The XIVth National Congress of Pharmacy from Romania
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MEDICAL PATHOLOGY I

Are We Following the Right Trends Concerning the Role of Statins in Systemic Lupus Erythematosus?

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Aim: The main objective of the study was to identify the trends followed by the Romanian rheumatologists concerning the role of statins in SLE (systemic lupus erythematosus). The secondary objective aimed to identify the newly discovered beneficial role of statins in SLE versus the previous known one – a lupus drug inducer. Material and method: A retrospective, observational study was performed in the University Clinic of Rheumatology Targu Mures followed by a questionnaire addressed to 13 health care providers in rheumatology – (8 trainees and 5 in practice rheumatologists). GraphPadPrism5 was used to analyze the data obtained from the mentioned studies. Results: 83 patients diagnosed with lupus were followed (labs and treatment) since 2003 January till October 2010 and only 3 of them received statins. Analyzing the evolution of the pts. on statins, we found out a clear improvement. All the in practice rheumatologists were aware of the known drug lupus inducer property of the statins and by the latest and debated role of statins - in controlling type I IFN alpha (interferon) production. The majority of the trainees declared the fact they heard about the beneficial role of statins in SLE, ignoring their potentially drug lupus inducer property. Conclusion: Old habits die hard – Although the new basic research evidenced based data concerning the benefits of statins in lupus have been proven, their pleiotropic immunomodulatory properties are still a stone to be passed in clinical practice.

Keywords: statins, lupus

TUBERCULOUS POLYSEROSITIS. CASE REPORT

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2. Clinic of Pneumology

Aim of the study: Presentation of the positive and differential diagnosis in a patient suffering by tuberculous polyserositis (case report). Results: We present a 30 year old male who has had in the 2 month before hospital admission a consumptive syndrome, dyspnnea, cough, mild abdominal pain, bowel disorder. The chest x-ray showed a right pleural effusion. Abdominal CT detected an important amount of ascitis, hepatosplenomegaly, dynamic ileus and bilateral pleural effusion. We made a differential diagnosis between diseases wich can be accompanied by polyserositis. Hereditary ethiology was excluded by the medical history. Cardiological exam was normal. Blood tests were negative for autoimmune diseases, hepatic or renal chronic diseases. The patient has had risk factors for tuberculosis (mine worker, smoker and poor life conditions). Bacteriological exams from sputum and pleural liquid did not reveal any infectious cause and tuberculin test was negative. Laparoscopy has been imposed both for the positive diagnosis setting and for the treatment (ascitis evacuation, clams resections). Peritoneal biopsy with hystopathological exam reveals atypically tuberculous granuloma. Ziehl-Neelsen staining from tissue biopsy highlights acid-fast bacilli and confirms peritoneal tuberculosis. Treatment was complex: surgical clams' resections, pleural and peritoneal liquids evacuations, antibiotics standard regime for 8 month, corticoids (to avoid secondary extensive fibrosis and intestinal adherences) and symptomatic drugs. Treatment is now undergoing with favorable evolution.

Keywords: Tuberculosis, polyserositis, autoimmune

EVOLUTION OF THE INFLAMMATORY BOWEL DISEASE IN OUR REGION

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Objective. Inflammatory bowel disease (IBD) is a group of inflammatory conditions of the colon and small intestine. The major types of IBD are Crohn's disease and ulcerative colitis. The aim of the study is to determine the incidence and features of the IBD and to follow-up the complications in our region. Methods. Two groups of patients who underwent rectosigmoidoscopies and total colonoscopies on a period of five years entered this study. The diagnosis was put on endoscopy and histology. Group A included 2027 pacientes (median age 62.3 years, 61% males) investigated between 1996-2000, and group B consisted of 4012 patients (median age 60.1 years, 62% males) investigated between 2005-2009. Results. From group A, 58(2.86%) had IBD, 53 (2.61%) had ulcerative colitis (UC) and 5 (0.24%) had CD. Patients with UC presented mostly mildly active disease 37(69.81%), 12 patients (22.64%) moderately active disease and only 4 cases (7.54%) of severe disease. From the patients with CD in 3 surgery was needed. All the patients received
Infliximab (Remicade) 5 mg/kg at 0, 2 and 6 weeks From group B 125(3,11%) had IBD, 106(2,64%) UC and 19(0,47%) CD. In this group, 65(61,32%) of the cases with UC were mildly active disease, 31(29,24%) moderately active disease and 10(9,43%) severe disease with pancolitis, one patient with toxic megacolon and severe evolutions with hypokalemia. CD included 19 patients, one died and 5 patients needed surgery, having stenosis. The evolution under 5ASA, steroids, Azathioprine was satisfactory. Conclusion. IBD are increasing in our region, especially CD that increased statistically significant in the last 5 years, almost doubled. UC presented an increasing in the severe forms of the evolution of the disease.

**Keywords:** statins, inflammatory bowel disease, hyperkalemia, megacolon

**THE ROLE OF SPLENECTOMY IN TREATMENT OF THE PATIENTS WITH APLASTIC ANEMIA WITHOUT HLA- MATCHED DONOR**

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Introduction. Aplastic anemia is characterized by a gross reduction or absence of hematopoietic precursors in all 3 cell lineages in bone marrow resulting in pancytopenia in peripheral blood. The spontaneous marrow recovery is unusual. The treatment is supportive with red cell and platelet transfusions. Specific treatment options are between immunosuppression and allogenic transplant. Immunosuppressive options include Corticosteroids, Ciclosporin, anti-lymphocyte globulin. Aim. To present the results of cell recovery after the performed splenectomy at the sever aplastic anemia patients with resistance or intolerance to the immunosuppresive therapy. Material and methods. We made a retrospectiv study with 10 patients with sever aplastic anemia who undergone splenectomy between 2003-2010. The efficacy of splenectomy was analysed by monitoring the cell lineage recovery (full blood count). Results. In our clinic between 2003-2010 we have 10 cases of sever aplastic anemia with resistance or intolerance to the immunosuppressiv treatment and high requirement of platelet and red cell transfusion with no compatible familial donor who undergone splenectomy. After the performed splenectomy we observed the slow recovery of the cell lineages. All of the patients are well with normal cell blood count with no or minimal immunosuppressive therapy. Conclusions. The splenectomy performed at the right time it can be a choice for the sever aplastic anemia patients with resistance or intolerance to the immunosuppressive therapy with no HLA-matched familial donor.

**Keywords:** anemia, splenectomy, aplastic

**HEPATITIS B OR C INFECTION ASSOCIATED WITH ANTI-CD 20 MONOCLONL ANTI BODY TREATMENT IN NON-HODGKIN LYMPHOMA PATIENTS**

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Introduction. Rituximab, is a chimeric monoclonal antibody against the protein CD20, which can be given in combination with different chemotherapy regimen as the first treatment for diffuse large B-cell lymphoma, advanced (stage three or four) follicular lymphoma when first diagnosed, relapse follicular lymphoma or in maintenance therapy. The antibody binds to the cluster of differentiation 20 (CD20), wich is widely expressed on B cells, from early pre-B cells to later in differentiation, but it is absent on terminally differentiated plasma cells. Because this drug attacks both abnormal (malignant) and normal B-cell lymphocytes Rituximab can reduce the production of white blood cells by the bone marrow, making the patient more prone to infection. Aims. The aim of presenting these cases with severe hepatitis B or C to draw the attention of physicians to a very serious viral complication of a lymphoma patient treated with rituximab. Methods. We methods of investigation were: paraclinical, hematological (biochemistry, tumor marker measured by ELISA, cantitative PCR). Results. In 2010 in our clinic we have 25 patients who are treated with Mabthera (first lineage chemotherapy and maintenance therapy) and in 8 cases were observed reactivation or infection with B or C hepatitis virus (6 cases with B virus and 2 cases of C virus). We followed the ALAT, ASAT and bilirubin levels. In three cases due to the elevated liver enzymes we need to discontinued the monoclonal antibody treatment and initiating antiviral therapy (Entecavirum) or Alpha Interpheron. In the other cases we continued the Rituximab and we associated hepatoprotector therapy. Conclusions. A consequence of the immune suppression caused by rituximab is the development of viral infections by contacting or reactivating B or C hepatitis. We think it is necessary to follow very closely the patients with monoclonal antibody therapy for viral infections.

**Keywords:** hepatitis, chaemothrapy, lymphoma

**IODINE DEFICIENCY DETECTED THROUGH URINARY IODINE EXCRETION IN SCHOOL-CHILDREN LIVING IN GOITER PREVALENT REGIONS OF COUNTY MUREŞ**

Kun I., Balazs J., Nasalean Anisie, Gliga Carmelia, Detesan Gabriela, Szanto Zsuzsanna
Objective: to investigate the effect of increased iodine-supplementation at school-children living in different iodine-deficient areas in County Mureș, through urinary iodine excretion (UIE). Material and methods. In December 2005 a number of 50 school-children from a rural mountain area were tested, while in October 2006 other 133 children from surrounding villages: 55 from Casva, 28 from Glajarie and 50 from Ibanesti. Results. The group tested in 2005 had mean UIE of 56.00+38.07mcg/L, only 6% of children having normal values. The group studied in October 2006 had mean UIE of 85.37+60.05mcg/L, only 30.8% having normal values, 38.3% between 50-99mcg/L, 22.6% between 20-49mcg/L (mild and moderate decrease), and 8.3% under 20mcg/L (very low levels). Thus, 69.2% of children had subnormal levels, and the percentage of UIE <50mcg/L reached 30.8%, which is above 20%, the upper admitted limit for an adequate iodine-intake. Analysing separately the groups of villages, the results are somehow different: 72.90+48.63mcg/L in Casva, 75.42+60.30mcg/L in Glajarie and 109.83+73.22mcg/L in Ibanesti. Conclusions. The rural mountain zones of County Mureș known before as moderate/mild iodine-deficient areas, became mild deficient, due to the new measures of iodine prophylaxis. In these areas is necessary to apply permanently special prophylactic measures, too, giving to children iodine tablets (KJ 1 mg, ½–1 tbl./week, corresponding to the age – in accordance with the classical method of Milcu, or daily administration of 0.1–0.2 mg JodidR or JodettenR).

Keywords: iodine, prophylaxis, deficiency

UNUSUAL SEX CHROMOSOMES ABNORMALITIES IN ENDOCRINE PRACTICE

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Introduction. As a group, sex chromosome aneuploidies and structural variants of these human chromosomes constitute the most common class of chromosome abnormality in human live-births. Both the numerical and structural abnormalities may occur in all cells of the body (constitutional abnormality) or may be present in only certain cells or tissues (mosaic). Methods and patients. We analysed all the chromosomal abnormalities involving sex chromosomes found between 2005-2010 in Cytogenetic Laboratory of UMF Tg Mures. During this period 522 karyotypes were performed. Standard G banding method on lymphocytes from peripheral blood was used. Results and discussions. Structural or numerical sex chromosomes abnormalities were found in 31 cases (5.93%) of all cytogenetic results. The most frequent result was monosomy involving X chromosomes (9 cases). The incidence of structural aberration of the sex chromosomes in our study was 25.81 %. A constitutional abnormality were present in 70.97%, in the rest of 29.03% a mosaic was discovered. Among these results, we found some very rare cases, with only a few similar results described in the literature, such as: 49,XXXXY; a mosaic 45,X/47,XY or an inherited translocation involving X chromosome and an autosome. In female the most frequent clinical referral was primary amenorrhea or short stature and in man the typical clinical phenotype was infertility or hypogonadism. Conclusions. This study emphasizes the importance of the cytogenetic in endocrine pathology; identification of sex chromosomal aneuploidy or structural abnormalities involving these chromosomes is part of the diagnosis procedure in specific pathology.

Keywords: chromosome, mosaic, monosomy

EXTRAPULMONARY TUBERCULOSIS – CLINICAL AND THERAPEUTICAL ASPECTS IN PNEUMOLOGY CLINICS TARGU-MURES (2005-2009)

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Aim of the study. The aim of the study is to analyse the extrapulmonary tuberculosis cases between 2005-2009, to examine the diagnostic methods and confirm the cases. Material and methods. There have been examined 127 patients with extrapulmonary tuberculosis hospitalized in Pneumology Clinics from Târgu-Mures between 2005 and 2009. We have appreciated the dinamical evolution of the cases (comparing with the period of 2000-2004), the frequency of the localization and their distribution by age, life quality, diagnostical methods,confirmation and treatment. From the all 127 cases of extrapulmonary tuberculosis: urogenital tuberculosis were 32 cases – 25.20%, osteoarticulary tuberculosis were 27 cases – 21.26%, meningoencephalitic tuberculosis were 27 cases – 21.26%, ganglionary tuberculosis were 19 cases – 14.96%, gastrointestinal tuberculosis were 6 cases – 4.72%, cutaneous tuberculosis were 6 cases – 4.72%, pericardial tuberculosis were 3 cases – 2.36%, laryngeal tuberculosis were 2 cases – 1.57% and thyroidal tuberculosis was 1 case – 0.79%. Conclusions. The extrapulmonary tuberculosis show a light decrease as a procent from the whole number of the active tuberculosis cases but it is situated at comparative numbers with the average in the country. Comparing with an other study effectuated between 2000-2004, it has been ascertained that between 2005-2009 the number of patients with urogenital and meningeal has increased. The bacteriological/ histopathological confirmation of the extrapulmonary tuberculosis is difficult and cannot always be realized due to some objective
reasons and to some other subjective ones: paucibacillarity of the produces, low sensibility of the classical methods, lack of introducing the quick methods into reference centres, diagnostical efficiency, invasivity of some prelevation operations, shortage of the patients' cooperation during the investigations, no modern endoscopical instrumentation.

**Keywords:** extrapolmonary, tuberculosis, endoscopy

### ACUTE BYPHENOTIPIC LEUKEMIA, A CHALLENGING DIAGNOSTIC – CASE REPORT

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**Aim:** Our aim is to present a case report in which immunophenotyping allowed us to establish a difficult diagnosis, that of acute byphenotipic leukemia.

**Material and method:** We present the case of a 37 year old female, with alteration of general state of health, fatigability, fever. Paraclinic investigations showed anemic syndrome, thrombocytopenia, 89% blastic cells with polymorphic morphology in peripheral blood smear examination. Because of the severe thrombocytopenia a bone marrow sample was not collected. Cytochemistry showed 60% positive blast cells.

**Results and discussions:** Diagnosis of acute leukemia was confirmed by immunophenotyping, but the surprise was the expression of myeloid: CD13 (79%), CD33 (97%), CD117 (60%), CD11b (57%) and lymphoid T markers: CD3 (30%), CD2 (82%), CD5 (72%), CD7 (72%). Also CD 34 (74%), HLA-DR (58%), CD38 (40%) were positive. According to immunophenotyping the diagnosis was acute byphenotipic leukemia myeloid/T. CD 38 positive is associated with poor outcome of the disease. The prognostic of byphenotipic leukemia is a poor one. This patient died only 11 days after diagnosis because of her poor condition.

**Conclusion:** Immunophenotyping is an important technique for diagnosis and prognosis in hematological malignancies.

**Keywords:** leukemia, anemia, byphenotipic

### STUDY OF THE PORTAL VEIN THROMBOSIS WITH DUPLEX-DOPPLER ULTRASOUND, AT PATIENTS WITH LIVER CIRRHOSIS


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**Background and aims:** Portal vein thrombosis in cirrhosis has many unresolved issues, which are often the critical problems clinicians encounter in their everyday practice. Abdominal ultrasound and color Doppler imaging has a 98% negative predictive value, and is considered the imaging modality of choice in diagnosing portal vein thrombosis. The aim of our study was to analyse the portal vein thrombosis with duplex-Doppler ultrasound, at patients with cirrhosis.

