongside with its secondary complications can lead to life-threatening conditions and Intensive Care Unit (ICU) admission. We present the features and outcome of RA patients hospitalized in the ICU. **Material and methods:** A review of the RA patients admitted in the ICU of the Emergency County Hospital of Targu Mures, Romania between 1st of January 2007 till 1st of January 2012 was performed. The patients' data/records were retrieved from the hospital computer data base. **Results:** Twenty-three patients (eighteen female, 4 men) with RA required intensive care management out of 521 admissions (4.41%). The mean age of the patients at the time of the admission was 63.70 +/- 9 (SD) years. Twelve out of twenty three patients died. Nine out of twelve patients died during ICU hospitalization (75%) and 3 out of twelve at admission in the ICU (25%). The total mean of the hospitalization's days was 12.02 +/- 17.05 (SD) days. It wasn't observed a statistical difference between the survival patient's hospitalization days versus the death patient's hospitalization days (p=0.0779). The main cause of admission in the ICU was: sepsis (7/23; 6 deaths, 1 septic shock), respiratory distress (12/23; 5 out of 12 pts. died, 1 pulmonary embolism), renal failure (6/23, 2 deaths), 1 upper digestive tract hemorrhage - died, 1 myeloma - final stage (died). Fourteen out of twenty three patients presented with cardiovascular comorbidities. Two patients associated necrotic vasculitis and one Sjogren syndrome. Two patients were on biologics (Rituximab). **Conclusions:** Infectious complications remain the main cause of ICU admission and common cause of death for the RA patients. Renal, respiratory and cardiovascular involvements are poor outcome predictors. A thoroughly evaluation of the risk factors in managing the RA's patients is required in order to improve the outcome.

Keywords: death, rheumatoid arthritis, intensive care unit

SOCIAL SCIENCES

EVALUATION OF THE LOGISTIC AND CONSTRUCTIVE PERCEPTION OF PHARMACIST STUDENTS TOWARDS MEDICINE

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Background: The present study aims to highlight some particular aspects of pharmacist students training, the logistic of pharmacist students attitude towards medicine, through cognitive and perceptive construction. The existence of such an attitude can lead to the implementation of new viable strategies towards education and self-education. **Material and methods:** As working method in our logistic approach, we used the questionnaire, addressed to the students of the Faculty of Pharmacy, with the target group, students from the 1st, 3rd and 5th year. **Results:** After data processing and results interpretation emerged the idea that pharmacist students have different attitudes towards medicine, according to their educational status and it is necessary to insist through perceptual building learning strategies, on the medicine image and on its psychological involvement. **Conclusions:** It is necessary for the pharmacist student to empower and acknowledge, the effect of various perspectives on medicine, highlighting the effects that occur at cognitive level, according to its educational status.

Keywords: pharmacist student, medicine, attitude, effect, relationship

MOTIVATION AND SKILL CONFIGURATION IN PSYCHOPEDAGOGICAL TRAINING

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Background: This paper presents the results of a psychopedagogical research conducted on a significant group of trainees undergoing a teacher training course, seeking professional qualification. The study group was stratified based on the status and the level of the trainees participating in the specialised training course provided by the Teacher Training Department UMF Tîrgu Mureș. The trainees were grouped into two groups; group one was made up of graduates of the Faculty of Medicine, having a double socio-professional status residents and teaching staff undergoing a merged form of pedagogical training. The second group comprised students of different faculties and specialisations. The starting hypotheses of the research highlight the causality between: a) motivational support and teaching career option; b) resource skills and performance in teaching experience; c) interdependence between deontic and epistemic authority required by a high professional status and a positive and constructive attitude towards education and training of those preparing for this profession. **Material and methods:** In terms of methodology, the research was based on the co-participative observation method (as a teacher and analyst of this phenomenon) and content analysis of responses to open questions aimed at expectations achieved through this pedagogical training. The investigational tool used the directive interview guide. The pre-coded answers to semi-open and open questions allowed the ranking through evaluative and comparative indices derived from the application of statistical and mathematical methods such as the mean average and graphical results. **Results:** The results show that attitude towards a teaching career and its choice is conditioned primarily by the instructional level of each trainee's education, level of maturity and not by the trainee's specialisation. The basis of such an options lies on career skills and positive attitudes. **Conclusions:** Professional success is legitimate and supported by the dual authority: professional and ethical, motivational support consisting of more individualised reasons and interests.

Keywords: social sciences, psychopedagogical training, residents, teaching st

THE AUTONOMY OF PEDIATRIC PATIENTS'

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Background: The study examines the extent of children's rights to self-determination in health decision-making processes, also known as autonomy of pediatric patients'. This fundamental right has its origins in human rights and allows to each person to be the main decider in his own health-related problems. The literature has identified two major perspectives, the one sustains a fully autonomous child, the other a limited autonomy. Legal definitions does not offer a clear background, especially when the child is a very young person. It is unclear, in which situations should the child himself make the decisions and when should this right be exercised by the legal representatives. As objectives, the author would like to: identify shortcomings of legal background, describe situations when the child may or may not exercise any decision-making capacities and measure the achievement-levels of self-determination by pediatric patients. **Material and methods:** Quantitative methods were used and the results were evaluated with comprehensive descriptive statistics. There were applied a number of 600 questionnaires on three different category of targets: health professionals, parents and children. **Results:** Decisional capacity is the key to self-determination and requires a child's valid consent. Chronological age itself does not matter, mental development is important to determine the cognitive ability. It is not certain from which age gains the child the necessary understanding, because too much depends on each child and his social context. The children's autonomy is linked with other rights such as the right to privacy, confidentiality, medical information and acceptance of responsibility. **Conclusions:** In most cases children are not enough involved in medical-decisions, despite the attitude of the physicians is generally good. Romanian practice is dominated by the concept of limited self-determination. When it comes to children's health, parents are the primary decision-makers.

Keywords: autonomy, children, consent, decision making, self-determination

PARTICULARITIES OF EATING BEHAVIOR IN PATIENTS WITH ALZHEIMER'S DISEASE

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Background: Alzheimer's disease is a degenerative disorder of the brain that produce impaired memory, thinking, behavior and does not represent a normal part of aging. Losing weight is a major concern for professionals caring for patients with Alzheimer's disease and this symptom may precede the onset of classical disease symptoms. **Material and methods:** Review of key nutritional interventions to patients with Alzheimer's disease according to disease stage. **Results:** For people with Alzheimer's disease there is no special diet - unless they have another medical condition, such as hypertension or diabetes, which may require a special diet, a diet well-balanced, nutritious extremely beneficial. **Conclusions:** Losing weight seems to be a predictor of mortality in patients with Alzheimer's disease, while weight gain seems to have a protective effect. Research shows that the Mediterranean diet protects against the development of heart disease, metabolic syndrome, some types of cancer, obesity, type 2 of diabetes, dementia, Alzheimer's disease and also leads to a longer life.

Keywords: Alzheimer's disease, nutritional interventions, eating behavior

SURGERY

MALIGNANT MELANOMA WITH DUODENAL AND INTESTINAL METASTASIS

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Background: Malignant melanoma is the most aggressive skin tumor with high potential of metastasing. The spreading is directly correlated with dermal invasion by lymphatic or blood pathways, the most common sites being the lung, liver and the gastrointestinal tract. **Material and methods:** We present the case of a 52 years old patient with atypical symptoms: epigastric pain, nausea, vomiting, weight loss, anemia. The patient underwent surgery nine years ago for cutaneous malignant melanoma. Abdominal computer tomography revealed a tumor of 3x4 cm in the third part of the duodenum and intraoperatively were revealed two tumors of 2x3 cm in the first jejunal loop. We performed cephalic duodenopancreatectomy with first jejunal loop resection. **Results:** Histopathological examination confirmed the diagnosis of malignant melanoma metastasis in the duodenum and jejunum. The postoperative course was favorable, at 3 and 6 months follow-up, the ultrasonography and computer tomography revealed no signs of recurrence. **Conclusions:** The incidence of malignant melanoma is increasing and the possibility of digestive metastasis should be consider to be important. Patients with digestive symptoms and a history of melanoma should be investigated for intestinal metastases. Surgery is the treatment option that extends patient survival.

Keywords: malignant melanoma, intestinal metastasis, cephalic duodenopancreatectomy

A 10- YEAR- OLD CHRONIC FORM TEXTILOMA AFTER GYNECOLOGICAL OPEN SURGERY, A CLINICAL CASE STUDY

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Background: Despite the precautions taken by surgeons, the textiloma is still present in the adult and children surgical pathology. Regarding the evolution of textilomas, two types can be described: the ones with acute evolution and the other ones with chronic evolution. In the case of acute textilomas, the evolution is generally towards abscess forming and tegumentary fistulization, while the chronic ones evolve towards forming granulomas and showing unspecific symptoms. **Material and methods:** We present the case of a patient admitted in Surgery I Clinic, Emergency Clinical County Hospital Tîrgu Mures, for the presence of a giant abdominal tumor that caused subocclusive symptomatology. From the patient's surgical history we note that an extrauterine pregnancy was surgically treated 10 years ago in another medical service. Upon an adequate preoperative evaluation and preparation, surgery is performed and the presence of a left hypocondrium tumor is noticed, having the aspect of an amorphous mass; the tumor is excised. **Results:** The patient was discharged healthy and the histopathological finding reveals the diagnosis of textiloma. **Conclusions:** As a particularity of the case is the long asymptomatic period and the chronic evolution towards granuloma.

Keywords: Surgery, left hypocondrium, giant tumor, textiloma

GIANT MESENCHYMAL GASTRIC TUMOR PENETRATING THE DIAPHRAGM, SPLEEN AND PANCREAS TAIL: CASE REPORT

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Background: Only a few cases of complicated giant mesenchymal gastric tumor have been reported in medical literature. They are

usually associated with complications as upper gastrointestinal bleeding, spontaneous rupture with haemoperitoneum, tumor necrosis and multivisceral invasion. **Material and methods:** We report the case of a 57-year-old man who was admitted with a 2 weeks history of epigastric pain accompanied by upper gastrointestinal bleeding. The CT showed a 131x137x130 mm tumor mass developed from the greater gastric curvature, with an inhomogeneous aspect, which includes the fornix region and the possible invasion of the right diaphragm and spleen. An upper endoscopy showed, on the greater gastric curvature, a bulge of 6-7 cm, ulcerated, covered with fibrin, with bleeding stigmata. We performed an exploratory laparotomy and find a decrepit gastric tumor involving the gastric corpus and fundus that penetrates the diaphragm, spleen and pancreas tail, therefore we made a gastric resection of greater curvature with splenectomy and caudal pancreatectomy. **Results:** The postoperative evolution was uneventfully. The patient was discharged on the 12th day after surgery. Pathological examination showed a giant gastric mesenchymal neoplasm. **Conclusions:** Intratumoral bleeding and necrosis are rare presentation of mesenchymal tumors. The preoperative diagnosis is always difficult because of the absence of pathognomonic signs or symptoms. Local excision with negative margins associated with adjuvant therapy remains the main modality of treatment for high risk mesenchymal neoplasm.

Keywords: giant mesenchymal gastric tumor, tumor necrosis, upper gastrointestinal bleeding

THYROIDECTOMY WITHOUT LIGATURES

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Background: Since 1998 LigaSure technology has become the standard of hemostasis, proving its efficiency in a wide variety of surgical procedures. **Material and methods:** We present six thyroidectomies performed from august 2012 with the LigaSure Small Jaw device in the Surgery I Clinic of the County Emergency Clinical Hospital Tîrgu Mureș. **Results:** In all cases (five total thyroidectomies and one left hemithyroidectomy) the operative period has been reduced, the LigaSure Small Jaw being used as a dissection, grasping, ligature and section tool. The elimination suture materials, low instrument necessity, and short anesthesia can be significant elements in patient management. The sealing efficiency of the arterial, venous and lymphatic vessels as well as the minimal thermal effect on local tissues (under 1 mm) are just some of the arguments for this instrument. **Conclusions:** Using the LigaSure Small Jaw total thyroidectomy is useful for both the patient and surgeon: reducing the degree of intra and postoperative hemorrhagic complications, eliminating the risk of suture granuloma, offering comfort to the surgeon and security to the patient.

Keywords: thyroidectomy, LigaSure, hemostasis

GASTRIC CANCER ASSOCIATED WITH PANCREATIC STONES: CASE REPORT

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Background: The specialty of surgery is at times just as difficult as it is spectacular. Other than the relatively simple cases in which the surgical treatment is well standardized, there are many complex cases when the surgeon has to deal with the dilemma of choosing the best solution for a patient. Making this decision is the most difficult moment, when the experience of the surgeon plays an important role in being able to transform surgery into art. This paper presents the case of a patient with a complex pathology (gastric cancer associated with chronic pancreatitis and pancreatic ascites), when applying a unique surgical solution leading to excellent results. **Material and methods:** The patient is a 57 year old man with chronic alcoholism, cachexia, chronic pancreatitis diagnosed 9 years ago (two acute episodes), admitted to the emergency service with violent abdominal pain, nausea, morning vomiting, abdominal distension and dyspnea. Abdominal ultrasound confirms the diagnosis of chronic pancreatitis and highlights a 13 mm pancreatic duct with intraductal stones and large quantities of pancreatic ascites. Gastroscopy highlights a 7-8 cm antral gastric tumor. Biochemical results: amylase 930U/l, glycemia 111 mg/dl., hypoproteinemia. A surgical intervention is performed - subtotal gastric resection, pancreatectomy under ultrasound control with the extraction of the stones from the pancreatic duct, followed by the reconstruction of the digestive continuity through an original fitting. **Results:** By the time of discharge, amylase had returned to normal limits and the ascites had been reduced significantly. After one postoperative month the patient was asymptomatic, with no ascites and with weight gain, being guided to the oncology service for continuing the specific treatment. **Conclusions:** There are complex surgical cases in which the surgeon is forced to improvise based on his experience, the

solution we presented having been able to save the patient.

Keywords: gastric cancer, chronic pancreatitis, ascites, stones, alcoholism

TOTAL PROCTOCOLECTOMY WITH TRANSANAL ILEOSTOMY AND SPHINCTER PRESERVATION USING LIGASURE DEVICE

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Background: Surgical arsenals used in Crohn's disease (total rectocolectomy with end ileostomy, total colectomy with ileo-rectoanastomoses, total restorative rectocolectomy) aims to restore the physiological mechanisms of intestinal transit and defecation.

Material and methods: We present the case of a 27 years old patient, admitted to our service by shuttle from Gastroenterology Clinic, where she was diagnosed in 2006 with ulcerative colitis. The patient has multiple hospitalizations in the gastroenterology department, for multiple rebounds of the disease. From February 2011 the patient was under medical treatment with antiTNF-alpha (Remicade *) and Salofalk 500mg, clinical and endoscopic remissions were temporary, the patient presenting a rebound of the disease with heavy bleeding and general disorders requiring emergency surgery. Total proctocolectomy was performed with transanal ileostomy and sphincter preservation, using cutting-sealing device LigaSure. **Results:** The postoperative evolution was favorable, with hospital discharge on the 20th day after surgery; the continence and the anal sphincter activity were acceptable.

Conclusions: In our opinion LigaSure devices are the best allies in sphincter saving procedures for benign colorectal diseases. Keeping the sphincter apparatus in young patients with ulcerative colitis, that does not respond to specific medical therapy, is an achievable goal whose benefits are quantified best by patients.

Keywords: total proctocolectomy, transanal ileostomy, LigaSure

THE HAEMOSTATIC VALUE OF BURLUI'S TRANSTHORACIC PROCEDURE OF LUNG PLOMBAGE FOR A RESIDUAL HYDATID HEPATIC CAVITY

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Background: The Burlui's transthoracic procedure is rarely used in nowadays surgery but in our case offered strategic advantages. We report a case in which we used the lung plompage of hepatic cavities as described by Prof. Burlui. **Material and methods:** We present the case of an 19 year old patient known with tertiary right thoracic and hepatic echinococcosis, with a history of 2 surgical interventions in 2002 and 2006. Despite of chronical treatment with Albendazole (over 1 and a half years) the patient developed a giant intradiaphragmatic hydatid cyst which had extended both intrathoracic (5 cm) and intrahepatic (10 cm) with 5 hydatid cysts in the lung and multiple daughter vesicles in the liver. We opted for a transthoracic approach and we performed multiple cystectomies for the intrathoracic hydatid cysts and a subtotal maximal cystectomy and pericystectomy, haemostasis and the closure of the thoraco-abdominal defect using the middle lobe of the lung. **Results:** Postoperative course was unfavorable due to the postoperative hepatorenal failure caused by the chronic treatment (over 1 and a half years) with Albendazole. **Conclusions:** By using the lung (middle lobe) plompage the 3 most important objectives were achieved: collapse of the remnant hepatic cavity, closure of the thoraco-abdominal defect and most important, obtaining a proper haemostasis

Keywords: surgery, lung plompage, transthoracic, Burlui's procedure

INTRATHORACIC TRANSPOSITION OF AN OMENTUM FLAP

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Background: The omentum flap is extremely malleable, adapts very easily to any irregular surface, has a long and very reliable

vascular pedicle, has a large absorption capacity which reduces the need of drains. **Material and methods:** We present the case of a 47 year old patient without a medical history, which developed the symptoms approximately 2 months ago, with epigastric pain, dysphagia for solids, postprandial vomiting and important weight loss (10 kg). The barium meal suggested the existence of a neoplasm in the lower 1/3 portion of the esophagus with minimal passage in the stomach. The gastroscopy confirmed the presence of an esogastric tumor and the abdominal and thoracic CT scan showed no secondary metastasis. Surgery was performed through both thoracic and abdominal approach, with a lower half esophageal resection, an upper half gastric resection, frenotomy with the resection of the left diaphragmatic crus, and a partial pancreatectomy. The gastrothoracic anastomosis was secured with an omentum flap passed around the suture line both clockwise and anti-clockwise. **Results:** Postoperative course was favorable, with minimal serosanguineous fluids through the thoracic drains, recovery of the bowel movement from day 2. We did not encounter any flap necrosis in the postoperative period. **Conclusions:** Omentum can be mobilized very easy during esophageal reconstruction and can be very useful for the reinforcement of the esogastric anastomosis. The decision of how to mobilize the flap and the choice of the nutrient vessels was taken intraoperative.

Keywords: omentum flap, intrathoracic transposition, thoracic and abdominal approach

MULTIPLE RESIDUAL PLEURAL CAVITIES IN A CASE OF POSTTUBERCULOSIS SYNDROME

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Background: The surgery of pleural posttuberculous syndromes remains a significant proportion of cases operated in thoracic surgery services in our country and it is an important indicator of the economic status of the population. **Material and methods:** We present the case of a patient aged 57 years, with a history of tuberculosis since 1988 with subsequent medical treatment and clinical and radiological healing. Insidious onset symptoms since March of this year with pain in the right hemithorax, cough with muco-purulent expectoration, dyspnea on exertion, fever syndrome 38.2 ° C, chills, headache, loss of appetite. The patient was hospitalized repeatedly in Pneumology Clinic Tg. Mures, where he received medical treatment with no clinical improvement. The CT showed a complete apical cavern with two chamber separation and an anterolateral pleural cavity. To obliterate these cavities we performed a complex space-filling procedure, consisting of a 7 ribs toracopleuroplasty Boțianu procedure associated with transposition of the latissimus dorsi (anterolateral cavity) mobilized and serratus anterior (apical cavity) on common vascular pedicle and 3 intercostal flaps with posterior irrigation, closure reinforcement of the bronchial fistulae using intercostal and serratus anterior flaps, closed circuit irrigation-aspiration system. **Results:** Postoperative course was favorable with immediate extubation, ICU stay of 1 day and discharge after 32 days with primary healed wound. **Conclusions:** The severity of the TB endemy from our country results from the complexity of the lesions requiring complex medical and surgical management.