**Methods:** Patients diagnosed with liver cirrhosis, where underwent an abdominal ultrasound in the Ultrasound department of the Firth Medical clinic, UMF Tg. Mureş, department of Gastroenterology. The presents of the portal vein thrombosis, focal liver lesions where followed, with conventional and Duplex-Doppler ultrasound. At patients with portal vein thrombosis abdominal CT scan was performed and also alfafetoprotein level was followed.

**Results:** At 93 patients with liver cirrhosis, the indices of portal vein thrombosis was 20,43%. At the 19 patient with portal vein thrombosis and cirrhosis, in 16 cases (84,21%) was found focal liver lesion with ultrasound and CT scan. In one case we lost the follow-up, in other case it was a portal cavernoma after splenectomy and thrombosis and an other case with multifocal adenocarcinoma diagnosed only with biopsy. The alfafetoprotein level was elevated (up to 200ng/ml) at all of the patients. Conclusion: Conventional and duplex-Doppler abdominal ultrasound is an important method for detection of the portal vein thrombosis and focal liver lesions, at patients with liver cirrhosis.

**Keywords:** thrombosis, cirrhosis, portal vein

### INTERACTIONS BETWEEN ALCOHOLIC LIVER DISEASE AND CHRONIC HEPATITIS C

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The goal of this paper is to analyse the relationship between the alcoholic liver disease and chronic hepatitis C according with the evolution of the disease under antiviral therapy. Introduction: Patients with alcoholic liver disease have a high prevalence of hepatitis
C virus infection. A close relationship and possible interaction has been noted between chronic hepatitis C and alcoholic liver disease. It is poorly understood whether these are additive or synergistic effects in causing liver injury. Methods: The cases were 39 patients with alcoholic liver disease and chronic hepatitis C. The controls were 90 patients with chronic hepatitis C without significant alcohol consumption. All patients were assessed by measuring alcohol consumption, liver enzymes, viral load, liver biopsy, response to antiviral therapy with peginterferon alfa 2a and ribavirin. Results: Aminotransferase levels show no significant difference between alcoholic and non-alcoholic hepatitis C patients (109.19 UI/l vs. 104.23 UI/l, p>0.05). Gama-glutamyl-transferase levels were higher in cases than controls (108.68 UI/l vs. 71.44 UI/l, p<0.05). Patients with alcohol abuse showed higher histological activities (Knodell score 11.69 vs. 8.87; p<0.01) and higher stage of fibrosis (2.54 vs. 1.98; p<0.01). Viral load showed no significant difference between cases and controls (269400UI/ml vs. 210500 UI/ml, p>0.05). Early viral response was 30.76% for cases vs. 45.55% for controls (p=0.049) and sustained viral response 23.07% for cases vs. 43.33% for controls (p=0.03). Discussion / Conclusion: Patients with alcoholic liver disease and chronic hepatitis C showed more severe histological activity and fibrosis and poor prognosis in early and sustained response on antiviral treatment than patients without significant alcohol consumption.

Keywords: liver, hepatitis, fibrosis

PARTICULARITY OF METABOLIC SYNDROME IN WOMEN

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The aim of the study: The importance of metabolic syndrome consists in the fact that the atherosclerotic process appears earlier, is more severe and plurisegmental. The number of patients with metabolic syndrome is increasing world-wide. The aim of this study was to compare the risk factors and the cardiovascular affection between men and women with metabolic syndrome. Material and procedure. The study included 246 patients with metabolic syndrome from the 2nd Clinic of Internal Medicine followed up during September 2009 – September 2010. We have studied the difference between men and women regarding the presence of risk factors, localization and severity of cardiovascular complications. Outcome. Of the studied lot, 49% were women with medium age 63.6 years old, 51% men with medium age 65 years old. Between age 30 – 50 years the incidence of metabolic syndrome was significant higher in women (p=0.04). The smoking habits were found less in women (p=0.004). Regarding to hypertension there was no significant difference between the two sexes. In the studied lot the manifest diabetes mellitus was more frequent in women and their cardiovascular complications were more severe. Regarding to dyslipidaemia hypercholesterolaemia was more frequent in women and mixt dyslipidaemia in men. In patients diagnosed with metabolic syndrome the ECG at rest was abnormal mostly in women (p=0.04). In the lot with diabetic arteriopathy more women suffered from critical limb ischemia (p=0.04). Conclusions: In women with metabolic syndrome associated with diabetes mellitus cardiovascular diseases were more severe. The cardio-vascular complications affects women also, even in a more severe form. The prognosis of metabolic syndrome can be improved due to prevention, early diagnosis and aggressive - permanent treatment.

Keywords: metabolic syndrome, diabetes

PROGNOSTIC AND PREDICTIVE INFLUENCE OF ANEMIA IN AGGRESSIVE NON HODGKIN’S LYMPHOMAS

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Background: Anemia is the most frequent abnormality of blood counting at the onset of aggressive non Hodgkin’s lymphomas (NHL); its pathogenesis is diverse and often multi-factorial. The assessment of incidence, prognostic and predictive value of anemia presence at diagnosis is still controversial, depending especially on the cut-off value chosen for the hemoglobin level. Patients and method: The study was conducted using 2 groups of patients: 62 cases with diffuse large B-cell lymphoma (DLBCL) and 28 cases with peripheral T-cell lymphoma unspecified (PTCLU). The 2 groups of patients were homogenous regarding the positive diagnosis, staging procedures and first-line therapy protocols. The analyzed parameters were: presence of anemia at diagnosis (Hgb value </=11 g/dl), correlation of Hgb value with other prognostic markers (IPI score, age, gender, B symptoms, ECOG status, serum lactat-dehydrogenase value, serum albumin levels, eritrocyte sedimentation rate, presence and pattern of bone marrow infiltration, bulky disease, platelets count), survival (overall survival and failure free survival), remissions rate. The statistical analysis included: percentage, Fisher Exact test, Kaplan Meier survival curves with log-rank comparison. Results: Anemia (Hgb</=11g/dl) was more frequent in PTCLU (32,14% versus 29,03%, p<0.05). In DLBCL group anemia significantly (p=0.01) correlated with high or high/intermediate IPI score, ECOG status >/=2, diffuse or interstitial bone marrow infiltration, low albumin level, III or IV Ann Arbor stage, high serum lactate dehydrogenase levels. In PTCLU Hgb value under 11g/dl correlated only with ECOG status>2. Significant influence on survival (both overall survival and failure free survival) and remissions rate was observed only for DLBCL group, detected just when univariate analysis was performed, not being maintained at multivariate analysis. Presence of anemia was, for both groups, a risk factor for systemic infection
during chemotherapy, especially in patients over 60 years. Conclusions: In DLBCL and PTCLU assessed cases anemia appeared as risk factor primarily among the elderly. For DLBCL cases anemia was positively correlated with other stronger prognostic factors, being an prognostic and predictive indicator on univariate analysis only. Differences between the 2 aggressive lymphoma groups might be incidental or due to some intrinsic differences in the pathogenesis of anemia itself.

**Keywords:** anemia, lymphomas, markers

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**DEMOGRAPHIC AND SURVIVAL ASPECTS ON COLO-RECTAL CANCER, IN MURES COUNTY, AMONG 2004-2009**

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Objective: We studied evolution of demographic parameters (age, gender, rural versus urban areas) and survival on patients living in Mures county, being newly diagnosed with colo-rectal cancer (CRC), treated and followed in Oncology Clinic Targu Mures, among 2004-2009. Material and method: New cases diagnosed, treated and followed in Oncology Clinic among 2004-2009 were retrospectively analyzed, regarding incidence from the population of Mures county, prevalence from all new cancer cases, with reference to gender, age at diagnosis, rural versus urban areas of living, overall survival. For the statistical calculation percentage, t Student test and Kaplan-Maier survival curves with survival rates estimation were used. Results: Median incidence of CRC was 25.16 % (minimum in 2007 - 22.5 %, maximum in 2005 – 26.33 %, p>0.05) and median prevalence from all newly diagnosed cancers was 11.67 % (between 9.96 % in 2006 and 13.33 % in 2009, p>0.05), data being lower than those reported for Western Europe but higher than those reported for Romania. Male/female ratio was 1.20/1 for colon cancer and 1.5/1 for rectal cancer respectively; data are lower than those reported throughout the whole Romania. Age groups most affected were 61-70 years for colon cancer and over 71 years for rectal cancer. We also observed a weak predominance of patients living in rural areas versus urban areas (53.91% vs 46.08%). Overall survival rates were 92.75% at 6 months, 88.31% at 12 months and 73.91% at 24 months, largely similar to data found in other studies. Conclusions: The relative high rates of incidence and prevalence of CRC in our area indicate once again the need for more assertive measures regarding the prevention and the early diagnosis of CRC. Higher risk population groups must be especially targeted.

**Keywords:** cancer, colo-rectal, prevention

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**TREATMENT OF HYPERTENSION IN MEDICAL CLINIC III TIRGU MURES - 2010**

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Purpose of the study. We have followed the utility rate of the different classes of hypertension drugs in the therapy recommendations made by doctors at the discharge from the hospital, including those of fixed combination, in correlation with the patients’ cardiovascular risk profile. Methods and Resources. There has been a retrospective study made in the Medical Clinic III – Tg. Mures this year on a number of 174 patient pattern suffering of hypertension, both sex groups being equally represented. The whole lot had secondary groups, including the affection of target organs (hypertensive cardiopathy, the chronic kidney disease), complications (atrial fibrillation, heart failure, stroke) and comorbidities (ischemic coronary disease, 2nd type of diabetes and dyslipidemia). Results. The following antihypertensive classes have been identified on the men study group: diuretics (64%), ACE inhibitors (57%), beta-blockers (63%), calcium-blockers (26%), sartans (36%), central blockers (7%), fixed combinations (4%), others (8%). The percentage values of the therapy recommendations in the women group study was the following: diuretics (75%), ACE inhibitors (39%), beta-blockers (62%), calcium-blockers (21%), sartans (46%), central blockers (4%), fixed combinations (5%), others (8%). Conclusions. Although the recent recommendations in the hypertension treatment guidelines suggest the large scale employment of fixed combinations, they are rarely used in our current practice.

**Keywords:** hypertension, drugs, combinations

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**THE PREDICTIVE ROLE OF NAIL PSORIATIC LESIONS IN THE ONSET OF THE PSORIATIC ARTHRITIS**

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Aim: The main objective of the study was to asses the predictive role of nail psoriatic lesions as a risk factor in the onset of the psoriatic arthritis. The secondary objective was to determine a correlation of the onset of the specific manifestations (musculoskeletal and nails), the gender, the evolution of the disease corroborated with a specific treatment. Material and method: A two years long (01.01.2007-
31.12.2009 retrospective and prospective, observational study was performed in the University Clinic of Rheumatology Târgu Mures and the University Clinic of Dermatology Târgu Mures. 299 pts. (patients) were randomized in 2 groups: 105 pts. diagnosed with PsA (psoriatic arthritis) and 194 with psoriasis. The data were statistically analyzed using the Pearson correlation, two-way ANOVA test, Bartlett's and Turkey's Multiple Comparison test. The software used was GraphPadPrism 5. Results: A positive statistically correlation was found between the onset of the cutaneous psoriatic lesions and the musculoskeletal ones (p<0.005). The male gender proved to impact the onset of the disease and the progression to psoriatic arthritis (p=0.0273). Conclusions: The progression of the disease was negatively influenced in the patients to whom the first signs of disease were the nail psoriatic lesions. Thus the skin psoriatic lesions proved their role as a prognostic and risk factor in the development of psoriatic arthritis. **Keywords:** nail psoriatic lesions, risk factor

### ZAP-70 PROGNOSTIC FACTOR IN B-CHRONIC LYMPHOCYTIC LEUKEMIA

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Background: ZAP-70 is a protein tyrosine kinase who belongs to the Syk -ZAP-70 protein tyrosine kinase family and is normally expressed on T and natural killer cells, having an important role in initiation of T cell signaling. ZAP -70 has a role in growth signal receptor cells on the surface immunoglobulin of malignant B lymphocytes and its measurement can serve as a surrogate marker for mutational status of immunoglobulin heavy chain gene. This protein has important prognostic value in B-cell chronic lymphocytic leukemia. Methods: We studied 30 patients with B-cell chronic lymphocytic leukemia, who were diagnosed and treated in the Medical Clinic 1, who were analyzed by flow cytometry for ZAP-70 expression. Using Kaplan-Meier curve we calculated the survival of these patients and we made correlations with other prognostic factors: age, sex, hemoglobin value, lymphocytes count, platelets count, serum LDH of diagnosis, and Binet stage of disease. Results: We detected ZAP-70 expression of the 30 patients and we had 22 (73.3%) patients with ZAP-70 negative, lower than 20%, and 8 (26.6%) patients with ZAP- 70 positive, greater than 20%. Median survival was 60 months for the patients with ZAP-70 positive and indefinitely for the patients ZAP-70 negative. (Log-rank test p-0.04) ZAP-70 positive patients had more frequent at diagnosis, lymphocytes count more than 30.000/mmc, hemoglobin value below than 12 g / dL, advanced stage of disease, Binet C, and marrow infiltration with lymphocytes more than 80%, statistically significant data. In the group with ZAP-70 positive patients, we obtained the percentage of complete remission rate lower than ZAP-70 negative patients. Percentage of partial remission was slightly higher in ZAP-70 positive subgroup, but overall remission (CR + PR) was higher in the ZAP-70 negative group. With the Fisher Exact test we checked the correlations but we obtained not statistically significant data. Number of patients who needed treatment was 10 (33,3%), nine (40,9%) patients in ZAP-70 negative group and one (12,5%) patient in ZAP-70 positive group.(p=0.40). Most patients (75%) who had ZAP-70 positive, had also CD 38 positive.Conclusions: ZAP-70 determined by flow cytometry is a significant predictive factor in both progression and survival in patients with chronic lymphocytic leukemia.

**Keywords:** leukemia, lymohocyt, remission

### TWO CASES OF MYELOMA

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Introduction: Myeloma is a hematological malignancy. It is characterized by a proliferation of malignant plasma cells and in most cases by a monoclonal protein secretion. The clinical presentation of myeloma can be very polymorphous, ranging from severe complications to asymptomatic patients. Bone pain is the most frequent symptom, and can be present in as much as 70% of patients at presentation. It is common that a bone event (spontaneous fracture) can be the initiating motif to see a doctor. Another altered analyses are the presence of anemia, elevated ESR and hypercalcemia. Since myeloma is a rare disease a carefull evaluation has to be made. The presence of monoclonal bone marrow plasmocytosis and a serum monoclonal protein has to be confirmed. Case report: A 55-year old female patient, in complete health status, suffered a spontanous bone fracture. O radiograph of the fractured femurus showed numerous lytic bone lesions. Bone marrow plasmocytosis was absent. A severe hypercalcemia was present. During the differential diagnosis of hypercalcemia the parathormon level was measured nad it was highly elevated. The CT scan confirmed the presence of a hyperparathyroid adenoma, which was removed by surgery. A bilateral parathyroidectomy with partial thyroidectomy was performed. The second case is about a 68 years female patient with progressive low back pain. This pain persisted in spite of treatment with analgesics. A MRI showed a large number of lytic lesion of the lumbar vertebrae. A bone marrow biopsy was performed. The bone marrow aspirate was with only 3% plasma cells. The biopsy showed a large nuber of citokeratine positive cells, with tubular aspect, which were also positive for estrogen and progesterone receptors. These cells were negative for CD138. Conclusions: The thorough evaluation, with confirmation of diagnosis criteria is mandatory in any suspicion of myeloma disease, even in cases with tipical presentation, in which
the diagnosis seems straightforward. A correct diagnosis enables the doctor to offer the patient the most suitable treatment, preventing the more serious complications of the disease and prolonging the survival.