Keywords: surgery, residual pleural cavity, thoracopleuromyoplasty, posttuberculos syndrome

THORACOMIOPLASTY AS RE-REINTERVENTION AFTER TWO DECORTICATION AND A ELOESSER WINDOW

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Background: The role of thoracomyoplasty in the treatment of postoperative empyema is controversial. **Material and methods:** We present the case of a patient aged 54 years with a known history of left intrathoracic infected clot and a, left lower lobe lung abscess. Initial surgery performed in another unit consisting in a pleuro-pulmonary decortication. The postoperative evolution was unfavorable, requiring an iterative decortication which were originally practiced in other thoracic surgery clinic, but the evolution was unfavorable and eventually was followed by an left Eloesser window. At presentation in our service the patient presented fetid secretions in large quantities through the window, dyspnea, malaise. We performed daily lavages with antiseptic solutions with a reduction of the local inflammation. In order to obliterate the residual cavity we performed a Botianu thoracomyoplasty in a single

stage using the latissimus dorsi and serratus anterior (partial mobilization) flaps on a common vascular pedicle and the closure of 18 bronchial fistulas with complete obliteration of the cavity. **Results:** The postoperative evolution immediate and at 5 months was favorable. Thoracomyoplasty was the final solution in this case given the recurrent postoperative complications. **Conclusions:** Treating postoperative empyema is related to the sections of the chest wall muscles, resulting a limitation of the volume and possibilities of mobilization. The major difficulty lies primary by cutting muscle flaps during previous surgery, resulting volume limitation and mobilization opportunities flaps neighborhood.

Keywords: surgery, residual pleural cavity, thoracopleuromyoplasty, muscle transposition, Eloesser window

CHRONIC RADIATION SIGMOIDITIS REQUIRING SURGERY FOR BLEEDING AND OBSTRUCTION - A CASE REPORT

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Background: Radiation colitis is a progressive disease with increasing frequency, developing 6 months to 5 years after regional radiotherapy for malignancy. The disease and its complications should be managed in the most conservative modality because the area of intestinal injury do not tend to heal. Management of chronic radiation colitis remains a major challenge due to the progressive evolution of the disease. Surgical intervention is difficult to perform because of the alterations in the intestinal wall and retractile mesenteritis. **Material and methods:** We present the case of a 74 years old female patient with a previous regional radiation therapy for a bladder cancer in may 2011 who developed a chronic intestinal bleeding requiring multiple blood transfusions (more than 20 blood units) starting from march 2012. Several colonoscopies were performed but a tight stenosis was encountered after 20 cm each time. Conservative local (enema) and general treatment with mesalazine was the initial option. Due to persistence of bleeding a laparotomy was performed and a stenotic and ulcerative sigmoid lesion was excized. An end colostomy was preferred instead of a colorectal anastomosis. **Results:** Postoperative course was uneventful, with no signs of recurrence of bleeding. **Conclusions:** Surgical complications of chronic radiation colitis such as intestinal obstruction, intestinal stenosis, intestinal bleeding and intestinal perforation should be managed operatively. Because of the progressive evolution of the fibrosis, the patient may require additional surgery.

Keywords: radiation colitis, intestinal obstruction, bleeding, surgical treatment

CONCOMITANT GASTRIC AND COLONIC CANCERS IN A 33 YEARS OLD PATIENT – A CASE REPORT

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Background: Gastric and colon advanced cancers have been rarely reported in the literature, most of the publication describing single case reports. **Material and methods:** We present the case of a 33 years male patient referred to our clinic from another unit where upper endoscopy revealed an antral tumor. Mild anemia was the only notable lab finding. Intraoperative we found incidentally a second tumor, located on the hepatic flexure of the colon. Subtotal gastrectomy with omentectomy and D2 lymphadenectomy followed by gastrojejunal anastomosis was completed with right hemicolectomy and ileotransverse anastomosis. **Results:** Postoperative course was uneventful, with complete recovery and discharge on postoperative day 12. The pathological report showed adenocarcinoma in both cancer localisations. The patient was referred to oncological clinic for further therapy. **Conclusions:** The synchronous occurrence of gastric and colon cancers is quite rare. The development of such concomitant neoplasms may involve the same carcinogenic agents.

Keywords: gastric cancer, colonic cancer, concomitance

LUNG DECORTICATION FOR URINOTHORAX

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Background: Urinothorax is a rare entity in pleural pathology. **Material and methods:** We present 2 cases of urinothorax from a 48 cases of pleural complications in urologic surgery, following minimal lesions of the procedure. First case: patient V.R. 48 years, with a loculated urinothorax after percutaneous nephrolithotomy, solved by a Fraser-Gourd decortication. Second case: patient A.B. 45 years with a loculated left urinothorax after a coelitis syndrome associated with a secondary hydronephrosis. The approach in this case was upper percutaneous endoscopy. Initially we performed tube thoracostomy and then Fraser-Gourd decortication with atypical resection of the lingula. The patient had also a paravertebral and pararenal abscess, which was treated by drainage. **Results:** Full recovery in both cases with no late sequelae. **Conclusions:** Both cases certificate Byc's theory.

Keywords: urinothorax, Fraser-Gourd decortication, Byc's law

INTERNAL PNEUMATIC STABILISATION, ASSOCIATED WITH DRAINAGE IN CHEST FLAIL TREATMENT

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Background: Chest flails are a form of chest trauma with a particular pathophysiology and therapy. **Material and methods:** We present a case of 54 years old patient, sent to our clinic from another surgical unit, with a multiple trauma suffered by falling from a bike, advanced drunk, confused, with psychomotor agitation under the influence of alcohol, GSC=9, BP=170/130/mmHg, P=60/min, Sat O₂=94%. On admission to our clinic, the patient was already intubated, sedated with Propofol, hemopneumothorax insufficiently drained with Heimlich valve, left clavicular fracture and multiple left rib fractures with chest flail, left laterothoracic and laterocervical extensive emphysema. Treatment consisted in prolonged mechanical ventilation, aspirative drainage using the Sweet system, drainage of subcutaneous emphysema with needles, antibiotics and reequilibration. **Results:** Traheostomy was not performed due to the favorable evolution. CT-control, breathing and cardiology tests showed a perfect functional recovery. The evolution was favorable with resolution of hemothorax and emphysema, removal of the thoracic drain, extubation and discharge at 34 days. The patient managed to climb 2 floors without presenting fatigue and dyspnea phenomena at 3 months after discharge. **Conclusions:** Internal pneumatic stabilisation associated with minor procedures is a possible solution for chest flails.

Keywords: internal pneumatic stabilisation, chest flail, hem

APOCRINE INTERFERESSIER HIDROCYSTOMA

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Background: Hidrocystomas are adnexal tumors containing cystic proliferations of apocrine or eccrine secretory glands, usually with values between 1-3 mm and rarely reaching the size of 10 mm. We describe a case of 7 mm hidrocystoma located in interferessier region. **Material and methods:** A 18 years old man presented to our clinic in April, for evaluation of a tumor located in interferessier region, painful, invasive, fluctuant on palpation. The lesion first appeared approximately one year ago. For the last two months, the lesion has increased in size, was ulcerated, became bleeding due to the repeated local trauma, accompanied by perilesional edema and erythema. There was no family history of similar lesions. The patient was otherwise healthy, without any relevant past medical history. Laboratory data: Bil T/D=1.38/0.8mg/dl, GPT=175U/L. Macroscopically: 7 mm diameter circumscribed subcutaneous nodule. Microscopically: circumscribed proliferation, the non-cystic tubular structures composed of cylindrical epithelium, partially foamy, containing a homogeneous, eosinophilic material- apocrine hidrocystoma. **Results:** We performed complete tumor excision, with primary suture. After 5 days, the patient was released with good general condition, afebrile, outgoing wound healing. **Conclusions:**

The particularity of the case: young patient, without a personal history or family pathology, without associated disease, without toxic environment, no allergies to medication.

Keywords: hidrocystomas, tumor, apocrine

HEMOGALLBLADDER WITH HEPATIC HEMATOMA , AS FIRST MANIFESTATION OF GALLBLADDER CANCER

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Background: Gallbladder cancer is quite unusual location of cancer. As geographical distribution we find a high frequency in South America, Central and Eastern Europe, Japan and North India. The affected population is represented by American Indians and Hispanics, more common in woman aged 50-60 years. Obesity is a risk factor. **Material and methods:** We present a patient aged 78 years, who was admitted to our clinic with minimal symptoms(diffuse abdominal pain). At 3 hours after admission, the patient's condition worsened suddenly, with intense right side abdominal pain, nausea, bilious vomiting, tensional collapse. Laboratory revealed leukocytosis=23880/mm³, Hgb=12 mg/dl, Hct=33.2%, platelets=38000/mm³. Emergency CT-scan raised the suspicion of gallbladder tumor, with perforation and hemorrhage intreparenchimatous hepatic hematoma-segment VII and distal infarction, bilateral adrenal nodules. We performed retrograde cholecistectomy, subhepatic drainage, instrumental exploration of common bile duct, Kehr drainage. Histopatology: acute colecystitis developed on a gallbladder adenocarcinoma. **Results:** Postoperative evolution was difficult, but eventually favorable with discharge after 17 days. **Conclusions:** Gallbladder cancer may present as an acute abdomen requiring emergency laparotomy.

Keywords: gallbladder cancer, hematoma, hepatic hematoma

FEMORAL ANEURISM AFTER AORTO-FEMORAL BY-PASS

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Background: Late complications, like an anastomotic aneurisms are relatively rare and difficult to manage. **Material and methods:** We present the case of a 67 years old male patient with an right aorto-femoral by-pass in 2005, who developed in the last one year a pulsatile, painful tumor in the the right inguinal region. The surgical management was the resection of the aneurism, and the reconstruction of the common femoral artery by interposition a Dacron vascular graft and the implantation of the profound femoral artery. **Results:** Postoperative course was favourable, with no complications and a discharge from hospital in 8 days. **Conclusions:** The surgical approach in such cases is relatively difficult, but choosing the moment of an adequate surgical solution due to very best results.

Keywords: surgery, anastomotic aneurism, vascular surgery, femoral artery

JUXTAVASCULAR INGUINAL TUMOR

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Background: Surgical intervention in a malign like tumor is often required **Material and methods:** We present the case of a 57 year old male patient with a right inguinal tumor developed in one year. The tumor was under the inguinal and femoral vascular pedicle, between the muscles, with extension to the thigh bone, well delimited. We excised the tumor with reduced injuries of the arterial branches and minimal femoral vein lesion. **Results:** Postoperative course was favourable with minimal serosanguineous fluids, moderate oedema of right lower limb and a histopathological result = lipoma **Conclusions:** The surgical approach of a malign like tumor was difficult, but the postoperative result and the histopathological one of lipoma makes us sure that everything worth.

Keywords: surgery, malign like, surgical difficulty, lipoma

GIANT INTRATHORACIC LIPOMA (17X10X8 CM)

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Background: We present a case that illustrates the difficulties related to the removal of benign large dimensions intrathoracic tumors. **Material and methods:** We report a 70 years old male patient, with severe heart disease resulting in NYHA stage III heart failure and a history stroke and a naso-palpebral carcinoma operated 5 years ago, admitted to the Internal Medicine Clinic for worsening dyspnea. Chest X-ray showed a giant opacity on the right hemithorax. CT showed an 17x10x8 cm intrathoracic tumor, well-delineated and with tracheal compression and deviation. Bronchoscopy and digestive endoscopy showed extrinsic compression, but without invasion of the tracheo-bronchial tree and of the esophagus. Surgery was performed through a large postero-lateral thoracotomy. After mobilization of the lung, we found an extrapulmonary tumor with 3 vascular pedicles arising from the posterior intercostal vessels. We performed a complete excision of the tumor, the cleavage plane allowing the mobilization of the tumor from the trachea, esophagus and aorta. **Results:** The postoperative course was extremely difficult due to a bronchopneumonia and the associated cardiac comorbidities, but eventually favourable, with improvement of the respiratory status. Pathologic examination showed the presence of a mixoid fusocellular lipoma, with no atypia. **Conclusions:** The case is interesting due to the rarity of the thoracic location of this tumor and the huge dimensions.

Keywords: intrathoracic lipoma, large dimensions, complete excision

RARE CAUSE OF UPPER GASTROINTESTINAL BLEEDING: AORTO ENTERIC FISTULA (AEF)

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Background: The aim of the study is to present a rare nosological entity. Aorto -enteric fistulae have an extreme clinical severity. The development of a therapeutic protocol allows the optimum management of these complex cases. **Material and methods:** In the last ten years we recorded five cases of primary or secondary aorto - enteric fistulae. **Results:** Aorto - enteric fistulae remains a life threatening complication of aortic surgery despite its progress in the last decades. **Conclusions:** The major objective is obtaining a prompt diagnosis in the early stage - "the Herald bleeding" using angiographic investigation. This allows optimal conditions for the surgical treatment. (AEF) management requires a high rate of susceptibility of the clinician, a rapid assessment and prompt surgical treatment.

Keywords: aorto -enteric fistulae, gastrointestinal bleeding, complication

EMBOLIZE AND CHEMOEMBOLIZE TREATMENT OF GASTRIC CANCER

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Background: The gastric cancer continues to be a major problem of pathology being the 4th cause of illness and the 2nd cause of death by cancer. **Material and methods:** Between April 2010 and December 2011 in Clinica de Chirurgie 1, Tîrgu Mureş were treated by chemoembolization a number of 25 patients with gastric cancer in most advanced forms of the disease. **Results:** Most patients were men (18) than women (7) aged between 43 and 80 years. Haematocrit values shows that 5 patients were in the normal range, 6 were having discrete bleeding stigmata, 10 had signs of medium superior digestive bleeding with a haematocrit between 25-35%, and 4 had severe signs of superior digestive bleeding. Many of the patients had nutritional deficiencies, neoplastic cachexia in 5 cases, ascites in 6 cases, 4 with moderate symptoms of pyloric stenosis. Most patients were in advanced stages, with

extensive local tumor staged T4 and metastatic. **Conclusions:** The new methods of diagnostic and treatment of patients increased the addressability at the surgeon; even so the majority presented a form of advanced disease. Surgery is only treatment able to improve the prognosis of patients with locally advanced gastric cancer.

Keywords: Surgery, embolization, chemoembolization, gastric, cancer

SURGERY OF PULMONARY TUBERCULOUS LESIONS OVERINFECTED WITH ASPERGILLUS

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Background: The objective of this paper is to evaluate the results of surgery for chronic tuberculous TB lesions overinfected with Aspergillus. **Material and methods:** We performed a retrospective study on 33 patients operated in our unit between 01.01.1985-01.01.2011 for aspergilloma developed on TB lesions (active or sequelae). Surgery consisted in lung resection in 26 cases (lobectomy - 5 cases, non-anatomic - 21, with 5 cases associating an applatisation-plication of the cavity) and thoracomyoplasty in 7 cases. All the patients were referred for surgery after failure of the medical treatment and received specific antifungal perioperative treatment. The following main parameters were followed: mortality, morbidity, need for a reoperation, hospitalisation. Data were analysed using the GraphPad Prism software. **Results:** Overall mortality was 6% (2 patients). We encountered 3 residual suppurred cavities requiring a major reoperation (open-window or thoracoplasty). At one-year follow-up (clinical, sputum bacteriology, chest X-ray +/- CT scan) we encountered no recurrence, with two deaths not related to the thoracic problems. Comparative evaluation resection vs thoracomyoplasty showed no difference in terms of mortality and incidence of postoperative empyema requiring reoperation or other major postoperative complications ($p>0,05$ for all the parameters). A longer hospitalisation was noted for thoracomyoplasty patients (resection group: ranges 12-76, median 18 days vs thoracomyoplasty group: ranges 10-87, median 42 days, $p<0,05$). **Conclusions:** Surgical treatment for aspergilloma complicating TB lesions remains a challenge, involving a significant mortality and morbidity. In selected cases, both lung resection and thoracomyoplasty may give good results.

Keywords: aspergilloma, surgical approach, lung resection, thoracomyoplasty

REMNAnt APPENDICULAR STUMP AFTER OPEN APPENDECTOMY – LAPAROSCOPIC REMOVAL

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Background: We present the laparoscopic diagnosis and treatment of an extremely rare complication after open appendectomy (remnant stump). **Material and methods:** We report a female patient with a history of open appendectomy performed 7 months ago in another unit. She presented now with persistant typical signs of appendicitis, identical with those encountered before the open appendectomy. Repeated US and CT scans were normal. Due to the persistant complaints, a decision for exploratory laparoscopy was made. Intraoperatively we found some adhesions in the right iliac fossa and a 20 mm length appendicular stump which was adherent to the anterior abdominal wall. The stump was dissected, ligated at the base with extracorporeal knots and removed using a 3 trocars approach and standard laparoscopy instruments. **Results:** The immediate postoperative course was favourable, with regain of transit after 24 hours and discharge after 4 days. The pathologic examination showed the typical histologic structure of an inflamed appendix. The complaints of the patient disappeared immediatly after surgery, with no recurrence at a 2 years follow-up. **Conclusions:** Laparoscopy is usefull in patients with persistant abdominal symptoms after open appendectomy. If an appendicular stump is present, it allows it's identification and safe removal.

Keywords: open appendectomy, appendicular stump, laparoscopy

INDICATIONS AND RESULTS OF ONE-STAGE BILATERAL THORACOTOMY APPROACH

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Background: The aim of this study is the evaluation of the one-stage bilateral thoracotomy approach for bilateral thoracic diseases. **Material and methods:** This is a retrospective study on 20 patients admitted to Surgical Clinic 4 UMF Tirgu-Mures between 01.01.1985-01.01.2012 in whom we have performed one-stage bilateral thoracotomies. Indications for this approach included: hydatid disease (one including a right thoracophrenotomy to approach a hepatic hydatid cyst) - 9 pts., thoracic trauma - 2 pts., bilateral metastases - 2 pts., bilateral empyema - 2 pts., bilateral blebs - 2 pts., primary lung cancer + contralateral metastase - 1 pt., bilateral hidro-pneumothorax - pleural carcinomatosis and trapped lung - 1 pt., bilateral metallic foreign bodies (suicide attempt) - 1 pt. **Results:** We encountered no mortality; one patient with bilateral empyema developed a residual cavity that required a thoracomyoplasty procedure. None of the patients required prolonged postoperative mechanical ventilation. In other 4 cases where this approach was planned, the second procedure was postponed at the request of our anesthesia colleagues (patients not included in this study). **Conclusions:** One-stage bilateral thoracotomy approach is feasible if there is a team trained in the postoperative follow-up and care of the patients operated on the chest. The major advantage of this approach is the functional one, secondary to the lack of bilateral diaphragmatic fixation since the patient is forced to breathe equally with both diaphragms. Other advantages are esthetic, psychologic and economical - reduction of the costs to almost one half.