**Keywords:** myeloma, hypercalcemia, proliferation

### THE ROLE OF PLERIXAFOR IN MOBILISATION OF HAEMATOPOIETIC STEM CELLS IN 8 HEAVILY PRETREATED PATIENT WITH HAEMATOLOGICAL MALIGNANCY

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**Introduction.** Plerixafor, a small molecule competitive antagonist of CXCR4 is indicated in combination with G-CSF (Granulocyte colony stimulating factor) to mobilize of haematopoietic stem cell (HSC) to the peripheral blood for collection and subsequent autologous transplantation with lymphoma and myeloma patients. **Aim.** We studied the efficacy of the plerixafor in association with G-CSF in the poor mobilizer patients Materials and methods. We performed 8 mobilization using plerixafor in combination with G-CSF in 5 patients with Hodgkin's lymphoma, 2 patients with non- Hodgkin's lymphoma and 1 patient with multiple myeloma. The majority of patients have already been heavily pretreated with cytostatic drugs, two of them were also treated with radiotherapy and Interferon-α. Patients receive G-CSF (10 μg /kg /d ) for 4 days. On the evening of day 4, they were given either plerixafor (240 μg / kg). Following a morning dose of G-CSF on day 5, patients underwent apheresis. Results and discussion. Mobilization with G-CSF and plerixafor was associated with satisfactory release of CD34+ cells to the peripheral blood as measured 8 hours after plerixafor administration. The final stem cell product contained median of 3.457x106 CD34+ cells/kg, (range 1.295-8.33x 106/kg). All of them have already been transplanted and median time to neutrophil ( >0.5 G/L ) recovery was 12 days ( 11-14 ) and platelet ( > 20 G/L) recovery was 14 days ( 10-15 ) that is satisfactory. **Conclusions.** Stem cell mobilization with plerixafor and G-CSF provides solution for majority of patients who were heavily pretreated.

**Keywords:** plerixafor, lymphoma

### USEFULNESS OF MAGNIFYING CHROMOENDOSCOPY IN THE DIAGNOSIS OF PREMALIGNANT AND MALIGNANT LESIONS

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**Aim:** The aim of this study was to demonstrate the accuracy of magnification chromoendoscopy for the diagnosis of premalignant and malignant lesions in the upper gastrointestinal tract. **Methods:** Patients undergoing diagnostic endoscopy for upper gastrointestinal symptoms underwent magnification endoscopy after instillation of methylene blue or acetic acid. The mucosal pattern was classified according to Endo classification for Barrett esophagus. For gastric mucosa, we identified three different aspects: 1. nonmetaplastic, nondysplastic mucosa, 2. metaplastic mucosa and 3. dysplastic mucosa. Biopsies were targeted to areas having different pit patterns. **Results:** We found that tubular and villous types were characteristic of intestinal metaplasia in the esophagus. We correlated modified patterns from the gastric mucosa with premalignant and malignant lesions. **Conclusions:** Magnifying chromoendoscopy is useful for detection of intestinal metaplasia in distal esophagus and diagnosis of premalignant and malignant gastric lesions by targeted biopsies.

**Keywords:** chromoendoscopy, endoscopy, intestinal metaplasia

### CONTRIBUTIVE RISK FACTORS IN ATEROGENESIS AT PATIENTS WITH RHEUMATOID ARTHRITIS-ROLE OF INFECTIONS

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Cardiovascular diseases is still the major cause of mortality in patients with rheumatoid arthritis meaning in part by association between rheumatoid arthritis (RA) and premature atherosclerosis(AS). Rheumatoid arthritis is a systemic disease whose epidemiological data suggest that other mechanism than the classical atherosclerotic risk factors may play a significant role. Recent findings suggest a causative role of infections in the pathogenesis of atherosclerosis. The extend of atherosclerosis and the prognosis of patients with
atherosclerosis seems to be increased due to number of infections exposed of the patients. Objective: In this study we evaluated the effect of 4 pathogens and the aggregate pathogen burden on the progression of carotid atherosclerosis. Material and method: We examined 102 patients with RA diagnosing in according with ACR 1987 criteria, who was admitied in University Clinic of Rheumatology Tg.Mures. Carotid intima media thickness was measured in the common carotida arteries by high resolutions B-mode ultrasound. All patients were asked to complete a questionnaire on history of their infections( urinary, respiratory, dental, or helicobacter pilory infections), and blood and urinary samples were taken. Chest X-rays, and dental examinations was performed. Results: 24 patients with short durations of RA and 31 patients with long standing of RA had one or more infections during the course of disease. Infections was associated with progression of atherosclerosis, IMT was significantly increased over than 0.80mm at this patients. Urinary infections with Escherihlia Colli ( p<0,001), respiratory infections (p<0,004), dental infections(p<0,01), and less Helicobacter pilory(p<0,07) were associated with subclinical atherosclerotic lesions. Conclusions: Our results support hypotesis that infectious agents are candidate triggers of inflammatory responses, and play an important role in the pathogenesis of atherosclerosis in patients with rheumatoid arthritis.

Keywords:rheumatoid arthritis, atherosclerosis, intima media thickness, infections

MELODYDISPLASTIC SYNDROME WITH BONE MARROW HYPOPLASIA

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Introduction. Myelodysplastic syndromes (MDS) are a group of biologically and clinically heterogeneous clonal disorders characterized by dysplastic changes, ineffective hematopoesis, peripheral cytopenia and an increased risk of transformation to acute myeloid leukemia (AML). In most cases, bone marrow is hypercellular but in 10 to 20% of cases, bone marrow can be hypocellular, a condition that overlaps and is difficult to differentiate from aplastic anemia (AA). Dysplastic myeloid cells +/- megacaryocytes or excess of blasts may be difficult to see. CD34+ hematopoietic progenitors are central to the pathogenesis of both disorders; they are the targets of the autoimmune attack in AA and neoplastic transformation in MDS. Cytogenetic findings typical of MDS may be necessary for diagnosis or % of CD34+ cells suggests MDS. There is no particular age range, FAB type and no difference in prognosis but may respond to immunosuppressive therapy. Aim. Aim of this study was to illustrate the problems in the differentiation between aplastic anemia and hypoplastic MDS. Materials and methods. A total of 3 patients with hMDS were evaluated. Hematological data were evaluated according to peripheral blood count, bone marrow biopsy and flow cytometry. The determination of cellularity within the bone marrow, as well as the quantitative evaluation of the three cell lineages of hematopoeisis, was performed. Hypoplasia of hematopoeisis was defined as hematopoeisis making up less than 30% within the total areas of the bone marrow sections. We done flowcytometric immunophenotyping of bone marrow samples of all of 3 patients. Three- or four-color immunofluorescence staining were used. We assessed the bone marrow CD34+ cell numbers. Results. In our paper we present 3 cases with hypocellular MDS in which the diagnosis was difficult. All of the patients were male. The age was 24, 61 and 75 year. All of the patients were interned in our hospital with suspected aplastic anemia. They had pancytopenia in the peripheral blood. The bone marrow was hypocellular and the dysplastic myeloid cells +/- megacytocytes or excess of blasts was difficult to see. The examination by flow cytometry shown in all 3 cases 12-14% CD34+ blasts suggesting myelodysplastic syndrome. This finding was very important in the differential diagnosis between hypoplastic MDS and aplastic anemia, in which the CD34+ blasts number is low. The patients was treated with immunosuppressive therapy, G-CSF granulocyte- colony stimulating factor for granulocytopenia; anemia and trombocytopenia was corrected with red blood cell and platelet transfusion. Conclusions. Hypoplastic myelodysplasia must be considered in the differential diagnosis of patients who have bone marrow failure. The flow cytometry analysis of the bone marrow is a very useful method to establish the right diagnosis. Quantification of marrow CD34+ cells may serve as an important tool for distinguishing between aplastic anemia and hypoplastic MDS.

Keywords: myelodisplasia, hypoplasia, immunosuppressive

CARDIOLOGY

CONTRIBUTION OF IMAGING TECHNIQUES IN THE DIAGNOSIS AND TREATMENT OF CARDIOVASCULAR DISEASES

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64 multislice CT angiography is a newly introduced imaging technique that manages the three-dimensional visualization of coronary
arteries and peripheral non-invasive way. The purpose of the study is to evaluate the role of noninvasive imaging in the assessment of vascular lesions and planning of revascularization therapy. The study includes 55 patients with rest angina who underwent AngioCT and revascularization by PTCA therapy, and 38 patients who underwent angioCT examination for peripheral arterial lesions and had performed percutaneous revascularization procedures. Calcium score was calculated in patients that performed coronary angioCT: in 20 patients calcium score was below 400 in 24 patients it was between 400 and 600, and in 11 patients it was over 600. Correlating these data with coronary angiography issues, it was observed that the patients with calcium score below 400, had a higher percentage univascular presence of coronary disease (65% of cases), while those with calcium score more than 600 most patients had severe diffuse coronary disease. In patients with peripheral artery disease the preinterventional association of arterial axis angioCT assessment has reduced the average intervention time from 40 minutes to 25 minutes, and the average number of acces sites from 2.4(in similar intervention without previous angioCT evaluation) to 1.4. Technical success was recorded in 97.91% of cases. No complications were registered. AngioCT examination is an imaging method that allows noninvasive assessment of coronary and peripheral lesions and their complexity, in outpatients, accurately assessing the indication for revascularization and optimal method for this. AngioCT exploration results have had a very good correlation with data obtained by angiography and IVUS, bringing additional data on arterial calcification by calculating calcium scoring. Full evaluation of the structure and position of atherosclerotic plaques has led to a choice of having the appropriate interventional strategy and as a result reduce periprocedural complication.

**Keywords:** angiography, revascularization, angioplasty

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**LATE IN-STENT RESTENOSIS AFTER BARE-METAL STENT IMPLANTATION: CASE REPORT**

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Background Restenosis after coronary artery stenting is a known phenomenon and represents a topic of great interest. Many issues of this ethniy are not fully understood by the cardiologists. In-stent restenosis (ISR) occurs in 20% to 40% of de novo coronary lesions treated with bare-metal stents (BMS), depending on lesion and patient-related factors. Drug-eluting stents coated with antiprolifera-
tive agents, represent a valid rationale for treatment and prevention of recurrent ISR, with low MACE rates. Among the etiologies could be ISR associated with severe narrowing leading to clot formation, chronic inflammation and in-stent atherosclerosis progres-
sion. It is not clear whether cessation of antplatelet therapy plays a role in the occurrence of very late BMS thrombosis. Everolimus eluting coronary stent system have proven very effective in reducing in-stent restenosis. Here we present a case of very late restenosis, after a bare metal stent implantation treated with a drug eluting stent (DES). Case presentation. In 2005, a 63-year-old man with history of hypertension, dyslipidemia and old inferior myocardial infarction was admitted with stress chest pain. At that moment blood pressure was quite well controlled (140/80 mmHg); blood tests indicated a total cholesterol of 207mg/dl and triglycerides were 191mg/dl. Baseline ECG showed Q wave in DIII, negative T wave in DIII, aVF. The coronary angiogram revealed a long severe stenosis of the mid portion of RCA and an angiographically non-significant stenosis of the Cx. A bare metal stent (Bx Sonic 3.0×33 mm) was implanted in the RCA stenotic segment. The patient was discharged on standard DAT for 9 months, then just 75 mg ASA daily, beta-blockers, ACEI and statins. The patient was free of angina for 4 years after first angioplasty. Almost four years later, the same patient was hospitalized once again with stable angina and mild left ventricular failure (NYHA class II). Blood tests were negative for cardiac biomarkers; blood pressure was 120/80mmHg. ECG revealed Q wave in DIII, aVL, negative T wave in V3-V6. Non-invasive imaging revealed signs of old inferior myocardial infarction, mild mitral regurgitation and an ejection fraction of 50%. The coronary angiogram showed a 90% instent-stenosis in the bare-metal stent but no progress of atherosclerosis in other coronary territories. At this moment the decision was to use a DES for the treatment of in-BMS restenosis. Intervention was successfully performed, using a guiding catheter JR 4.0 SH, 6F, a PT2 angioplasty guidewire, and non-compliant balloon catheters used to predilate and optimising stent deployment. A Xience Prime LL 3.0×38 mm was implanted with excellent angiographic result. The patient was discharged well, with DAT (Clopiprodigel 150 mg 2 weeks, then 75mg + Aspirin 200 mg daily), beta-blockers, ACEI, statins. The patient is free of an-
gina until now, without new signs of LVF. Discussion Very late ISR is fortunately very rare following BMS implantation. The etiologies are not completely understood and possibly differ from those for DES (in-stent neointimal progression, atherosclerosis progression in the stent or at the stent edge, mechanical factors such as stent malapposition or underexpansion and stent fracture). This potential catastrophic complication in patients undergoing BMS implantation should not be overlooked. We believe that every clinician should be vigilant regarding the possible occurrence of very late ST in patients who have previously undergone BMS implantation.

**Keywords:** restenosis, stenting, inflammation

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**CORRELATION BETWEEN KINETICS AND MYOCARDIAL VIABILITY ASSESSMENT BY 3D ECHOCARDIOGRAPHY AND 64 MULTISLICE CT ANGIOMONOAOROGRAPHY**

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The aim of the study: objective evaluation of myocardial kinetic disorders using two recent imaging techniques based on computer analysis of segmental kinetic disorders: 64 multislice CT angiography and computerized 3D echocardiography. Material and Methods: 20 patients with angina, ischemic changes and significant coronary lesions, in which were performed: (1) computerized 3D echocardiography (C3DE) for three-dimensional analysis of kinetic disorders, using as an indicator of the kinetic disorder the contraction amplitude by tracing the endocardial contour and the analysis of its kinetic curve. (2) 64 multislice angio CT, for assessment of coronary lesions and for the computerized evaluation of the segmental ischemia, using as an indicator for kinetic disorder contraction amplitude and the degree of wall thickening by tracing the endocardic and epicardic contour. Results: C3DE accurately identified the location and extension of contractility disorder, represented as a spot on the map polar kinetic and an average decrease of 56% of the maximal amplitude of contraction in ischemic compared with non-ischemic segments by dobutrex testing. 64 multislice angio CT has not only located the ischemic segments by using a more accurate parameter, the degree of thickening of the wall (which was 25% for ischemic segments compared with 42% for non-ischemic, p <0.001), but correlate this localization with that of the coronary stenosis on CT coronary angiography performed during the same examination. The degree of overlap of the localization of ischemic segment and the lesion in the coronary artery was 85% for 3D ultrasound compared with 95% for 64 multislice angio CT (p = 0.01). Conclusions: Both C3DE and 64 multislice angio CT can be very useful diagnostic methods for comprehensive and objective evaluation of myocardial ischemia, 64 multislice CT angiography advantage is the possibility of non-invasive assessment of coronary lesions at the same sitting, and the use of a more objective parameter (myocardial wall thickening) as indicator of segmental ischemia. Study financed within the research grant no. 41-069/2007 – LASCOR, financed by MEC via CNMP.