Keywords: one-stage, bilateral thoracotomy, succesive approach

LEFT OCCULT PNEUMOTHORAX AND SPLENIC INJURY IN A MULTIPLE TRAUMA PATIENT - CONSERVATIVE MANAGEMENT

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Background: Pneumothorax is a common finding in the trauma setting and affects more than 20% of major blunt trauma victims. A small pneumothorax is generally not life threatening, but may compromise result in patients with multiple trauma. Chest radiography has been demonstrated to be an insensitive examination for the detection of pneumothorax, missing over half of all post-traumatic pneumothoraces if made in supine position. Splenic injuries are often associated in left inferior thoracic trauma. The ultrasound detection may be difficult if inferior rib fracture coexist. Computed tomography (CT) is considered as the gold standard for the detection of both pneumothorax and splenic injury. **Material and methods:** We present the case of a 38 year old male patient who presents in the emergency unit with left chest pain and mild respiratory distress, following an aggression. Clinical exam revealed a conscious, haemodinamically stable patient, with 98% O₂ saturation while breathing room air and pain at palpation of the inferior left hemithorax and upper left abdomen. Erect postero anterior chest ray showed the fracture of the lateral arch of the 9th left rib, with minimal left pleural effusion. Ultrasound was difficult to perform but raised the possibility of a spleen lesion, therefore a CT thoracic scan was ordered. Occult small pneumothorax, pulmonary contusion and splenic grade 2 splenic injury were the CT findings. Conservative treatment was initiated, consisting of bed rest, symptomatic medication and antibiotics. **Results:** Resorbtion of the pneumothorax was obtained on control CT scan 10 days after the onset. Left pleural aspirative puncture was performed at that time because of increasing pleural effusion. Splenic lesion was unmodified. **Conclusions:** Safe nonoperative management requires clinical and imagistic examination and re-examination of the patient with multiple trauma. CT follow up is necessary to document splenic and pulmonary healing prior to returning to physically demanding jobs.

Keywords: occult pneumothorax, splenic injury, conservative management

GASTROINTESTINAL STROMAL TUMORS (GIST) – CASUISTIC ON 14 YEARS

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Background: Gastrointestinal tumors (GIST) are considered exceptionally rare tumors of the gastrointestinal tract with the annual incidence estimated at 10-20 cases per million inhabitants developed from the interstitial cells of Cajal. All GIST tumors should be considered to have malignant potential. The development of specific tyrosine kinase inhibitors, such as imatinib mesylate, has led to a breakthrough in the treatment of advanced GIST with a significant improvement in survival. **Material and methods:** We conducted a retrospective study considering all patients with gastrointestinal tumors operated in our clinic between 2004 and 2012. Correlations between clinical and biological features of GIST, surgical treatment, postoperative treatment, evolution and early survival were analyzed. **Results:** A total number of 20 patients were operated for GIST representing 2% of 980 malignant tumors of the digestive tract. The sex ratio was 9 men/11 women with a mean age of 52.5 years. In 3 patients (15%) associated previous malignancy was found (gastric, breast and pheochromocytoma). Five patients (25%) had advanced tumors with liver metastases and peritoneal carcinomatosis. Tumor distribution was: stomach 7, small intestine 6, colon 3, and retroperitoneum 4 cases. Radical operation was possible in 11 cases but only 7 received postoperative treatment with Glivec. Immediate postoperative evolution was favorable in all patients and no complications were reported. **Conclusions:** GIST are not as rare tumors as we thought. Diagnosis can be suspected based on tumor features but the certainty is given only by the histological examination. This is the reason why the pathologist has a very important role in subsequent therapy for these patients. The association with other malignancies in patient history was surprising, raising the suspicion of a predisposed biological terrain. Besides surgery, which remains the most important, new drug therapies improved the prognosis in these patients. Further studies are still needed regarding late results.

Keywords: surgery, GIST, cells of Cajal

SENTINEL LYMPH NODE BIOPSY WITH DOUBLE TRACER FOR BREAST CANCER. TECHNIQUE AND PRELIMINARY RESULTS.

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Background: Sentinel lymph node biopsy with double tracer is the standard evaluation technique for lymph node involvement in breast cancer with clinically and imaging negative axilla. **Material and methods:** This study presents the indication of the sentinel lymph node biopsy technique with dual tracer: radionuclide (Tl 99) and intravital dye (blue metilen), as well as the initial results of this method on 7 cases of breast cancer. **Results:** Sentinel lymph node detection was successfully achieved on all 7 patients (100% screening index) and there have been found 1 to 4 sentinel lymph nodes. **Conclusions:** Sentinel lymph node biopsy with dual tracer is a feasible method and has the advantage of minimum invasiveness, reducing long-term sequelae and decrease of hospitalization time. Association with radionuclide injection increases the detection rate and the number of excised nodes, reducing the risk of false negative results.

Keywords: sentinel node, breast cancer, radionuclide

GIANT INVASIVE LOBULAR CARCINOMA WITH ALMOST COMPLETE RESPONSE TO NEOADJUVANT CHEMOTHERAPY

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Background: Invasive lobular carcinoma is a rare form of breast cancer that has special features: frequently multifocal, multicentric and bilateral and it has a weaker response to chemotherapy, especially the neoadjuvant. **Material and methods:** The study presents a patient with a giant tumor, over 30 cm in diameter located in the axillary extension of the right breast. **Results:** True cut biopsy was performed under ultrasound guidance, revealing lobular invasive carcinoma and the CT scan did not find any distant metastases. The patient underwent 6 cycles of neoadjuvant chemotherapy with anthracyclines having an unusual almost complete clinical response. We performed right mastectomy with axillary dissection. **Conclusions:** Although lobular carcinoma is considered to have a poor response to neoadjuvant chemotherapy, in this case the response was exceptional. The case falls in a new optic to practice neoadjuvant chemotherapy in locally advanced cases even in lobular carcinoma cases.

Keywords: breast cancer, neoadjuvant chemotherapy, lobular carcinoma

CONGENITAL CYST OF THE COMMON BILE DUCT ASSOCIATED WITH MULTIPLE HEPATIC METASTASES OF UNKNOWN ORIGIN

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Background: The authors present the case of a 39 years old female admitted with diagnosis of obstructive jaundice with suspicion of pancreatic cancer. **Material and methods:** Preoperative investigations highlighted marked dilatation of intrahepatic bile ducts and an enormous expansion of CBD, corresponding to a congenital common bile duct cyst. **Results:** The surgical intervention, finds besides a large main bile duct cyst, multiple liver metastases, for which there was not found an obvious origin. Taking into account the metastases, a palliative solution was chosen considering it to be the most appropriate in this case. An external biliary drainage on T-tube and liver biopsy were performed pending the histopathological examination. HPE confirmed metastatic adenocarcinoma, without being able to specify its origin. Postoperative evolution with multiple complications requiring more reinterventions: choledoco-jejunostomy on a Roux-en-Y loop, colostomy. **Conclusions:** The patient was discharged and she is submitted oncological therapy.

Keywords: surgery, surgery, common bile duct, cyst, metastases.

BARIATRIC SURGERY, OUR FIVE YEARS EXPERIENCE

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Background: Obesity represents one of the leading causes of morbidity worldwide. In Romania obesity accounts for 25% and it increases continuously. New methods have been developed for treating obesity with very good results. Nowadays, we even talk about metabolic surgery. One of the recent interests of our clinic is the bariatric surgery and therefore we present our experience in this field. **Material and methods:** We have analyzed the casuistic of the last five years (2007-2012) comprising a total of 28 cases submitted to various techniques of bariatric surgery. Factors such as age and sex distribution, BMI, bariatric surgery type, duration of in-hospital stay, intraoperative incidents and postoperative complications, were analyzed. **Results:** There were 28 patients operated for morbid obesity. The BMI ranges between 34.3 and 57.7. The male/female ratio was 1/2. The age ranges between 21 and 63 years. Six cases were operated by classical open approach (3 gastric by-passes, 1 gastric banding, 1 case of conversion from gastric banding to by-pass and one case of gastric great curvature invagination procedure). The mean in-hospital stay was 15.6 days

for open surgery and 6.7 for laparoscopic surgery. Postoperative complications occurred only in open approach procedures (14% of patients) but no deaths were recorded. Significant loss weight excess (60 %) was obtained in the first year after operation in most cases. **Conclusions:** The laparoscopic approach is a big step forward compared with the open approach in bariatric surgery. It reduces significantly the time of surgery and hospitalization and also the wound related postoperative complications. Gastric sleeve is a pretty easy technique, compared to all other open procedures, ensuring a significant weight loss and reduction of co-morbidities in operated patients.

Keywords: gastric sleeve, bariatric, obesity,

INTRAOPERATIVE CHOLEDOCOSCOPY

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Background: Cholelithiasis is one of the most modern methods used for exploration of extra and intrahepatic bile ducts. It can be performed by both laparoscopic and classic approach. **Material and methods:** The study is a retrospective one based on 9 cases of cholelithiasis performed in our clinic in 2012. We analyzed the age and sex distribution, the patient's pathology and the type of approach (laparoscopic or open surgery) used for cholelithiasis. **Results:** From the total of 9 patients, in 4 cases the surgery was performed by laparoscopic approach and in 5 cases by classic open approach. The female/male ratio was 8/1 and the average age was 66.5 years. The cholelithiasis was applied by transcystic approach in 8 cases and by choledochotomy in one case. No intraoperative or postoperative complications were reported. Cholelithiasis was performed to explore the common bile duct (CBD) in order to remove stones in 7 cases or to diagnose the nature of the obstacle in 2 cases (neoplasia). **Conclusions:** Cholelithiasis proved to be a valuable method in CBD exploration. It can be easily applied through the cystic duct during laparoscopic cholecystectomy when there is a suspicion of migrated calculi. Although, in our experience we could not remove the CBD stones by this method, it allowed a correct diagnosis in the absence of intraoperative cholangiography, setting the indication for ERCP. The method is a step forward in exploring the CBD by minimal invasive approach.

Keywords: cholelithiasis, laparoscopy, bile ducts

UROLOGY

TRENDS IN THE ANTIBIOTIC RESISTANCE OF UREAPLASMA UREALYTICUM STRAINS ISOLATED FROM MALE UROGENITAL INFECTIONS

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Background: *Ureaplasma urealyticum* (U) is a member of the *Mycoplasmataceae* family. Known earlier as biovar 2, it was classified as a new species in 1999. It spreads by sexual route and can be isolated from the urethra of healthy men. Its pathogenic role is controversial: some studies underline its implication in nongonococcal urethritis (NGU). This bacterium lacks cell wall and cannot be destroyed by medicines targeting this area such as penicillin. Its resistance to fluoroquinolones is increasing, but remains susceptible to tetracyclines. The aim of our study is to follow up the antibiotic sensitivity of U strains isolated from symptomatic male patients. **Material and methods:** Between January 2010 and October 2012, 204 urethral swabs were collected from male patients aged 19-70, accusing dysuria and urethral discharge. Culturing was performed on Mycoplasma IST2 medium. Identification and antibiotic susceptibility testing were done and results were read after 48 hours. A growth count greater than 10 000 colony forming units per mL was considered positive. The 9 used antibiotics were: doxycycline, josamycin, ofloxacin, erythromycin, tetracycline, ciprofloxacin, azithromycin, clarithromycin, and pristinamycin. **Results:** U infections were found in 43 (21.08%) cases mostly in patients aged 21 - 50. Their sensitivity maintained 100% to josamycin and pristinamycin, respectively 90.90% to azithromycin, but decreased to tetracyclines from 100% to 88.81% and to clarithromycin from 100% to 90.90%. Sensitivity remained low to ofloxacin (54.54%) and ciprofloxacin (0%) and increased slightly to Erythromycin (from 63.63% to 72.72%). **Conclusions:** The frequency of fluoroquinolone resistant U strains was high. Tetracyclines can be used as first intention therapy; the resistance against them remained low throughout the investigated period, although it showed a decreasing tendency. Our work underlines the importance of antibiotic susceptibility testing in order to apply an adequate treatment.

Keywords: urology, ureaplasma urealyticum, antibiotic sensitivity

PROSTATE CANCER AND OCCURRENCE OF ASSOCIATED DISEASES IN OUR REGISTERED PATIENTS.

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Background: Prostate cancer is a serious public health problem because it is the most commonly diagnosed urologic cancer and the second leading cause of death amongst men. The prevalence increases constantly with age. The investigation and summarizing related diseases affecting mortality is important for the therapeutical decision. **Material and methods:** Our retrospective study analyzes data of 608 (100%) patients who underwent prostate biopsy at our clinic for prostate cancer suspicion between 2009-2011. ADKP was confirmed in 277 (45.5%). Sampling was conducted echo guided in number of 6-12. In these patients we evaluated the incidence of associated diseases such urological and ne-urolological comorbidities. **Results:** Annually at our clinic about 202 (172-254) prostate biopsies were performed for suspicion of prostate cancer. The most common urological diseases associated were BPH 278 (45.7%) cases, bladder and kidney stones 11 (1.8%) cases, while urological tumors (bladder and kidney) in 5 (0.8%) cases. Other co- morbidities with higher incidence were cardiovascular diseases (hypertension, ischemic heart disease, atrial fibrillation, anticoagulation therapy) in 76 (12.5%) cases. Diabetes mellitus, obesity, dyslipidemia in 35 (5.75%). In 10 cases (1.6%) biopsy was performed to confirm the diagnosis, patients presenting bone metastasis. **Conclusions:** In the treatment of prostate cancer the pathology in elderly must take into account of the associated diseases. Our study points out the high incidence of associated cardiovascular disease, urological diseases, diabetes mellitus and metabolic syndrome. Therefore these patients need

more attention in preoperative preparation and postoperative treatment in determining behavior to avoid immediate even fatal complications. It is important to mention that prostate cancer can occur concomitantly with other urological cancer. "ACKNOWLEDGEMENT: This paper is partly supported by the Sectorial Operational Programme Human Resources Development, financed from the European Social Fund and by the Romanian Government under the contract number POSDRU 80641"

Keywords: prostate cancer, prostate biopsy, co-morbidities

PROSTATIC DUCTAL ADENOCARCINOMA- A DIAGNOSE PROBLEM IN YOUNG PATIENTS.

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Background: Prostate cancer is the most common malignancy in men, but in Europe presents large variations in incidence; introducing blood test of prostatic- specific antigen (PSA) resulted in potentially curative stage cancer diagnosis; in some cases meeting prostate cancer with normal level PSA. **Material and methods:** An 59-year-old Caucasian man without significant urologic history was referred to our department in the emergency room full accusing acute retention of urine (ARU), with palpable bladder and secondary ureterohydronephrosis; he was catheterized using a bladder catheter(20Ch) and evaluation of his urinary function was normal after this procedure. A phisycal examination including a digital rectal examination(DRE) revealed a relative normal size prostate gland(4.5x3.5 cm) and not palpable as firm, indurated nodules; a PSA level of 4.6 ng/ml(after two weeks later from blood exam). Alfa blocker therapy instituted for 6 weeks but without spontaneous micturition after suppressing the bladder catheter, reason for deciding surgery: a TUR-P, was undertaken. Post-operative the patient presents spontaneous micturition, clear urine, without any residual urine after micturition. **Results:** The result of pathological examination reveals that all fragments examined shows tumoral proliferation, that confirms a moderate- grade of ductal adenocarcinoma, Gleason 4+5. **Conclusions:** Prostatic ductal adenocarcinoma represents about 0,2% of all prostatic cancer; PSA can be at high levels in ductal but not in all cases is increased; therefor we must take into account the occult cancer especially in young patients with low levels of PSA and DRE without major changes but low obstructive urinary complaints, even complete retention of urine.

Keywords: Ductal adenocarcinoma, PSA, ARU

SPECIFICITY OF THE TRANSRECTAL BIOPSY IN THE DIAGNOSIS OF THE PROSTATE CANCER

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Background: Prostate cancer is the most common cancer in men after the lung cancer. Therefore, an accurate and complete screening is very important to the diagnosis, to establish stage, and the therapy. The purpose of our work is to evaluate the effectiveness of prostate transrectal ultrasound biopsy in the diagnosis of prostate cancer at the Urology Clinic of Targu Mures. **Material and methods:** It is a retrospective study. We included in this study all patients with TRUS biopsy (786 patients-100%) between Ian.2009-nov.2012. Patients were grouped according to age, PSA value and prostate volume. We followed: the rate of histopathology confirmation of cancer, histological type and the correlation between PSA value, Gleason score and stage of disease (T). **Results:** Most patients belonged to age group between 61 and 80 years (78.02%), the mean age was 73 year. PSA value varied widely (from 1.5 to 3900 ng / ml). Ultrasound guided prostate biopsy in patients with increased PSA, confirmed the presence of prostate cancer in 336 cases (42.74%), in 3 cases (0.38%) patients age was under 50. In other cases EHP had the following results: prostatitis, BPH, ASAP, prostate atrophy, normal prostate tissue. Confirmed prostate adenocarcinoma had a Gleason score between 6 and 10 (G1 6-6.571%, G1 7-36.506%, G1 8-30.467%, G1 9-24.267%, and G1 10-2.189%). Although the literature indicates that ultrasound guided prostate biopsy diagnostic efficiency in prostate cancer (those with high PSA) is between 60-70%, in our study this value was 42.74%. **Conclusions:** Prostate cancer predominate in older men, but can be met in men under 50 years old to. To increase diagnostic efficiency of PBP requires several consecutive PSA results, knowing that there are many factors that can increase it temporarily.

Keywords: prostate cancer, PSA, TRUS, Gleason

RARE BLADDER TUMOURS-ARE THEY REALLY RARE?

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Background: Only 5-10% of bladder tumours will present as other than urothelial carcinoma. Because of the rarity of these tumour types there is much less scientific data available. A retrospective study which presents our experience regarding management problems in the cases of non-urothelial bladder cancer. **Material and methods:** Between 2006-2011, in the Clinic of Urology of Tîrgu Mureş we've performed 1514 TURB for bladder cancer, 1196 (79%) men, 318 (21%) female, mean age 65,8 years. **Results:** From the total of 1514 (1005) procedures performed, 1373 (97,42%) of TURB proved to be urothelial tumour, 2,58% rare bladder tumours. In the cases of urothelial cancer the staging, grading after the first, diagnostic TURB was the following: 111 cases G1pTa, 39 G1Tx, 26 G2T1, 7 G2T2, 249 G2Ta, 122 G2Tx, 157 G3T1, 65G3T2, 61 G3T3 and 60 G3Tx. In the group of rare tumours the situation was the following: 1,6% (26 patients, 17 male, 9 female, 14 cases T1, 10 T2, 2 T3) adenocarcinoma of the bladder, 0,55% (7 cases: 1 male, 6 female, 1 case T1, 1 case T2, 5 cases T3) leiomyosarcoma, 0,37% (6 cases: 5 male, 1 female, 1 patient T1, 4 T2, 1 case T3) epidermoid carcinoma and 0,06% pheochromocytoma (1 female). **Conclusions:** Correct pathology is of great importance, non transitional bladder tumours are diagnosed in more advanced stages than urothelial cc, they are more aggressive and patients are of younger age. It is relevant that in the daily practice we have to deal with these aspects.