**Keywords:** myocard, ischaemia, angiography

**CORRELATIONS BETWEEN ASSESSMENT OF INSTABILITY OF ATHEROSCLEROTIC PLAQUE BY IVUS AND THE DEGREE OF SEVERITY OF CORONARY HEART DISEASE CALCULATED BY MULTISLICE ANGIO CT**

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The aim of the study: To evaluate the instability degree of intracoronary plaques using 64 multislice angio CT respectively intravascular ultrasound virtual histology analysis. Material and Methods: Lot A - 14 patients with clinical signs of unstable angina, group B - 10 patients with clinical signs of stable angina. All patients had significant coronary stenosis (over 75%). In all cases coronary angiography and intravascular ultrasound associated with virtual histology analysis were performed. In eight cases a 64 multislice CT analysis of the coronary bed was performed. We determined: the plaque burden, plaque volume, percentage of stenosis and calcium score of the lesions by angio CT analysis. Results: All patients in group A and 34% of patients in group B demonstrated the presence of unstable plaque, with a content of over 30% of unstable, rich in cholesterol soft plaque. Virtual histology analysis showed a unstable soft plaque content, averaging 68% in group A and 25% in group B, while analysis by angio CT showed a soft plaque content of 65,6% in group A compared with 22% in group B (p <0.001). The plaque volume was in average 148.6 mm³ in group A and 183.4 mm³ in group B (p <0.001). By the 64 multislice angio CT analysis we accurately identified the calcium score and degree of stenosis (78.3% in group A compared with 89.3% in group B) comparative with the coronaryangiographic findings - 72.4% in group A and 84% in group B. Conclusions: 64 multislice CT angiocoronography proved to be a non-invasive diagnostic method extremely useful for complex evaluation of both the severity of intracoronary plaque and its instability degree, the results being correlated with those obtained by coronaryography respectively intravascular ultrasound associated with virtual histology.

**Keywords:** unstable angina, non-invasive diagnostic method, ultrasound

**COMPARATIVE PATTERN OF DELAYED ORTHOSTATIC HYPOTENSION VERSUS VASOVAGAL SYCNEPE**

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Aim: to compare the hemodynamic profile of the patients affected by delayed orthostatic hypotension versus those with vasovagal syncope. Methods: the underlying hemodynamic profile was evaluated in 15 patients with vasovagal syncope (VVS) mean age 44±20 years and 13 patients affected by delayed orthostatic hypotension (DOH) mean age 68±14 years by beat-to-beat measurement of several parameters. Results: while there were no significant changes in the stroke volume and the cardiac output in VVS patients versus
DOH patients we noticed a slightly prolonged time interval of the reflex reaction in VVS patients: 19.6±2 min vs. 8.6±5.6 min in DOH patients (p=0.01). The hypotensive phase was shorter in VVS patients than in DOH patients: 2.6±1.7 min vs 5.1±4.8 min (p=0.05). Conclusion: the shorter time interval needed to trigger the hypotensive reflex reaction in the DOH patients compared to VVS patients may suggest the compensatory mechanisms is impaired in a higher degree while the underlying substrate is similar in both groups.

**Keywords:** Hypotension, ortostatic, vasovagal

### Sigmoid Interventricular Septum Found by Echocardiography – A Possible Novel Cardiac Risk Marker

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Sigmoid interventricular septum (SIS) is encountered mainly in elderly and/or hypertensive patients and is easily recognised by echocardiography. We proposed to evaluate the cardiovascular risk of the patients presenting this finding. Methods. From the 1460 patients examined in our echo lab during 2009 we found 74 patients (39 men, 35 women, mean age 67.4±10.4 years) with description of sigmoid septum in the echo report. The patients with moderate-severe aortic and mitral valve disease and cases of hypertrophic cardiomyopathy were excluded from analysis. Clinical, laboratory and echo data were collected at each patient, for characterising their cardiovascular risk profile. Results. The presence of SIS was associated in 54% with septal and in 32.5% with left ventricular posterior wall hypertrophy. Only in 3 cases we found a significant outflow tract obstruction (peak velocity > 3 m/s). Degenerative modifications of the aortic and mitral valve (calcifications, increased thickness) were observed frequently (60.8% and 65.5%). We found a preserved left ventricular systolic function in 95% of the patients, while diastolic dysfunction was present in 49.5% (mainly impaired relaxation). Coronary heart disease was present in 47.3%, atrial fibrillation in 33.8% and significant pulmonary hypertension in 14.9% of the patients. The distribution of classical risk factors was: hypertension 67.5%, elevated cholesterol 41.9%, and hypertriglyceridemia 39.2%. Conclusions. Patients with SIS have a high cardiovascular risk due to advanced age, cumulation of classical risk factors, and due to the high prevalence of degenerative valvular lesions and coronary disease, mostly associated with left ventricular diastolic dysfunction.

**Keywords:** sigmoid, echocardiography, diastolic dysfunction

### Significant Left Main Coronary Artery Stenosis in Patients with New Onset Angina

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Introduction. New onset angina (chest pain under one month duration), may have as possible cause the presence of atherosclerotic (significant/nonsignificant) or nonatherosclerotic coronary lesions (muscular bridge or microvascular disease). While nonatherosclerotic lesions have a good prognosis, those proven to be atherosclerotic may severely influence the patient's vital outcome. The assessment of patients with new onset angina requires complex approach in order to find out the severity of coronary lesions and for optimal therapeutic management. Coronographic exam remains the only diagnostic method that can rule out coronary artery disease. Aim. Identifying patients with new onset angina presenting significant left main artery stenosis. Materials and method Retrospective and prospective study including 299 patients admitted between 01.01.2007 and 31.12.2008 for new onset angina, with performed angiocoronarography. Involvement of left main artery, association with other coronary lesions and relationship with clinical symptoms, cardiovascular risk factors and type of noninvasive approach were followed up. For statistical analysis we used CHI test and Student test. Results. Out of the 299 patients, 19 have had significant stenosis (over 50%) of left main coronary artery. This represented 6.35% of the cases, similar to those found in recent articles. Six patient presented isolated left main artery stenosis, the rest of them having associated lesions: with left anterior descending artery (5 patients), with right coronary artery (1 patient), multiple lesions (7 patients). The condition was more frequent in patients over 50 years, most of them (84.21%) were male with 3 or more associated cardiovascular risk factors. All patients experienced typical angina (p=0.0288) although the severity of chest pain did not correlate with the severity of lesions (p=0.5029). Sensitivity of noninvasive methods used in diagnosis (resting and exercise EKG and EKG recordinds during chest pain) was assessed. We found that in patients with significant left main coronary artery stenosis, sensitivity of resting EKG was 63.15%, that of EKG during chest pain was 83.33%, while 25% of stress tests had false negative results. Discussions, conclusions. Clinical evaluation (cardiovascular risk factors, severity of angina) and noninvasive assessment (recordings at rest, during exercise and chest pain) are useful in patients with atherosclerotic coronary artery disease, but coronarography still remains the gold standard for diagnosis. Significant left main artery stenosis was found in less than 10% of the patients admitted for new onset angina.

**Keywords:** new onset angina, coronarography, significant left main artery stenosis.
Introduction. Hypertrophic cardiomyopathy, a genetic disorder with autosomal dominant pattern of inheritance is characterized by a wide range of clinical, echocardiographic and hemodynamic features. Echocardiography has played a crucial role not only in diagnosis but also in determining its pathophysiology, quantifying the severity and assessing the responses to various therapies. In recent years, its role extended to intraprocedural decision making (with the use of transesophageal exam during myectomy) and the application of myocardial contrast for the guidance of septal ethanol ablation. Case. We present the case of a female patient, aged 53, known to be the carrier of an obstructive hypertrophic cardiomyopathy with signs of heart failure and poor response to medical treatment. At clinical exam she had a systolic murmur along the left sternal border and at the apex, not radiating to the carotids. EKG showed normal sinus rhythm, left axis deviation and left ventricular hypertrophy with secondary ST-T segment changes. 2D echocardiography revealed an interventricular septum of 26mm, the presence of systolic anterior motion of the anterior mitral leaflet and enlarged left atrium. A peak gradient of 140mmHg in left ventricular outflow tract was detected and third degree mitral regurgitation. We took into consideration the possibility of ethanol embolization of first septal perforator branch, that appeared to have long deep trajectory into the septum. An intra-arterial injection of an echo-enhancing agent (Sonovue) was used. Transthoracic echoexam was performed. Thus, the method permits targeted delivery of ethanol, limiting the induced infarction to the culprit region. The contrast effect of ethanol had the same distribution and echolucency as the contrast agent. Subsequently, the patient developed angina, ST segment elevation, complete A-V block requiring temporary pacing and elevated serum enzymes levels. Even during the procedure, the measured outflow tract gradient diminished to 36mmHg, as myocardial stunning appeared. The following days, there was a gradual and continued decrease in the degree of ventricular obstruction, with symptoms relief. Normal sinus rhythm reestablished, but right bundle branch block persisted. The third day after the procedure, a pericardial effusion of 10mm anteriorly was detected and the patient complained of pain in the right lower limb that was confirmed to be a deep venous thrombosis following femoral puncture. Although heparin therapy was not advisable, it had to be administered. Despite these complications, ten days after the procedure the patient was discharged, with no symptoms, measured resting outflow tract gradient was 15-17mmHg, mitral regurgitation was minimal, no SAM present and septal width was 22mm. Conclusions. Septal ethanol ablation is an innovative interventional technique that leads to a controlled localized infarction and relief of left ventricular outflow tract obstruction. Myocardial contrast echocardiography optimizes ethanol ablation by permitting the targeted delivery of ethanol and minimizing procedural complications. Complications are less and outcome is compared to surgical myectomy.

Keywords: Hypertrophic cardiomyopathy, ethanol septal ablation, myocardial contrast.

Calcium score in assessing cardiovascular risk - Cardiology Clinic experience

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64 multislice CT angiography is a newly introduced imaging technique that manages the three-dimensional visualization of coronary arteries. One of the advantages of this method is that it is able to estimate the degree of calcification of atheromatous plaques in the coronary calcium score calculation, which correlates with the severity score of ateromatous systemic burden. Aim of the study is to link the severity of the calcification process estimated on the basis of calcium score as an indicator of systemic risk, and the severity of coronary heart disease. The study includes 55 patients with symptoms of angina and ECG modifications (at rest or during exercise). 64 multislice CT angiography was performed in all patients followed by coronary angiography. Based on the the angio CT examination calcium score was determined in all patients. In 20 patients the calcium score was below 400 in 24 patients it was between 400 and 600, and in 11 patients it was over 600. Correlating these data with coronary angiography issues, it was observed that the patients with calcium score below 400, had a higher percentage univascular presence of coronary disease (65% of cases), while those with calcium score more than 600 most patients had severe diffuse coronary disease. Calcium score is positively correlated with the extention of coronary atherosclerotic plaques. A high value for calcium score indicates an increased probability of multivessel disease. AngioCT imaging is a noninvasive method to assess coronary lesions and their complexity, in outpatients, accurately assessing the indication for revascularization and the optimal method for this.

Keywords: angiography, cardiovascular risks, calcium score

A REVERSIBLE AORTIC PROSTHESIS “DYSFUNCTION”

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We present the case of a 58 years old man, with history of aortic valve replacement with Medtronic Hall monodisc prosthesis, size 21, with significant comorbidities (atrial fibrillation, bilateral internal carotid artery thrombendarterectomy and ischemic strokes, hypertension, COPD), who was admitted to our hospital for exertional and resting dyspnea with recent onset. An echocardiographical examination done ambulatory raised the suspicion of aortic prosthesis obstruction, based on high transprosthetic gradients. He was on chronic treatment with digoxin, ACE inhibitor, diuretics, statin, and double antithrombotic treatment (vitamin K antagonist and clopidogrel, INR 3.5). The physical examination revealed basal, bilateral pulmonary rales and bradycardiac heart sounds (50/min), a clear metallic click, a IV/6 systolic murmur in the aortic area and an elevated blood pressure (200/100 mmHg). The ECG showed atrial fibrillation with low ventricular rate, left ventricular hypertrophy and signs of digoxin overdose. The echocardiographic study revealed a normally sized left ventricle, a good LV systolic function, a severe diastolic dysfunction, a moderate mitral regurgitation, and the monodisc aortic prosthesis with a 85/peak)/45(mean) mmHg transprosthetic gradient, a moderate intraprosthetic regurgitation and a moderate pulmonary hypertension. The transoesophageal echocardiography confirmed the transthoracic result, excluding aortic prosthesis thrombi or masses. On the basis of these findings we considered the diagnosis of patient-prosthesis mismatch as explanation for clinical picture and high gradients. This diagnosis was reconsidered after the normalization of the patient blood pressure and ventricular rate, when echocardiography revealed normal transvalvular pressure gradients. We considered useful presenting our case because of the many pitfalls encountered in the evaluation of aortic valve prosthesis. We put emphasis on the significant dependence of transprosthetic gradients from loading conditions and heart rate.

**Keywords:** aorta, prosthesis, dysfunction

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**STUDY OF THE CORRELATION BETWEEN THE MORNING SURGE PHENOMENON AND THE WHITE COAT HYPERTENSION IN OLDER HYPERTENSIVE PATIENTS**

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The aim of the study was to assess whether there is a relationship between the white coat hypertension (WCH) and the morning surge (MS) in blood pressure (BP), which is often related to the morning occurrence of severe cardiovascular events. 60 hypertensive patients were enrolled (38 men, mean age 68±14,9 years). All patients underwent ambulatory blood pressure monitoring for 24 hours. The morning BP surge (MS) was calculated as follows: mean systolic BP during the 2 hours after awakening minus mean systolic BP during the 1 hour that included the lowest sleep BP. The patients were divided into 2 groups according to MS, (MS group; MS > or =55 mm Hg, n=19) and non-MS group (MS <55 mm Hg, n=41) According to the MS, they were classified into two groups:: MS patients (n=19 ) and non MS patients (n=41 ) WCH was found in 16 patients of the 19 with MS (84,2%, p<001) and in 11 patients of the non-MS group ( 26,8%) In our study, the patients with MS phenomenon were more prone to develop WCH probably due to the increased sympathethic imbalance.

**Keywords:** hypertension, white coat

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**THE ROLE OF ABLATION TECHNIQUES IN ATRIAL FIBRILLATION- CAZUISTRY OF CARDIOLOGY CLINIC**

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Background: Atrial fibrillation is the most common arrhythmia, increasing the mortality rate and influencing the life quality. The paroxysmal, persistent atrial fibrillation, and based on the new data even the permanent fibrillation can be treated by interventional methods. Pulmonary veins have been demonstrated to play an important role in generating atrial fibrillation. Ablation for atrial fibrillation has become a widely accepted and practiced treatment for this arrhythmia. The electroanatomical mapping systems have an important role when electrophysiological procedures are performed. One of these systems in the CARTO Material and Methods: Circumferential ablation around pulmonary vein ostia by CARTO system was performed in 3 patients with paroxysmal atrial fibrillation. A 3D electroanatomic map of the LA including the PV ostia was constructed with a nonfluoroscopic navigation system (Carto, Biosense Webster). Left- and right-sided PVs were incircled by continuous radiofrequency ablation lines. Ecocardiographic evaluation of the left atrium was performed before the procedure and at follow-up. Results: Follow-up showed the presence of sinus rithm in this 3 patients. The quality of life was improved. No complications were noted during the procedure. No clinical signs of pulmonary vein stenosis were observed during follow up. Conclusions: Even if our experience is limited our data suggest that pulmonary vein isolation is an effective procedure to cure AF and it is reasonable that atrial-fibrillation ablation should be used as a first-line option for selected patients with this disease. The CARTO electroanatomical mapping is efficient in identifying the left atrium anatomy, pulmonary vein

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Keywords: aorta, prosthesis, dysfunction
ostium, by memoring the ablation sites improved the success of interventions, making the procedure safety and complete.

**Keywords:** atrial fibrillation, ablation

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**RECURRENT PULMONARY EMBOLISM IN A YOUNG MAN MIMICKING ACUTE CORONARY SYNDROME**

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Pulmonary embolism (PE) and deep vein thrombosis (DVT) are associated with considerable morbidity and mortality, mostly, in case of PE, for its lack of sensitivity of its early detection. While PE is one of the most avertable causes of hospital-associated deaths, its diagnostics can be extremely difficult. We present the case of a 53-year-old man who was admitted to our hospital with sudden-onset severe chest pain unrelated to exercise and deep symmetrical inversion of the T-waves in the anterior and inferior chest leads on the resting ECG. There was no evidence of venous thrombosis or predisposing factors for it. The normal coronary angiogram and pulmonary angiography made the diagnosis of recurrent pulmonary embolism (large floating thrombus burden apparent in the right and left main pulmonary arteries and jagged, irregular pattern distal due to chronic thromboembolism). This case will be discussed and the literature reviewed with emphasis on the pathological process. Inherited thrombophilia is a common cause of VTE and is detectable in 24 to 37% of patients with DVT. There is currently no consensus regarding whom to test for the inherited thrombophilias. We consider that screening to identify anticoagulant protein deficiencies is resonable in this case. Pulmonary embolism should be considered in the differential diagnosis of every patient presenting with acute chest pain who presents at an emergency department.

**Keywords:** Inherited thrombophilic states, venous thromboembolism, pulmonary embolism.

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**DEEP VEIN THROMBOSIS AND PULMONARY THROMBOEMBOLISM. CLINICAL PARTICULARITIES IN YOUNG PATIENTS**

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Objectives: Identifying the clinical and evolutive particularities of deep vein thrombosis cases and the prevalence of potentially deadly complication – the pulmonary thromboembolism in young patients. Material and methods: it is a cohort, retrospective study, following the evolution of young (22-50yrs) patients with DVT, in the period of 2007-2010, from the Cardiology department of Medical Clinic IV. Results: We recorded a series of anamnestic, clinical and paraclinical data, using medical imaging (Doppler ultrasonography, chest X-Ray, echocardiography, thoracic CT). S protein deficit, compressive mass, vascular malformations and neoplasia have been associated with DVT in young patients. PTE is a frequent complication if DVT in this category of patients. Conclusions: This study emphasizes the importance of screening the risk factors for DVT in young patients, especially the thrombophilia status under 35 yrs, the compressive masses and neoplasia over 35 yrs.

**Keywords:** vein thrombosis, thrombophilia, doppler ultrasonography

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**INTRAVASCULAR ULTRASOUND TECHNIQUE IN CORONARY LESIONS ASSESSMENT AND FOLLOW-UP AFTER PERCUTANEOUS ANGIOPLASTY IN CLINIC OF CARDIOLOGY PRACTICE**

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Historically, quantitative coronary analysis has been the reference method for the angiographic assessment of coronary artery (QCA) disease severity and progression. The limitations of coronary angiography, particularly with respect to underestimation of disease severity, however, are well described. In recent years, intravascular ultrasound (IVUS) has emerged as a more sensitive tool for the assessment of plaque severity and morphology compared with other methods, such as coronaryographic image. IVUS is a tomographic imaging tool that can visualize coronary atherosclerosis in vivo, elucidating plaque area, plaque distribution, lesion length and coronary remodeling and has demonstrated discrepancies between the extent of atherosclerosis seen by coronary angiography and the actual extent of atherosclerotic disease. Positive artery remodeling, which is known to be associated with plaque rupture, can be detected more accurately by IVUS than by QCA. The development of intravascular ultrasound (IVUS) with virtual histology (VH), using spectral analysis of the radiofrequency ultrasound backscatter signals to identify the components of atherosclerotic plaque, has allowed in-vivo delineation
of the relative contributions of necrotic core and fibrous atheroma in unstable lesions. For these reasons, IVUS –VH has become the reference method for quantification of plaque volume and evaluation of plaque progression/regression in trials of antiatherosclerosis drug therapies and after percutaneous procedure for coronary revascularization. It was defined “noninflammatory” plaque as being composed of <30% by volume of the combination of both necrotic core and calcium and “inflammatory” plaque as that composed of ≥30% necrotic core and calcium, and this type is definitory for assessment after procedures. Method: we analyzed retrospectively 28 patients undergoing the percutaneous coronary angioplasty assessed by IVUS-VH. The variables determined at both baseline and follow-up at 6 and 12 months after procedure by analyses of IVUS images included total plaque volume (mm3); total lumen volume (mm3); total vessel volume (mm3); percent atheroma volume plaque histological composition. Percent atheroma (plaque) volume was computed by dividing plaque volume by total vessel volume and then multiplying by 100%. Comparisons were made between IVUS data and the coronarographycal quantification of CAD severity for all coronary artery. Intracoronary nitroglycerin (150 μg) was administered before the IVUS examination. The IVUS catheter was advanced distally, at least 40 mm beyond the coronary artery ostium, to a recognizable landmark (arterial branch). The transducer was then pulled back automatically at a speed of 0.5 mm/s. Results: we concluded that the IVUS assessment of PTA procedures is mandatory for optimal deployment of stents and choice of device optimal dimension and reduction of restenosis. The identifying of inflammatory plaque need to be followed by an antiagregant therapy under strict supervized, for reduction of acute thrombosis. In this analyse we found that a value of 34 cm3 of necrotic core of plaque with inflammatory composition is correlate with distal embolization after stent deployment and with ST elevation periprocedural (65 % versus 21%). In same study most complex lesion treated was mixed and with multivascular distribution (percent atheroma mean was 49%) Conclusions: These data indicate that intravascular ultrasound provides accurate image characterization of the artery lumen and wall geometry as well as the presence, distribution, and histological type of atherosclerotic plaque. Thus, ultrasound imaging appears to have great potential application for enhanced diagnosis of coronary atherosclerosis and may serve to guide catheter techniques in the treatment of coronary artery disease.

Keywords: angioplasty, intravascular ultrasound, coronary artery disease

CARBON-DIOXID GAS BATH (MOFETTA) THERAPY IN PERIPHERAL ARTERIAL DISEASE

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Background: Carbon dioxide–rich (CO2) water or gas bathing has a long history in Europe and is thought to be effective in the treatment of peripheral arterial disease (PAD). The effect of mofetta consist in the vasodilatation caused by the CO2 that diffuses into the subcutaneous tissue through the skin layers. The aim of this study was to evaluate the vasodilatation after mofetta using digital photopletismography (PPG) in patients with PAD. Methods: 11 patients (mean age -57,2 y.) with peripheral arterial disease (ABI <0,9, stage II Fontaine, PAD group) and 11 patients (mean age -57,3 y.) with cardiovascular diseases, but without PAD (ABI >0,9, control group) participated in this study. All patients were admitted to the Cardiology Hospital Covasna. We measured the pulse pressure amplitude (PP) before and immediately after mofetta and we also performed a third measurement after 24 hours. Results: We obtained statistically significant differences both before and after mofetta, between the PAD patients group (2,15 mV/V, 5,81 mV/V, p= 0,0001) and the control group (3,71 mV/V, 10,40 mV/V, p= 0,001). After 24 hours, the PP values were still high, but without a statistic difference between the two groups (PAD group – 7,00 mV/V, control group– 8,12 mV/V, p= 0,84). Conclusions: The mofetta seems to cause an efficient vasodilatation both in patients with PAD and those without an arterial disorder. Serial CO2 gas bath application may be clinically effective in patients with peripheral arterial disease.

Keywords: carbon-dioxid gas, peripheral arterial disease

PSYCHIATRY, NEUROLOGY, RADIOLOGY, INFECTIOUS DISEASES, DERMATOLOGY

MEDICAL COMORBIDITIES IN PATIENTS WITH SCHIZOPHRENIA AND ALCOHOL USE DISORDER

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Introduction: During the lifetime, the schizophrenic patients have a higher risk for developing substance use disorders, especially alcohol use disorder. Although schizophrenia and alcohol use disorder are major risk factors for a variety of medical problems, yet there has been little research on the medical status of patients in whom both conditions coexist. Aim: the aim of our study is to demonstrate that the alcohol use in patients with schizophrenia is increasing the risk of medical illnesses. Methods: We assessed the prevalence and severity of medical illness in 139 patients with schizophrenia. The patients were hospitalized in First Clinic of Psychiatry Targu Mures between January and December 2008. We divided the patients in two groups: one group of schizophrenic patients without alcohol
use disorder (95) and one group of schizophrenic patients with alcohol use disorder (44). Participants underwent physical examination, medical record review and standardized assessments of medical illness burden alcohol use. Results: 44 of the 139 schizophrenic patients that we analyzed presented alcohol use disorder. The most frequently medical illnesses in the first group - schizophrenic patients without alcohol use disorder - were: hypertension (24, 21%), ischemic cardiopathy (14,73%), dyslipidemia (37,89%) and diabetes mellitus (7,57%). In the second group of patients with co-occurrence of schizophrenia and alcohol use disorder we found the next comorbidities: hypertension (43,19%), ischemic cardiopathy (18,19%), dyslipidemia (52,27%) and diabetes mellitus (18,18%). Conclusions: Schizophrenic patients with co-occurrence of alcohol use disorder may have significantly more medical illness burden than patients with schizophrenia disorder alone. Interventions to reduce alcohol use may be necessary to decrease the frequency of medical comorbidities in schizophrenic patients.

Keywords: schizophrenia, alcohol, comorbidities

PIGMENTED DERMATOFIBROMA VERSUS MALIGNANT MELANOMA OF THE SKIN. CASE PRESENTATION

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Introduction according to the 2006 OMS definition, dermatofibroma is a benign wound, skin predominant, with imprecise delimited bounds, constituted from a round and/or fusiform shaped cell proliferation (fibroblasts and histiocytes) found with a variable number of inflammatory cells, circled by thick bundle of collagen fibers. In most of the cases, it associates with the hyperplasia of epithelial, melanocytic or seaceous cells. The Study The presentation of the clinic and histopathological diagnostic’s criteria for the dermatofibroma along with the differential diagnostic. Methods and materials. Our study analyses the case of patient suffering from pigmented dermatofibroma, with the clinic belief of nodular melanoma. The methods that have been used are: general clinic examination, local dermatological examination, dermatoscopy, and excisional biopsy with histopathological. The histological standard methods (HE and special stains) were joined by immunohistochemical investigations – monoclonal antibodies anti S-100, HMB45, CD68, CD31 şi CD34. Results – Case presentation. We present the case of a 53 year old male patient, living in the urban environment which consults his family doctor for a nodular and pigmented skin lesion, situated on the dorsal part of the torso, at the left scapular region, with a rapid growth in the past 3 months. The main belief is pointing towards nodular melanoma skin and specialized dermatological examination is indicated. The local exam indicates a tumoral and nodular formation with a 12 mm diameter, black colored, with a glossy surface, rough texture, red-purple halo and infiltrated margins which are badly bounded in surface and depth, discreet touch sensitive. No regional adenopathy was found. The lesion dermatoscopic exam was performed as well. The infiltrated character of the perilesional skin, inflammatory halo red-purple, shiny black color, size and character evolution, along with the dermatoscopy exam aspect, imposed a wide excision of the lesion and performing a histopathologic examination. Histopathology and immunohistochemical investigations have revealed dermatofibroma as a final diagnosis (benign fibrous histiocytoma) and excluded the diagnosis of nodular melanoma. Evolution was favorable post-excision, without the occurrence of relapse or other complications at 3 months after intervention. Discussions Pigmented dermatofibroma, also called fibrous histiocytoma or sclerosing haemangioma is a rare variant of cutaneous lesion that requires to be distinguished from nodular malignant melanoma and skin dermatofibrosarcoma. In these cases it is recommended for clinical monitoring, especially for lesions larger than 2 cm to highlight the possible occurrence of recurrence or lymph node metastases in cases of malignant component. We chose to present this case to draw particular attention to the possible differential diagnosis of pigmented lesions stances, discharged, rapidly growing, with a nodular melanoma of the skin. Conclusions Pigmented dermatofibroma or fibrous histiocytoma is an important differential diagnosis in suspected cases of cutaneous malignant melanoma, histopathological and immunohistochemical diagnosis was the one that establishes certainty and provides therapeutic solution.

Keywords: dermatofibroma, melanoma

FEVER OF UNKNOWN ORIGIN - INAUGURAL MANIFESTATION OF ACQUIRED IMMUNE DEFICIENCY SYNDROME

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Introduction. Prolonged febrile syndrome of unknown origin is a challenge for the clinician; it requires a laborious, fine diagnosis. The most important causes of prolonged fever of unknown origin are: infections, malignancies, autoimmune diseases. Infectious diseases that may develop a prolonged febrile syndrome include infection with Human Immunodeficiency Virus (HIV). Case reports. The
authors present three cases of male patients, with average age of 32 years who were admitted to the Infectious Diseases Clinic for febrile syndrome of unknown origin, with elevated temperature of 38-40°C, associated with fatigue, irritating cough, weight loss (> 5 kg) in evolution for 4 weeks. Previously, the patients were admitted to other hospitals, where they were investigated and the following were refuted: hematologic malignancies, nonspecific lung infections, colon pathology. Various antibacterial regimens followed, without resolving the febrile syndrome. On admission to the Infectious Diseases Clinic, the physical examination revealed: pale skin and visible mucous membranes, decreased subcutaneous tissue, laterocervical, supraclavicular lymph nodes of about 1.5-2 cm in diameter, in two patients, respectively, the generalized micropolyadenopathy in the third patient, vesicular murmur on pulmonary auscultation, hepatosplenomegaly. All patients had extensive fungal deposits on the oral mucosa. HIV testing was positive in all three patients. The immune status assessment revealed an average of 45 CD4+ T-cells/mm3 and HIV viral load ≥ 50000 copies/ml. Chest X-ray (fibronodular infiltrate in the upper lobe) and bacteriological examination of sputum confirmed infection with Mycobacterium tuberculosis. Biopsy of lymph nodes, performed in two patients confirmed the diagnosis of lymph node tuberculosis. According to the Center of Disease Control classification of HIV / AIDS, the three patients were included in the C3 category. Antiretroviral therapy was initialized after 14 days of tuberculostatic treatment. Patients became afebrile after a period of approximately three months. Conclusions. The three cases support the etiological involvement of HIV infection and pulmonary/lymph node tuberculosis associated with immune deficiency in the prolonged febrile syndrome of unknown origin. Although patients showed suggestive symptoms, suspicion of HIV infection was not included in the plan of diagnosis investigations in other medical units. HIV diagnosis at an advanced stage classifies the three patients, according to the European definition, in the category “late presentation”.