Keywords: rare bladder cancer, adenocarcinoma of the bladder, leiomyosarcoma, epidermoid carcinoma, pheochromocytoma

NEPHRON-SPARING SURGERY FOR RENAL MASSES: AN INITIAL EXPERIENCE

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Background: Nephron-sparing surgery (partial nephrectomy) is the actual gold standard of treatment for non-invasive renal masses, presuming that the lesions are amenable for this approach. We aim to present our initial experience on partial nephrectomy in a case series. **Material and methods:** We performed a retrospective cohort study at the Clinic of Urology, Târgu-Mureş County Hospital. Using the clinical registries, we identified a total of 29 radical nephrectomies, performed between 12.2011-04.2012. Out of these, nephron-sparing surgery was performed in 6 cases (20.7%). Data concerning patient demographics, surgical protocol and follow-up were collected from the clinical registries. The corresponding results of the histopathological examination were also included in the study database. **Results:** Our series consisted in 4 female and two male patients. Renal masses were found as solitary lesions in 5 patients, while in one case the mass was associated to multiple renal cysts. Three were upper pole, while the others were two lower-pole and one mid-renal tumor. The average tumor size was 6.3 cm, while the extremes were 1 and 15 cm, respectively. Intraoperatively, lombotomy was the preferred incision in four cases while for the others, a subcostal incision had been performed. The average operating time was 140 minutes, without significant intra-operative bleeding. The histopathological results revealed 2 cases of clear cell renal carcinoma (pT1a, Fuhrman 2) - resected with clear surgical margins of at least 2mm, while the remaining four were angiomyolipomas. All patients had a favorable postoperative evolution. At short-time follow-up, all patients had no signs of impairment in renal function with an absence of tumor relapse. **Conclusions:** Nephron-sparing surgery is a promising technique, allowing complete local resection of the renal tumor while leaving the largest possible proportion of functional parenchyma in the affected kidney.

Keywords: partial nephrectomy, tumor, renal, retrospective, nephron

RARE FORM OF TESTICULAR CANCER - CASE REPORT

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Background: There is a wide histopathological variety of testicular cancer types. In this case we present a rare case of right testicular tumor. **Material and methods:** The patient R.P., 28 years old, presenting for a tumor appeared on the right side of the scrotum. About 4 years ago patient suffered a multiple trauma after a car accident involving also the penis and scrotum. Ultrasound revealed a scleroatrophic left testicle, 2.5 cm in diameter. At the right testis ultrasound shows a tumor, 5 cm diameter of inhomogeneous and with increased vascularisation at Doppler ultrasound investigation. The computer tomography examination did not revealed lymph nodes or distant metastasis. Laboratory values: AFP=587 ng/ml, HCG=1020 mIU/ml, LDH=289 UI. **Results:** Right inguinal orchiectomy was performed. Histopathological exam shows a pure testicular teratoma at the level of the tumor but, in the same time, intratubular germ cell neoplasia, unclassified (ICGNU) aspect in seminiferous tubules of the remaining parenchyma. According to the oncological commission there was no indication for adjuvant chemo-radio therapy. Postoperative follow-up schedule: clinical checkup and markers 4 times / year, chest x-ray and abdominal CT 2 times / year for the first 2 years then 1 general checkup/year. **Conclusions:** This intratubular germ cell neoplasia, unclassified is extremely rare, it is considered a precursor lesion of mixed testicular tumors. Its detection was possible due to the presence of a concomitant testicular pure teratoma.

Keywords: rare, unclassified intratubular germ cell neoplasia, testicular tumor

PRELIMINARY RESULT AFTER A LOCAL SCREENING PROGRAM FOR PROSTATE CANCER

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Background: In Romania, prostate cancer represents a real problem of men's health now, as 95% of patients with prostate cancer are diagnosed in a local advanced stage or with metastasis, without existing screening programs. The objectives of this study is to evaluate the results local screening program in the Targu-Mures and surrounding area. **Material and methods:** After a close collaboration with general practitioners (GP) from 3 localities outside Targu Mures and another 6 GP from Targu Mures we performed a prostate cancer screening campaign in order to detect patients over 50 years old with prostate cancer. The study protocol included the determination of serum prostatic specific antigen (PSA), digital rectal examination and abdominal ultrasonography. The supposition of prostate cancer has been made after digital rectal examination and/or after elevated levels of PSA. Patients that had clinical and umoral signs of prostate cancer have been investigated using endorectal ultrasonography and prostate biopsy. **Results:** In this campaign a number of 258 patient enter in the study protocol between sept 2010 - apr 2011. After digital rectal examination and PSA level determination (over 4 ng/ml), 32 men were suspected of having prostate cancer. Of these, 5 patients refused prostate needle biopsy. For all other 27 patients underwent prostate needle biopsy. In 13 patients the prostatic cancer were confirmed. Optimal surgical or oncological treatment was offered for all this patients. **Conclusions:** Screening in PC is still considered controversial, but in the same time, only early diagnostic may lead to a lower mortality. This local screening program through its results, recommend extension of this experience at regional level, considering it a real benefit for population. **Acknowledgements** This paper is partly 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 60782.

Keywords: local screening program, prostate cancer, general practitioner

THE INDICATIONS OF CUTANEOUS URETEROSTOMY AFTER A TOTAL CYSTECTOMY

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Background: The objective of the study was to determine if there is any interest today in keeping as formal surgical indication the cutaneous ureterostomy after a total cystectomy. **Material and methods:** The study was retrospectively performed over a one year period (1st of September 2011 - 1st of September 2012). The study group was composed of 18 patients hospitalized at the Urology Department of Mureş County Clinical Hospital diagnosed with muscle invasive bladder tumor; on 15 of these patients total cystectomy was performed with CUS, while on 3 of them only unilateral urinary diversion was performed, cystectomy being non-feasible. **Results:** The total cystectomy was performed on 9 patients with right cutaneous ureterostomy (50%), on 3 with left cutaneous ureterostomy, on 6 patients with right "double-barreled" ureterostomy. On 8 of the patients with unilateral ureterostomy the contralateral kidney was removed, one had congenital solitary kidney and 3 patients were hospitalized with solitary kidney after surgery. The mean age of the patients in the study group was 62.94±8.79 years. The check-up conducted after 4 weeks on the patients with single cutaneous ureterostomy allowed the withdrawal of the ureteral stent in all cases (100% catheter free). Among the patients with double-barreled cutaneous ureterostomy, the withdrawal of both ureteral stents after 4 weeks was possible on only one patient (20% catheter free). There were no complications related to the chosen urinary diversion in the group under the study. **Conclusions:** The advantage of the cutaneous ureterostomy is a shorter duration of the surgical intervention, of hospital stay, a reduced morbidity and mortality what justifies the selection of this procedure specially in elderly patients with associated comorbidities or with short life expectancy due to the advanced bladder cancer. The single cutaneous ureterostomy can stay even today among the best solution of urinary diversion after the radical cystectomy in patients with solitary kidney.

Keywords: cutaneous ureterostomy, cystectomy, bladder cancer

POSTERS

STUDY OF THE RELATIONSHIP BETWEEN FIBROCYSTIC MASTOPATHY AND INVASIVE DUCTAL CARCINOMA

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Background: Despite the progresses made in recent years in its prevention and early recognition, breast carcinoma continues to be an important issue of tumor pathology. **Material and methods:** The analysed lot included a total of 139 patients, aged 26 to 79 years who were diagnosed after surgery with fibrocystic mastopathy; ductal breast carcinoma developed on fibrocystic mastopathy and ductal breast carcinoma with fibrocystic mastopathy remotely located. The cases (*sectorectomy* or *mastectomy* with *axillary exploration*) were classified using the World Health Organization ~~xxxx~~ *Elston-Bloom-Richardson* histological grading system- SBR) criteria. The *immunohistochemical* technique was performed using monoclonal antibodies estrogen receptors and progesterone receptors (Novocastra) and DAKO LSAB.2 kit. **Results:** The association of invasive ductal carcinoma with fibrocystic mastopathy for patients under 50 years was not predictable; Association rate of 50% for patients diagnosed with the malignancy SBR I and II grade, namely 40-49 group indicating that any form of association / unassociated was possible; moreover, for patients belonging to this age group but diagnosed with SBR III grade, the association form decreased significantly at a percentage of 26.7%. **Conclusions:** It was appreciated that for invasive cases, ductal carcinoma association report with fibrocystic mastopathy decreased steadily both with a higher degree of malignancy and age, especially after 50 years, cases in which carcinoma was most frequently located in remote to fibrocystic mastopathy. Breast carcinoma having in background or at remote the fibrocystic mastopathy allowed conclusions to be drawn highlighting the improvement of diagnostic methods. The correct assessment of the malignancy degree, including assessment of hormonal status has great practical importance, prognostic and therapeutic.

Keywords: fibrocystic mastopathy, breast carcinoma, histopathological examination, hormonal status

NONALCOHOLIC FATTY LIVER DISEASE- A CONDITION WITH SEVERAL FACES. CASE PRESENTATION.

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Background: Nonalcoholic fatty liver disease is one of the most common liver diseases. It is considered the hepatic manifestation of the metabolic syndrome. It has a very wide range of presentation, from simple steatosis to advanced fibrosis and necroinflammation. It can progress to cirrhosis or even liver cancer. **Material and methods:** In this case, a young man of 29 years, developed liver cirrhosis within nonalcoholic fatty liver disease, with rapid progression towards decompensation. **Results:** A 29 year old overweight man with no previous medical history, presented for consultation complaining of intermittent nausea and vomiting, upper abdominal discomfort, mild asthenia. Symptoms occurred 2- 3 months ago. Metabolic syndrome was present with increased body mass index, hypertension, hyperlipidemia. Abdominal ultrasound and upper digestive endoscopy showed signs of portal hypertension. Patient firmly denied alcohol or drug abuse. Investigations excluded viral etiology, Wilson's disease, haemochromatosis and autoimmune liver disease. Fibromax test was performed. It revealed severe fibrosis (F 0.72, corresponding to F3/F4) and N2, equivalent to definite NASH. Our diagnose was non-alcoholic fatty liver disease with liver cirrhosis stage Child A. For treatment, we proposed weight loss and vitamin E in high doses. After 6 months, despite weight loss and continuous treatment with vitamin E, aggravated portal hypertension was diagnosed. **Conclusions:** In some cases nonalcoholic fatty liver disease can lead to advanced liver disease at young ages. That's why we should pay attention to prevention, and controlling childhood and juvenile obesity.