Keywords: fever of unknown origin, tuberculosis, HIV infection

INFECTIVE ENDOCARDITIS. ETIOLOGICAL, CLINICAL AND OUTCOME FEATURES

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Introduction: Despite of all progress made in the management of infectious diseases and cardiovascular pathology, the incidence of infective endocarditis (IE) remains constant when comparing it to the pre-antibiotic era.

The aim of the present study consists in evaluating the clinical, laboratory tests, aetiology and therapeutic features in patients with IE.

Material and method: We have conducted a retrospective study on 30 patients admitted over a period of 2 years (November, 01, 2008 – October, 15, 2010) with definite IE according to the modified Duke criteria. We identified the germs in blood cultures; antibiotic resistance spectrum was assessed in vitro by diffusimetric antibiogram. The following factors have been taken into consideration: aspects regarding the socio-demographic parameters, the presence of co morbidities, predisposing factors, type and position of affected valves, clinical, bacteriological, therapeutic characteristics and the patient’s outcome. Results: The patients’ age was between 19 – 65 years; 18 (60%) were male and 12 (40%) female. 22 patients (73.33%) were diagnosed with certain IE, 8 (26.66%) with possible IE, localized on native valves – aortic valves (40%), mitral valves (40%), prosthetic valves (20%). The aetiology was established in 22 patients (73.33%), being confirmed by positive blood cultures as follows: coagulase-positive Staphylococcus aureus (40%) – CoPSA, coagulase-negative Staphylococcus aureus (10%) – CoNSA, Streptococcus viridans (5%), Streptococcus pyogenes (5%), Enterococcus spp (15%). The antibiotic therapy was prescribed according to the antibiogram in 70%, empirically in 30% of cases. Conclusion: In the studied group, the Staphylococcus aureus held the first place in IE aetiology on native and prosthetic valves. We have also noticed an increased incidence of community-associated methicillin-resistant Staphylococcus aureus (MRSA).Outcome was favourable in 81% cases.

Keywords: infective endocarditis, aetiology, antibiotic therapy

ROMANIAN CONTRIBUTION TO THE INTERNATIONAL STUDY ABOUT PSYCHIATRY TRAINEE BURNOUT SYNDROME

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Physicians are at increased risk for developing certain mental health problems, particularly burnout syndrome and depression, which may lead to drug abuse and suicide. Acknowledged risk factors for burnout syndrome include being a mental health worker, poor professional
experience and younger age. The aim of the BOSS International Study was to put all these and other risk factors together and study their associations. Method: The study started in 2008 and 35 countries from all over the world have joined to participate. Each participant received an e-mail invitation with a link to the BOSS online questionnaire which collects data on demographics, education, working circumstances, and from five psychometric instruments (Maslach Burnout Inventory – MBI-GS, Areas of Worklife Survey, PHQ-9, Big Five Inventory - 10, Suicide Ideation and Behaviour Questionnaire). Seven countries completed the study - Croatia, France, Italy, Hungary, Romania, Japan and UK. Results: Here we will present preliminary data from Romania. The response rate was 69.23%. The gender distribution of responders is similar within psychiatric trainees population 80.6% female and 18.4% male. Mean age 29.91±3.03 years old (min 26, max 42). We found a moderate rate of burnout. The most important factor significant related with the risk of burnout were: low income, bullying or harassment at work place and stalking by patients. Conclusions: Data from different participants revealed marked differences between countries in the factors studied including in working circumstances, rates of burnout and suicidality. The associations discovered may help further improve psychiatric training experience internationally.

Keywords: trainees, psychiatry, burnout, international study

KAPOSI’S SARCOMA IN A FEMALE PATIENT INFECTED WITH HUMAN IMMUNODEFICIENCY VIRUS - CASE REPORT

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Introduction: Kaposi’s sarcoma, the most common cancer associated with infection with Human Immunodeficiency Virus, is a multifocal neoplastic proliferation of endothelial cells predominantly involving skin, but also other organs. Kaposi’s sarcoma associated with infection with Human Immunodeficiency Virus has been rarely reported in female patients. Material and method: a case report was performed using the data of a 20 years old HIV female patient admitted in the 1st Infectious Diseases Clinic of Targu Mures in July 2009 for the appearance of multiple erythematous lesions six weeks before, with rapid cutaneous extension. The patient was known with coinfection with Human Immunodeficiency Virus and Hepatitis B virus since 1998, without antiretroviral therapy since 2002, due to her own decision. Clinical examination on admission revealed numerous painless erythematous papules and plaques of 4-30 mm distributed on the neck, trunk, and lower limbs, poliadenopathy and hepatomegaly. Significant laboratory data included: haemoglobin 11 g/dl, white blood cell count 3490/mmc, AST 45 U/l, ALT 54 U/l, CD4+ T-Lymphocyte count 42/μl; HBs antigen was positive and HBe antigen negative, while IgM and IgG antibodies to Bartonella henselae tested negative. Chest X-ray was negative, electrocardiogram and cardiological examination did not reveal pathological changes. Skin biopsy was performed and the histopathological exam of the sample showed numerous slit like spaces dissecting into the collagens of the upper and mid-dermis along with ‘promontory sign’ suggestive of Kaposi’s sarcoma. Results: Diagnosis: Acquired Immunodeficiency Syndrome stage C3. Kaposi’s sarcoma stage II. Chronic Hepatitis B. Anemia The patient immediately started antiretroviral therapy, chosen as to be efficient both against infection with Human Immunodeficiency Virus and Hepatitis B Virus: Zidovudine + Lamivudine + Ritonavir-boosted Lopinavir + Enfuvirtide. At the 6-month follow-up, the CD4+ T-Lymphocyte level increased to 146/μl and most of the skin lesions had disappeared. Conclusions: Kaposi’s sarcoma may appear even in young female patients with severe immune deficiency. Early stage Kaposi’s sarcoma related to infection with Human Immunodeficiency Virus can be controlled by highly active antiretroviral therapy. Immune restoration lead to the disappearance of skin lesions.

Keywords: Kaposi’s sarcoma, Human Immunodeficiency Virus, female gender.

CRYPTOCOCCAL MENINGITIS IN PATIENTS INFECTED WITH HUMAN IMMUNODEFICIENCY VIRUS

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Introduction: Infection with Cryptococcus neoformans is the most frequent opportunistic infection of the central nervous system in immunocompromized patients infected with Human Immunodeficiency Virus. Purpose: to study the clinical, laboratory and evolutive features of cryptococcal infection. Material and method: we performed a retrospective transversal descriptive study on 26 patients infected with Human Immunodeficiency Virus admitted to Infectious Diseases Clinic I of Tg-Mures over a 5-year period, from 2006 to 2010. We noted the baseline personal characteristics, clinical signs and symptoms, patients’ degree of immune suppression, expressed through the level of CD4+ T-cells, viral load, cerebrospinal fluid alterations and the evolution of infection under antymycotic treatment. Results: The baseline characteristics of our patients included an average age of 19 years and male: female ratio 1.6:1. All patients experienced severe immune suppression, with CD4+ T-lymphocyte levels below 200/cmm, with an average value of CD4+ T-lymphocyte count of 55/cmm, while 37.69% of them had less than 50 CD4+ T-cells/cmm. Average viral load of Human Immunodeficiency Virus was 614,514 c/ml. In 2 cases, meningitis with Cryptococcus neoformans represented the first indicator of infection with Human Immunodeficiency Virus. 3 patients experienced disseminated cryptococosis, as we isolated the fungus from blood stream cultures. One patient diagnosed with meningocencephalitis was reported with Myobacterium tuberculosis / Cryptococcus
neurocysticercosis, intracranian hypertension

THE ACUTE TUBERCULOUS MENINGOENCEPHALITIS-EPIDEMIOLOGICAL AND CLINICAL ASPECTS AT THE IMMUNOCOMPETENT VS. IMMUNODEPRESSED HIV PATIENT

Gîrbovan Cristina, Georgescu Anca, Gîrbovan O., Chiriac Carmen, Țilea Brândușa, Buicu Gabriela, Jimboreanu Gabriela, Incze Andreea, Stoian Adina, Gliga Florina

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The aim of the paper is to evaluate the present epidemiological and clinical data of the tuberculous infection at the SNC level in terms of the patient’s immune status. Material and method. I followed the evolution of two cases of acute tuberculous meningoencephalitis existent in the Infectious Diseases Clinic in Tg Mures, between January and September 2010. The positive diagnosis was established on the typical clinical features, on the analysis of the CSF and, in one of the cases, on the bacteriologic confirmation of the Koch bacillus on Lowenstein environment. Results. Case 1. A 23 years old patient was diagnosed with miliary TB and acute meningoencephalitis. From his hereditary and collateral case history we mention that both of his parents were diagnosed with pulmonary TBC in 1997 and his father again in 2004. The CSF exam at the admission in hospital showed a clear aspect, positive Pandy reaction, pleocytosis with

Keywords: meningitis, Human Immunodeficiency Virus

NEUROCYSTICERCOSIS: CLINICAL ASPECTS AND DIAGNOSING DIFFICULTIES – A CASE STUDY

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Introduction: The cysticercosis, caused by the larval state of Taenia solium, is widely regarded as the most common parasitical disease of the central nervous system worldwide. However this pathology is seldom diagnosed in our geographical area. Goals: Outlining the clinical and radiological particularities and the diagnosing difficulties of a case of cysticercosis. We intend to bring into focus a neuroinfection that is often neglected as an etiological possibility. Material and method: 29 year old female patient from a rural area, living in a low income poor sanitation household, is admitted to our unit with a history of headache, dizziness, double vision. Apparently the onset of the symptoms was gradual starting with headaches followed by eyelid ptosis, diplopia and strabismus. The initial physical exam: normal body temperature, debilitated, pale, conscious, lack of meningeal signs, normal symmetrical deep tendon reflexes, the abdominal cutaneous reflexes were absent, the right eye had very limited movement with double vision being exaggerated by gazing towards the left hand side. Prior to admission a CAT scan of the brain with and without contrast had revealed no anomalies. Results: Contrast enhanced MRI: multiple lesions below and above the tentorium (cortical and subcortical), also in the brain stem (pons and midbrain). The lesions had various sizes ranging from 3 to 21 millimeters, surrounded by edema and enhanced by gadolinium, suggesting an infectious cause – possibly parasitic? The Taenia Sollium antibodies were highly positive, Taenia Echinococcus antibodies negative, HIV negative; no parasites in stools, biologically no inflammatory syndrome. The patient was administered Albendazole 800mg/day for 20 days, Dexamethasone, Carbamazepine with slow gradual improvement. The mobility of the right oculomotor nerve was regained, the headaches diminished in intensity and duration. A second MRI performed 4 weeks later showed significant diminution of the contrast-enhanced lesions. Conclusions: A progressive onset of an intracranial hypertension syndrome combined with nerve paralysis and typical neuroimaging findings is highly suggestive of a parasitic infection of the CNS even in areas where it’s not endemic. A positive diagnosis can be difficult to reach in cases where the symptoms are atypical and good protein immunoblot techniques are not available.

Keywords: neurocysticercosis, intracranian hypertension

THE ACUTE TUBERCULOUS MENINGOENCEPHALITIS-EPIDEMIOLOGICAL AND CLINICAL ASPECTS AT THE IMMUNOCOMPETENT VS. IMMUNODEPRESSED HIV PATIENT

Gîrbovan Cristina, Georgescu Anca, Gîrbovan O., Chiriac Carmen, Țilea Brândușa, Buicu Gabriela, Jimboreanu Gabriela, Incze Andreea, Stoian Adina, Gliga Florina

University of Medicine and Pharmacy Tg-Mureș.

The aim of the paper is to evaluate the present epidemiological and clinical data of the tuberculous infection at the SNC level in terms of the patient’s immune status. Material and method. I followed the evolution of two cases of acute tuberculous meningoencephalitis existent in the Infectious Diseases Clinic in Tg Mures, between January and September 2010. The positive diagnosis was established on the typical clinical features, on the analysis of the CSF and, in one of the cases, on the bacteriologic confirmation of the Koch bacillus on Lowenstein environment. Results. Case 1. A 23 years old patient was diagnosed with miliary TB and acute meningoencephalitis. From his hereditary and collateral case history we mention that both of his parents were diagnosed with pulmonary TBC in 1997 and his father again in 2004. The CSF exam at the admission in hospital showed a clear aspect, positive Pandy reaction, pleocytosis with
1560/3 polymorph lymphocytes, 23 mg/dl glucose, 156 mg/dl protein, CI 113mmol-l. The CSF normalized on the 43rd day under
tuberculostatic therapy, Isoniazid , Rifampin , Ethambutol, Pyrazinamide and depletive therapy. Case 2. A 20 years old patient, known
as infected with HIV stage AIDS C3, without ARV treatment, with HIV encephalopathy, chronic liver disease and pulmonary tuber-
culosis in his medical history, is diagnosed with TB meningoencephalitis, Candida infection of the digestive tract, pneumonia with
Pseudomonas aeruginosa, anemia. The number of TCD4 lymphocytes was 7 cells/ mmc, and the RNA – HIV was 5920 copies/ml.
The lumbar puncture: clear CSF, negative Pandy reaction, absent cellular elements, 41 mg/dl glucose, 31mg/dl protein, positive
BK in the CSF. In spite of the tuberculostatic, depletive and antibacterial treatment, the evolution was unfavorable with death on the
28th day of the admission. Conclusions The infection with Mycobacterium Tuberculosis evolves as secondary neurological determina-
tion, irrespective of the immune status of the host. The clinical evolution is more sever, especially with prolonged or lethal forms on
immunodepressed field.

**Keywords:** acute tuberculous meningoencephalitis, mycobacterium tuberculosis

### EVOLUTIONARY ASPECTS OF HIV - HEPATITIS B VIRUS COINFECTION

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Introduction: the hepatitis B coinfection is frequent in HIV positive patients, due to the same routes of transmission. The aim of
this study is to evaluate and compare the outcome of the HIV infected patients with and without hepatitis B infection. Material and
method: a retrospective chart review was performed using the data of 133 HIV infected patients of the 1st Infectious Diseases Clinic
of Tg. Mureș recorded in 2009. Age, gender, hepatitis B serology, stage of HIV infection, CD4 lymphocyte count, HIV viral load,
transaminases, alkaline phosphatase, lactic dehydrogenase, gammaglutamiltranspherase levels were noted. Fisher’s test, unpaired t-test
and Mann-Whitney test were used for the statistical analysis. Results: 42.85% of the HIV positive patients had hepatitis B infection,
75,43% of these had detectable antigen HBs, and 24,57% had anti HBc antibodies, without antigen HBs. There were no acute
hepatitis B infections in the studied group. The patients were divided into two samples: sample 1: without hepatitis B infection (76
patients), sample 2: with hepatitis B infection (57 patients). The two samples were similar regarding the age and gender of the patients.
No significant differences were noted between samples 1 and 2 (p 0,55) regarding the stage of HIV infection (HIV infected versus
AIDS). The value of transaminases showed statistically significant differences regarding the value of AST (p 0,004). ALT showed no
statistical differences between samples 1 and 2 (p 0,10). There was no statistically significant difference regarding the value of alca-
line phosphatase (p 0,32) and lactic dehydrogenase (p 0,41). The value of gammaglutamiltranspherasers was higher in the hepatitis B
infected patient group (p 0,02). The CD4 lymphocyte count showed no significant differences between samples 1 and 2 (p 0,61).
The HIV viral load was not significantly different in samples 1 and 2 (p 0,07). The rate of viral load below 400 copies/ml showed no
statistically significant differences between the two samples (p 0,28). Conclusions: There is a high rate of chronicisation of hepatitis B
infection in the HIV infected patients. In our study the hepatitis B coinfection did not alter the outcome of HIV infection. This can
be explained by the fact that the antiretroviral therapy of the hepatitis B coinfected HIV positive patients contained drugs active on
the hepatitis B virus, according to the recommendation of the guidelines, which should be followed.

**Keywords:** HIV, hepatitis B, outcome

### CLINICAL AND IMAGING ISSUES OF INTERNAL CAROTID

**ARTERY HYPOPLASIA – CLINICAL CASE**

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Introduction: Internal carotid artery (ICA) hypoplasia is a rare anomaly. Hypoplasia may be uni- or bilateral, and patient age may be
between 2 and 71 years. Hypoplasia is frequently associated with cerebral aneurysms and various abnormalities of Willis polygon. Mat-
terial and methods: We present the case of a 34-year-old female patient with fertility problems, hypertension, diabetes, dyslipidemia,
with recurrent paralysis of cranial nerves and a history of antiphospholipid syndrome. Initial neurological examination noted a right
VI nerve paresis, right hearing loss, Rossner positive sign on the left side, without other pathological pyramidal signs. Laboratory ex-
aminations were within normal limits, except the following evidence: triglycerides: 182,6 mg/dl, glucose: 146 mg/dl, ANA: 28,7 UI/
ml, anticardiolipin antibodies: IgG 21.2 UI/ml. For the accurate diagnosis, the following examinations were performed: Doppler ultrasound of carotid and vertebral arteries, computed tomography (CT) – angiography and angiography. Results: Doppler ultrasound, CT-angiography and angiography revealed hypoplasia of the left ICA, along the whole length of the artery, and stenosis of the intracranial segment. No abnormalities or cerebral aneurysms were revealed. Conclusions: Hypoplasia diagnosis can be supported on non-invasive investigations. Hypoplasia must be differentiated from vasculitis, fibromuscular dysplasia or carotid dissection. It requires a periodic neuroimaging review to demonstrate that the initially observed changes have remained constant. It is important to recognize this dysgenesis, as well as identifying patients with such congenital anomalies, who at risk of developing cerebrovascular events.

Keywords: internal carotid artery, hypoplasia

TEENAGE-CONSCIOUSNESS AND SELF-IMAGE

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Introduction: Adolescence involves a profound change in the value system, many researchers have noted the critical nature of identity itself, highlighting particular concerns for their looks. During this period, any disharmony (real or imaginary) can generate a spiritual drama. Purpose: peculiarities of self-image in adolescents compared to young adults, assuming that teens have a tendency of selfdepreciation. Methods: Study performed on 20 X-class teenagers and 20 young adults (students) who were administered the questionnaire for self-image, with 40 items. They were explained which were the aims of the test, how they should record the answer depending on self-assessment scale with five levels, where value 1 represents total disagreement and 5 total agreement with the statements in the text. They were asked to be frank and were assured of confidentiality of responses. Results: We found teens and highly significant positive correlations between physical and social image (p=0.001), gender and social image of the image (p=0.009), gender and profession image (p=0.001), age and psychological image (p=0.001), age and social image of the image (p=0.005), national image and social image (p=0.007), and image of subsidiary age, occupation, psychological, national (p=0.001); with young adults we have found significant positive correlations between the physical image and age (p = 0.003), age and social image of the image (p = 0.005). In comparing averages obtained by teenagers and young adults have found significant statistical differences at two of the eight aspects, namely: professional image (p=0.03), and the branch image(p=0.01). Conclusions: The self-image of adolescents consisted of six common elements with the six young adults, namely: physical image, gender, age, psychological image, social and national image, highlighting profiles which very similar to young adults, with the difference that for adolescents the values for each were less variable. This finding allows us to say that these two groups had similar self-image structures in their essence. Teens 15-16 years showed a maturity level close to that of young adults in self-assessment on all eight dimensions of self-image.

Keywords: teenage, self image

BIOGRAPHICAL INTERFERENCES IN THE ETHIOLOGY OF BORDERLINE PERSONALITY DISORDER. CASE REPORT

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Introduction: Despite the recent data supporting major biologic and genetic contribution in the development of Borderline Personality Disorder (BPD), environmental factors are playing a significant role in the etiolojy of this disease. Many investigators seeking to understand the etiology of BPD have explored the impact of early childhood losses or separations, inadequate parental involvement, abuse, neglect and disturbed or chaotic home environments. Case report: This paper describes our experience caring for a young woman of 21 years old diagnosed with type II BPD. Her life history revealed both negative experiences in early childhood and adolescence. Her natural parents divorced when she was 2 years old and her mother married with the one she actually call father. In childhood he was frequently beaten, humiliated, neglected and emotionally abused by her own mother and at age 6 she was sexually abused by an uncle. Pathological internalization of the mother, its absence in adolescence, chronic intra-familial relationship conflict have led to disharmony of her personality structure. The central features of her clinical portrait are affective ability, serious identity and sexual disturbances, intense, unstable relationships that shift between idealization and devaluation, intense fear of abandonment, alcohol abuse. She self-mutilated her frequently as a manner to express her rage against parents and had many suicide attempts when she was worried about being abandoned. She has been hospitalized 3 times for Major depressive episodes and suicide attempts. She also reports psychotic experience when she found her own grandfather hung up. At the age of 19 she fell in love and started a relationship with a woman older than her. It is useful to mention that he had failed a previous relationship with a man, and in all relationships she oscillated between dependency and intolerance, being in a continual pursuit of the “ideal mother”. Due to fear of abandonment she had different behavior problems: he lied, stole, prostituted to keep her relation and she ended up with serious identity problems.
This patient came to our ambulatory complaining that her dependency in this relationship has become intolerable. We focused our treatment on providing a secure space for the patient to discuss about her relationships, about how to integrate her emotions and her self-destructive response to them. It was quite difficult to construct an appropriate therapeutically relation and to work together to a treatment algorithm. Conclusions: Even environmental theories have been surpassed in our days by the genetic and brain damage studies, it is important to reconsider childhood maltreatment or pathological child-parental interaction as a significant risk factor. Studies that integrate abuse history with neuroanatomical investigations will lead us to understand better the impact of abuse on biological system and the clinical or phenotypic expression of those systems.

**Keywords:** borderline personality disorder, etiology, environmental factors

### THE EFFECTS OF MEDICAL STUDIES ON MISCONCEPTIONS ABOUT SCHIZOPHRENIA

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Schizophrenia is a severe psychotic disease defined by symptoms like: delusions, hallucinations, disorganized speech, disorganized or catatonic behaviour, flattening of affect or lack of motivation, and cognitive deficits may evolve in the course of time. Stigma is related with schizophrenia because of misconception in general public and health care system. Aims: This study assess the level of general knowledge and believes about schizophrenia among the medical students before and after studying psychiatry, in the conditions imposed by the misconceptions of the Romanian contemporary society. Methods: We applied a questionnaire made up of 23 questions having as a purpose the assessment of the general knowledge and believes about schizophrenia. A number of 200 students were questioned, all of them attending the University of Medicine and being in the 3rd year in 2007, before studying psychiatry. In 2010 after the course of psychiatry and the practice in a hospital for mental diseases the same questionnaire was applied to the same 200 students in the 6th year. Then we’ve done analogies between the results from 2007 and the results from 2010. Results: The response rate of the complete questionnaire is more than 80%, similar within 2007 (89%). The results show the statistical significative changes (P≤0.05) in some items concerning misconceptions, due to undergraduate training in psychiatry. Conclusions: In 2007 this study underlined the presence of misconceptions associated with patients with schizophrenia between medical students and now after practice in psychiatric units and the personal interaction with patients with mental illness some of them changed their believes. The results could be used for improve the training system and for elaborate a concrete plan for fighting against stigma of this psychiatric disease.

**Keywords:** schizophrenia, delusions, hallucinations

### DISSECTION OF THE CERVICO-CEREBRAL ARTERIES - ULTRASONOGRAPHIC CHARACTERISTICS

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Dissection of the cervical and cerebral arteries is an infrequent condition but represents the leading cause of non-atherosclerotic stroke in young adults. The diagnosis can be difficult as the presentation may be variable. Is more frequent in the extracranial part of the cervical vessels due to the higher mobility of these segments. The ultrasound (US) examination is the first diagnostic procedure, because is non invasive and informative. The aim of this study was to analyse the ultrasonographical characteristics of the cervico-cerebral artery dissections (CCAD). Patients and methods: We analysed 7 consecutive cases of CCAD examined in the Ultrasound Laboratory of Neurology Clinic I. Tg. Mureş over a 3-year period. The mean age of the patients was 39,5±13,3 (min. 24, max. 60), the male/female ratio: 3/4. Results: In 4 cases the diagnosis was established based on the ultrasound findings, in 2 cases was confirmed by angiography and in one case by MRI angiography. In 3 cases the CCAD occurred at the level of the proximal internal carotid artery (ICA), in 2 cases at distal ICA, in one case the common carotid artery and one case the proximal part of the vertebral artery. The most frequent ultrasound finding suggestive for CCAD was the hyperechogenic wall haematoma (mural haematoma) (3 cases). The hyperechogenic intimal flap occurred in 2 cases, the classical double lumen (false lumen) only in one case. In two cases the ultrasound examination revealed only indirect signs of distal ICA occlusion. In one case the ultrasound findings were not suggestive for ICA dissection, the diagnosis was confirmed based on the angiography findings. Conclusions: Color duplex ultrasound examination is an important diagnostic method in the diagnosis of CCAD with good sensitivity and specificity. The most frequent ultrasound finding in CCAD is the hypoechogenic mural haematoma. In patients with suspected CAD and negative US, repeated US examinations and further diagnostic imaging, as angiography, MRI, MRI angiography must be performed.

**Keywords:** dissection, hypoechogenic wall haematoma, angiography
Surgical Pathology I.

The Laparoscopic Approach of Polycystic Hepatic Disease Complications. Case Report

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The isolated polycystic hepatic disease is unusual, with dominant autosomal transmission. It’s defined by the presence of many cysts into the hepatic tissue with benign evolution. We present the case of 80 years old man with huge polycystic hepatic disease diagnosed three years ago using ultrasounds and computed tomography. The patient’s course is complicated by the appearance of some symptoms due to the compression of the tumoral mass on the neighboring tissues. The abdominal pains, nosia, vomiting, weight loss were the most important symptoms of the patient. The cysts’ opening using the laparoscopic technique was the only curative treatment with the regression of all the symptoms. The patient was discharged after six days of hospitalization, after the drainage removal. Conclusions: The polycystic hepatic disease is uncommon. The patients have the benefits of laparoscopic surgery: The laparoscopic approach is a very good alternative to the open surgery.

Keywords: hepatic cysts, laparoscopic approach

Laparoscopic Colorectal Resections: A Five-Years Experience

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The aim of this study was to assess the influence of the learning curve on the use of laparoscopic approach in colorectal surgery, with special emphasis on the conversion and complication rates. Material and methods: From 727 colorectal resections performed in five years, 304 were laparoscopic (42.2%). The mean age of patients was 66 (35-93) years. Calculations were made for five equal periods (Year I-V). Results: The number and rate of laparoscopically performed procedures was 26 (18%) in Year I, 39 (28%) in Year II, 32 (29%) in Year III, 87 (57%) in Year IV and 120 (62%) in Year V. The rate of conversions was 30%, 21%, 13%, 9% and 7% respective-ly. Two „high volume” surgeons performed 225 procedures with 12% conversion rate, 5 other surgeons performed 79 operations, 23% converted. The rate of laparoscopic approach for the individual surgeons varied from 0 to 83 %. Severe intraoperative complications occurred in 1,6% of cases (2 bowel perforations 1 urinary bladder and 2 ureteral lesions). The mortality rate was 0,9%. Conclusions: Laparoscopic approach in colorectal surgery is rapidly increasing with experience, while conversion rate decreases with the learning curve. Conversion rate is lower for high-volume surgeons. Mortality and complication rates are similar to those of conventional tech-nique. Laparoscopic technique should become the “gold standard” in centers with special interest in colorectal surgery.

Asymptomatic Ischemic Pancreatitis in Shock

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In shock due to severe hypoperfusion in the splanchnic territory, the pancreas suffers along with the other mesenteric organs. Several authors (Warshaw and O’Hara in 1978, Reilly and Toung in 1997, Sakorafas and Tsiotos in 2000) have demonstrated the existence of severe pancreatic lesions in patients who had experienced severe and prolonged hypotension. The aim of our work is to study the histological structure of the pancreas in patients dying from shock (cardiogenic, septic, hypovolemic) in order to demonstrate the presence and severity of pancreatic injury. Material and methods: We performed a retrospective study which included patients who died and who were autopsied after cardiogenic, hypovolemic or septic shock, hospitalized in intensive care unit and in the coronary care unit of the Emergency Institute for Cardiovascular Diseases and Transplantation and the University Emergency County Hospital Tg-Mures, between 2007-2009. We included the patients with known pancreatic diseases. For those included in the study we performed histological and immunohistochemical examinations to determine the severity of pancreatic injury caused by hypoperfusion / ischemia. Results and discussion: There were 204 patients included in our study. In 35 cases we observed steatonecrosis and acute hemorrhagic pancreatic necrosis. These severe injuries were more common in patients with cardiogenic shock, in which large doses of vasoconstrictors were used for maintaining the cardiac output and blood pressure, which probably have accentuated the splanchnic
**THE TELEMEDICINE SYSTEM – AN IMPORTANT STEP IN THE DEVELOPMENT OF THE EMERGENCY CARE IN ROMANIA**

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Background. As a developing country, Romania has struggled over the last twenty years to improve the quality of emergency medical services available to its geographically dispersed population. Romania was an early adopter of the specialty of emergency medicine in continental Europe, and emergency medicine has been a recognized medical specialty since 1994. The duration of the emergency medicine residency program is five years. Unfortunately, despite the rapid growth of the specialty, the number of board certified, residency trained emergency physicians remains far too small to staff many of the emergency departments throughout the country. This necessitates that the majority of emergency medical care outside of most of the major urban centers is provided by physicians with limited emergency medical training. Material and method. In an effort to address these issues, in 2008 a 1,000,000 Euro grant was obtained from the World Bank to fund a telemedicine pilot project in Targu Mures. The network created by this telemedicine project links Targu Mures Emergency Hospital’s emergency department with six large county hospitals and 36 smaller local hospitals in the seven counties surrounding Targu Mures. The goal of the system is to provide the outlying hospitals’ emergency department physicians ready access to consultation with trained emergency physicians with significant experience in assessing the necessity for aeromedical or ground transport. The consultations are immediate, with both the central and remote stations having video and audio capabilities. Results. The system went on-line on August 14, 2009. In the first year of operation there were 255 calls made to the Targu Mures telemedicine command control room. Of the 255 patients evaluated by the telemedicine system, a total of 216 were transferred to facilities with a higher level of care. A total of two hundred patients were transferred to one of the three major regional centers with the highest level of available care, while the remaining 16 patients were sent to county or local hospitals. A total of 39 patients were not transferred from the referring facilities, although two of these cases were thought to require transport by the consulting emergency physician but the patients involved subsequently refused transfer. Of the 216 patients transferred, 166 were moved via ambulance and 50 were transported by helicopter. Thirty percent (77/255) of the referred cases were trauma patients, the remaining 70% were all medical cases. Only 6% (15/255) of referred cases involved pediatric patients, while 64% (163/255) of patients were male. Conclusions. We believe that the kind of telemedicine system created in Targu Mures may potentially serve as a model for other countries or regions that are actively developing and enlarging the reach of their emergency medical services.