Keywords: nonalcoholic fatty liver, cirrhosis, obesity

THE PANCREATIC HYDATID CYST, A RARE LOCALIZATION OF THE HYDATID CYST - CASE PRESENTATION

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Background: The primary hydatid cyst located in the pancreas is extremely rare, even in areas where *Taenia Echinococcus* is endemic. **Material and methods:** We present the case of a 46 year old male, admitted to our service by emergency, for abdominal pain in the epigastric region with "boring sensation", nausea, swelling and tendering of the epigastric and left hipocondria region, and overall general altered condition. An abdominal ultrasound and CT scan revealed a cystic tumour of the pancreas, with no criteria that would suggest a hydatid cyst. Intraoperatoy punct of the cystic tumour revealed a clear liquid content and the presence of the germinal layer, characteristic for the hydatid cyst. Therefore the hydatid cyst was neutralized and a cysto-pericystectomy was preformed with a subsequent drainage of the rezidual cavity. **Results:** The histopathological examinations confirmed the hydatid cyst diagnosis. **Conclusions:** The hydatid cyst must be taken into consideration when performing the diferential diagnosis of cystic pancreatic tumours, especially if the patient lives in an endemic region. The optimal treatment is surgical (presented) associated with postoperative medical treatment (Albendazole).

Keywords: hydatid cyst, cysto-pericystectomy, pancreas

POLIPHARMACY IN ELDERLY PATIENTS

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Background: The literature shows that older people over 65 years are one of the most important segments of the pharmaceutical market, accounting for 25-50% of it. Problem drug use by the elderly is directly proportional with accelerating the aging of the population and the consequent plurypathology. It is considered as the most commonly used groups of drugs are the group of elderly neuropsychiatric, cardiovascular, sedato-hypnotics, NSAIDs and diuretics. The purpose of this paper was to highlight the features of chronic medication used in elderly patients. The main objective was to analyze the quantitative and qualitative aspects of medication used by hospitalized elderly patients. **Material and methods:** The group of patients was composed of 324 selected patients from Tg-Mures Medical Clinic IV from 1 March 2011 to 1 October 2011, the Department of Diabetology in period 1 June 2011 to 1 April 2012 and Psychiatric Clinic between 1 January 2012 to 1 April 2012. **Results:** The number of drugs was directly related to the underlying disease, especially chronic and age of patients. The incidence of cardiovascular disease, the arthrosis, neuro-psychiatric disorders and the metabolic diseases were significantly increased. OTC treatment is a real danger to the emergency of drug interactions. Compliance is much weaker in men than in women. **Conclusions:**

Keywords: polipharmacy, clinical pharmacy, pharmatology

INFERIOR VENA CAVA MALFORMATIONS : FIVE CASE REPORTS

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Background: The aim of this study was to present CT findings in five cases of inferior vena cava malformations. **Material and methods:** We are presenting CT aspects found in five patients who were investigated for deep venous thrombosis of the lower limbs. It were used the CT devices from our laboratory, a single slice CT AURA (Philips) and a multislice CT Siemens with 64 channels. The patients were examined with administration of intravenous iodinated contrast media: Optiray 100 ml with 3 ml/sec flow rate. They were used MPR, MIP and 3D reconstructed images. **Results:** All five patients were male, the age of them were 34, 39, 44, 46 and 11. They had different variants of IVC hypoplasia or segmental aplasia with collateral circulation development. Clinically, they presented recurrent deep venous thrombosis of the lower limbs. One of the patients had ulcer of calf. The main

suspicion was pelvic compressive mass and CT exam was able to clarify the cause of the thrombosis. Three variants of malformations of inferior vena cava were observed: double inferior vena cava, absence of the hepatic segment of vena cava with azygous continuation and absence of the infrarenal segment of inferior vena cava. **Conclusions:** The malformations of inferior vena cava has a significant incidence and in the presence of recurrent deep venous thrombosis of lower limbs this disorder should be considered.

Keywords: inferior vena cava, cardinal venous system, deep venous thrombosis

THE ROLE AND EFFECT OF REHABILITATION OF PATIENTS WITH CARDIOVASCULAR DISEASE

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Background: Cardiovascular diseases are the most frequent cause of death in the adult population. Although much emphasis is on the primary prevention and reduction of risk factors one must not forget the necessity of rehabilitation of patients with cardiovascular disease. The main objectives of rehabilitation in these patients are regaining effort capacity and prevention of physical deconditioning, raising awareness of risk factors and education for a healthier lifestyle as well as regaining self confidence and prevention of depression associated with disease. **Material and methods:** In order to rehabilitate patients with cardiovascular disease we deploy a complex rehabilitation scheme that includes (1) respiratory rehabilitation for a better oxygenation, (2) exercises for coordination and general mobility, (3) exercises for regaining effort capacity including ball games, thera band, running, cycling, (4) stretching exercises and last but not least (5) relaxation techniques, such as Schulz therapy. During rehabilitation we monitored physiological parameters such as blood pressure, heart rate and also their adaptation to effort, as well as the symptoms of patients. During rehabilitation patients perform more and more demanding exercises while learning to control their physiological parameters and carefully weighing their symptoms. **Results:** By daily rehabilitation our patients achieved a better heart rate control with less increase during effort. The daily exercises allowed an increased awareness on movements and patients learned to overcome their fear of uncontrolled effort-induced cardiovascular events. Daily physiotherapeutic exercises reduced risk factors, such as sedentary lifestyle, and in the same time improved consciousness of disease. **Conclusions:** Our rehabilitation program not only allowed patients to regain their effort capacity but also permitted a better social and professional reinsertion of patients. Understanding the disease, its symptoms and signs, as well as the importance of physiotherapy is improving the risk factor profile thus complementing medication and enhancing secondary prevention.

Keywords: cardiovascular disease, rehabilitation, physiotherapy, secondary prevention, lifestyle

PULMONARY VALVE REPLACEMENT AFTER CORRECTION OF TETRALOGY OF FALLOT

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Background: Pulmonary regurgitation appears to be well tolerated early after repair of tetralogy of Fallot; however, it may result in progressive right ventricular dilatation and dysfunction necessitating valve replacement. The objective was to review our experience with pulmonary valve replacement after complete repair of tetralogy of Fallot. **Material and methods:** 182 tetralogy of Fallot patients, with a mean age of 36 months, who underwent repair of surgery in Transplant and Cardiovascular Disease Institute Tîrgu-Mureş between 2005 and 2012 were included in this study. The records of these patients were reviewed. Follow-up was obtained from clinical appointments and telephone questionnaires. **Results:** 132 (72%) patients underwent single-stage complete repairs; 49 (27%) patients underwent initial palliative operations (systemic-pulmonary shunt), whereas 44 (24%) of them underwent secondary total corrections. Early and late mortality were 2.7% (n=5) and 3.3% (n=6), respectively. Mean follow-up is 45 months (range, 4 months to 88 months). For the reconstruction of the right ventricular outflow tract there were used 19 valved conduits, 85 transannular patches and for the others patients right ventricular patches + pulmonary valvuloplasty/valvulotomy. On late postoperative echocardiography, 68 patients presented moderate pulmonary regurgitation and 23 a small residual ventricular septal defect, 8 severe pulmonary regurgitation necessitating replacements of the pulmonary valve. The mean freedom period from

reoperation was 115 months. **Conclusions:** Surgical repair of patients with simple or complex forms of tetralogy of Fallot can be achieved with low early mortality. Late mortality and need for reoperation, continue to influence the quality of life for these patients.

Keywords: Fallot, pulmonary, replacement, congenital

INFECTION OF LEG ULCER IN PATIENTS WITH CHRONIC VENOUS INSUFFICIENCY

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Background: The aim of this study was to present the type of microbial agents responsible for the infection of venous ulcer in patients with chronic venous insufficiency. **Material and methods:** It has been studied the type of microbial infection of leg ulcer in 103 patients who were admitted in the Clinic of Dermatology of University of Medicine and Pharmacy of Tîrgu Mureş from January to November 2012. It has been collected samples from ulcer discharge followed by antibiograms. The evolution of the patients was monitorized during the local treatment using antibiotics suggested by the results of antibiograms. **Results:** Of the 103 patients, 62 were women and 41 were men, age ranged between 62 and 84 years. The results of the cultures were: *Pseudomonas aeruginosa* in 41 cases (39.8%), *Echerichia Coli* in 24 cases (23.3%), *Staphylococcus aureus hemolyticus* in 21 cases (20.38%) and *Proteus vulgaris* in 17 cases (16.5%). We used the antibiotics Ofloxacin, Gentamicin, Amikacin, Imipenem and Meropenem. **Conclusions:** The infection of venous leg ulcer is one of the most frequent complication of chronic venous insufficiency being the main cause of the healing delay.

Keywords: leg ulcer, chronic venous insufficiency, infection

EFFICACY AND FEASIBILITY OF AMBULATORY BLOOD PRESSURE MONITORING COMPARED TO HOME AND OFFICE BLOOD PRESSURE MEASUREMENT IN A FAMILY PRACTICE

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Background: Hypertension is highly prevalent among elderly patients from a family practice and considered as an important cardiovascular risk factor. The aim of the study was to compare different blood pressure (BP) measurements techniques: office BP (OBP), ambulatory BP monitoring (ABPM) and home BP measurement (HBPM) and to study their correlations. **Material and methods:** We included into the study elderly hypertensive patients in which home blood pressure measurement was feasible using calibrated devices. Patients were instructed to take 2 measurements at 5 minutes intervals. Office blood pressure was measured twice at 5 minutes interval using OMRON M3 automated devices. ABPM was done using Meditech 04 device. **Results:** a total of 34 patients were included but accurate ABPM data was available in 32 of them. Mean age was 75.3± 5.63 years were included, 19 males. Average values of daytime BP derived from ABPM were compared with OBP values and HBPM values. White coat hypertension was found in 33% of the patients. **Conclusions:** Correlation between office BP measurement and ABPM values is limited and the results obtained with home BP measurement were closer to the ABPM results.

Keywords: hypertension, ambulatory, home

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