**Keywords:** emergency medicine, telemedicine

**LAPAROSCOPIC FENESTRATION FOR PATIENT WITH RECURRENT HEPATIC CYST AFTER OPENED SURGERY-CASE REPORT**

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Introduction: Congenital liver cyst is commonly seen in the general population, with an incidence of 5%. It is characterized by a sharp rise in incidence with age. The rates of cyst recurrence and symptom recurrence are 4.5% to 25%, respectively 9%. Aim: We present a laparoscopic fenestration of a clinical case with recurred simple hepatic cyst, which performed opened surgery six years ago. Materials and methods: Female patient, aged 68 years, operated six years ago by opened surgery, who underwent partial cystectomy by Kocher approach, returns with right upper quadrant pain and anemic syndrome. Imaging examinations showed the presence of nonparazitar recurrent cyst, located in right hepatic lobe, paramedian measurement 55 cm. We performed laparoscopic fenestration and drainage of residual cavity by Lin technique (unroofing of liver cysts) and placement of an omental transpositional flap onto the cyst cavity (Emmerson procedure). Results: The surgery lasted 25 minutes, because of postoperative adherence syndrome. The patient was discharged 5 days postoperatively without complications. Conclusions: Expertise in both liver as well as laparoscopic surgery is required to determine whether laparoscopic treatment is suitable or adequate with regards to the cyst type, size and location. We feel that laparoscopic wide cyst unroofing is a feasible, advantageous and possibly preferred method in the surgical treatment of symptomatic liver cyst even they are recurrent.
INTRODUCTION: Terlipressin, a synthetic analogue of vasopressin that has a longer biological activity and significantly fewer side effects, is effective in controlling acute variceal hemorrhage and has been associated with a decreased mortality. Aim: The study tries to demonstrate the usefulness of terlipressin in the treatment of portal hypertenion and variceal bleeding at the same time, its effectiveness in other bleeding in the splahnicca area. Materials and methods: We analyzed 14 patients admitted in Surgery Department with various diagnoses in a period of 10 months who received Terlipressin in order to stop an upper gastrointestinal bleeding of various etiologies (variceal, neoplastic, ulcerative, hemorrhagic gastropathy, acute severe pancreatitis). Results: From all cases, 10 patients had liver cirrhosis (ethanol, viral, mixed), four patients presenting other causes of upper digestive hemorrhage (inoperable gastric neoplasia, duodenal bleeding ulcer, acute necrotic hemorrhagic pancreatitis, hemorrhagic gastropathy). Survival after the bleeding episode was in 9 cases, all patients benefit from pharmacological therapy with Terlipressin, in the initial dose of 4 mg intravenously, followed at 4 minutes of repeated administration and it continued at intervals of 4-6 hours to control bleeding. Conclusions: Terlipressin should be considered to be effective in the treatment of acute variceal hemorrhage. Further, since no other vasoactive agent has been shown to reduce mortality in single studies or meta-analyses, terlipressin might be the vasoactive agent of choice in acute variceal bleeding.

Keywords: terlipressin, acute variceal bleeding, portal hypertension

RARE LOCALISATION OF HYDATID DISEASE – CASE REPORT

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Cystic echinococcosis is a zoonotic infection caused by the parasite Echinococcus granulosus. The liver and lungs are the most commonly affected organs. Hydatid disease of the breast is extremely rare, but should be included in the differential diagnosis for breast masses. We present the case of a 78 years woman who presented in Surgery Clinic I, Tîrgu-Mures with a breast tumor which invaded the great pectoral muscle, suggesting breast cancer. Although the clinical exam and imaging methods – mammary ultrasonography and mammography indicated a malign tumor, intraoperative aspect came as a surprise. Operative findings revealed two cystic lesions with multiple daughter cysts in the left breast, one of them extending into the pectoral muscle. The diagnosis of hydatid disease was confirmed by the histopathological examination. In this case the breast was the primary site and not part of disseminated hydatidosis.

Keywords: hydatid disease, cystic echinococcosis, disseminated hydatidosis

THE THERAPEUTIC ATTITUDE FOR THE SURGICAL TREATMENT OF LUNG CANCER, THE EXPERIENCE OF THE 1st SURGICAL CLINIC, TG. MUREŞ

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Introduction: Lung cancer is one of the most aggressive forms of malignancy, its incidence increased alarmingly in recent years. Despite aggressive treatment, survival rates have not changed. Material and Methods: Our study is a retrospective observational study conducted over a period of five years. We enrolled in the study patients with lung tumor diagnosis that were hospitalized and received surgical treatment in our clinic. The study was conducted based on observation chart of these patients. Results: From 01.01.2005 to 01.10.2010 in our clinic were hospitalized and operated 228 patients with lung tumors. Of the total patients, 193 (84.64%) were smokers, and most are male 185 (81.14%). We practiced 42 (18.42%) pneumectomies, 67 (29.39%) lobectomies, 66 (28.94%) wedge resections and 53 (23.24%) exploring thoracotomies. In our study, there were 6 cases (5.5%) of bronchial fistulas after lung resection. There were no early postoperative fistulas, all cases of fistula presenting late. Overall morbidity was 7.89% (18 patients) in-hospital mortality rate was 3.94% (9 deaths). Conclusions: Pulmonary resections still remain surgical interventions with high rate of morbidity and mortality. Postoperative morbidity and mortality rate is closely related to associate pathology, especially the cardio-

Keywords: congenital liver cyst, laparoscopic fenestration, omental transpositional flap
vascular diseases and stage of pulmonary disease.

**Keywords:** lung cancer, pulmonary restrictions

### ABDOMINAL HYDATIC CYST WITH MULTIPLE LOCALIZATION – CASE REPORT

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Aim. The hydatic cyst or echinococce is a parasitosis that has been known since Hypocrates times and it is determined by the vesicle tumoural development of the Taenia echinococcus granulosus larva. The growth of the larva leads to the apparition of the subjective or the objective signs such as: loss of work capacity, aches and even certain local distortions due to its volume. Other manifestations depend on the reaction of organ where the parasite places itself. Localization: 50-70 % hepatic, 30 % in the lungs, 2-12 % in the spleen, 2-7 % renal, 2-5 % muscular, 1-2 % cerebral, 05-3 % osseous, 0,8-0,9 % medullary, 1-2 % intraorbital, 0,5-2 % cardiovascular, 0,2-3 % pancreatic, 0,2-0,3 % pelvigenital. Material and method. We are now presenting the case of a 40 year old male, hospitalized at the Surgical Clinic I due to pains in the superior abdominal level, queasy and abdominal flatulence. The clinical examination shows a tumoural formation of approximately 7 cm located in the right hipocondrus, cystic consistency, fixed regular painful surface, oversized spleen. During the sonography we were able to observe an impure transonic image of the V-VI hepatic segment with proligeru tunics of 76/54 mm (hydatic cyst), image with a similar daughter structure of 120/111 mm, situated in the interspleen–renal region, without the capacity to specify to which organ it belongs to (spleen or kidneys). A bisubcostal laparatomy was applied as well as a splenectomy, a Mabbit-Lagrot cysto-pericystomy, drainage of the spleen lodge and the remained cavity. The postoperatory evolution of the patient is favorable, the patient is released from the hospital nine days after the surgery. Conclusions. The hydatic cyst is a disease with varied localizations that can cause difficulties in diagnosing due to its asymptomatic character from the incipient period. The extrahepatic localization of the hydatic cyst may represent an interoperative surprise entering the differential diagnosis of the tumoural cystic formations of the intraabdominal organs.

**Keywords:** parasitosis, sonography, hydatid cyst

### MAJOR HEPATIC TRAUMA


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Introduction. Abdominal traumas are a major cause of death and morbidity among population. Although not very common, 17-18% of all injuries, identifying major intra-abdominal injuries is difficult, the clinical manifestation of lesions often appears late or masked by the association of other injuries. The liver is the most frequently injured solid organ in the abdomen. The overall mortality of liver trauma is approximately 10%. Blunt injuries are usually more complex and result in mortality approaching 25%. Most deaths occur in first 48 hours from shock and transfusion-related coagulopathies. Aim. The study analyzed mortality, the type of treatment for high-grade liver injuries (> 3), correlated with index severity score (ISS). Materials and methods. This paper studies a group of 82 patients with hepatic traumas from 820 abdominal traumas hospitalised in Surgical Clinic I of Tg. Mures in the period 2000-2009, analyzing the mechanisms of production, the methods of diagnosis and treatment, the single or multiple organic damage and their influence on morbidity and mortality. Results. Most liver injuries (93% of cases) were contusions, caused by accidents or falls to another level. Major liver trauma were recorded in 37.80% of cases. In this group the average ISS ranged between 32.12 and 75 with an average of 48.32. The mortality ranging between 12.5 and 100% (mean mortality 48%) was higher than overall mortality in studied liver trauma (20.7%). Conclusions. The study analyzed mortality, the type of treatment for high-grade liver injuries (grade III or greater) required advanced hemostatic techniques. In the face of extensive hepatic injury and massive hemorrhage, the initial management of complex hepatic injuries should be the damage control. Mortality of major hepatic trauma is related to the grade of liver trauma and value of ISS.

**Keywords:** complex hepatic trauma, ISS, mortality

### THE THERAPEUTIC APPROACH AND EXPERIENCE OF THE 1ST SURGICAL CLINIC IN THE TREATMENT OF THE ADVANCED GASTRIC NEOPLASM


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Aim. This is a retrospective study, on 31 years, based on the data obtained from the primary records and represents the experience of the Surgical Clinic I in the surgical treatment of the gastric neoplasm. Material and methods. During the period we have studied, in the Surgical Clinic I were performed 1813 surgical interventions for gastric cancers, from which 282 multivisceral resections. 1295 cases (70.26%) were male patients and 518 cases female patients (29.74%). The main age decade was the 6th, followed by the 5th. Histopathologically, the majority were adenocarcinomas (55.29%), the most frequently location was the body of the stomach. The associated resections were represented mostly by splenectomies. Results. The postoperative outcome was favorable in most cases, with morbidity around 34%, and mortality around 8%. Conclusions. The gastric neoplasm is an up to date topic, the type of resection and association of the multivisceral resections improve significantly the quality of life and don’t modify evidently the long term survival.

Keywords: neoplasm, splenectomy, gastrectomy

THE ASSOCIATION BETWEEN BENIGN BREAST DISEASES AND BREAST CANCER

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Aim. To investigate if fibrocystic mastopathy is responsible for the increased risk of breast cancer. Background. The relation between the benign mastopathies and breast cancer is essential. A possible responsibility for the increased risk of breast cancer is set at two levels: either as a ground marker predisposing the breast cancer, or as pre-cancerous histological lesions. Difficult differential diagnosis of benign proliferative breast lesion and carcinoma led to the idea of sequency between the two: cancer does not initiate on normal mammary epithelia; it takes several proliferative stages for it to occur. Methods. In order to accomplish this study we analyzed the histopathological results during a period of 10 years (between 1996 and 2005) of the breast pieces of resection. Those exams came from patients who were operated for benign or malignant diseases of the breast. Results. There were 1373 surgical intervention. 582 cases were practiced as breast cancer and 599 cased as fibrocystic mastopathie. In 232 cases we observed a strong relation between proliferative fibrocystic mastopathy and the functional one. The age distribution of the breast cancer and fibrocystic mastopathy indicate that the breast cancer is more frequent in the 5th and 6th decade or after 60 years, and the fibrocystic mastopathy is more frequent between 30 and 50 years. The women between 40 and 60 years presented a good association between breast cancer and fibrocystic mastopathy. From the anatomico-pathological point of view the most frequent type of lesion was the infiltrating ductal carcinoma (59,7%), followed by the infiltrating lobular carcinoma (14,4%) and the intraductal carcinoma associated with infiltrating ductal carcinoma (11,4%). The lowest rate was represented by the papillary carcinoma and apocrine carcinoma. Conclusions. We noticed that in the cases in which there is an association between the breast cancer and fibrocystic mastopathies, the most frequent kind of lesion is the association between intraductal infiltrating breast carcinoma and proliferative fibrocystic mastopathy (73,7%), followed by intralobular infiltrating breast carcinoma associated with functional mastopathy (22,8%). We accomplished this study because there are arguments that support the hypothesis that the fibrocystic mastopathie is responsible for the increased risk for breast cancer.

Keywords: fibrocystic breast disease, breast cancer, epithelial hyperplasia.

COMBINED ABDOMINAL AND PELVIC INJURIES AFTER HIGH ENERGY TRAUMA – RETROSPECTIVE STUDY

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Background: combined abdominal (AT) and pelvic (PT) trauma in the multiply traumatized patient (MT) requires optimal clinical management. Aims: to assess the combined abdominal and pelvic injuries following high energy trauma. Method: from 1 January 2000 until 31 December 2009, 736 multiply injured patients were admitted in the 2nd Surgical Clinic Tg-Mureş. Results: in this population, AT which needed surgical interventions was diagnosed at 191 patients (25,9%), and at 20 patients (2,7%) a combined AT and PT was observed. In the most frequent cases the trauma was caused by motor vehicle accident, agression, and fall from great height. The AT was predominantly treated with splenectomies, resections and suturing of the intestine. The pelvic fractures was treated by surgical stabilisation in 6 cases and in the remaining 14 cases was treated conservatively. Mean age of these patients with combined abdominal and pelvic trauma was 39 years, the ISS was 28 points and mortality was 15%. Conclusion: combination of AT and PT is a complex injury pattern, in which damage control management is effective. Intra-abdominal injuries are operated prior to pelvic injuries, and control of bleeding, and decontamination have the highest priority. Retroperitoneal hematoma, which appears frequently in pelvic fractures require haemodynamic monitoring and conservative treatment.

Keywords: abdominal and pelvic injuries, trauma, damage control.
STUDY ON THE EMERGENCY DEPARTMENT RESUSCITATION TEAMS ACTIVITY IN THE CLINICAL EMERGENCY COUNTY HOSPITAL DEPARTMENTS FROM TARGU MURES, ROMANIA, IN 2009

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Background: The resuscitation team from the ED is called to resuscitate patients in cardiac arrest, hospitalized in different departments. Methods: We conducted a prospective study between 01.01-31.12.2009, to evaluate the role of the resuscitation team. We performed resuscitation for all the cases and we filled in a special chart. For the medical statistics we used the SPSS program version 17, non-parametric, X2 tests and p values to compare data. Results: We had 110 calls for cardiac arrest. The average time of arrival in the department was 3 minutes. A number of 54 (49,1%) cases were resuscitated successfully and transported to ICU. There was a high incidence of calls in the cold months 14, 5%, and 4, 5% in summer. The age of the patients was: 60-70 years 28, 2%, 70-80 years 23, 6%, 30-40 years 2, 75%; we noticed a higher incidence (52, 7%) in males and during the day shift (61, 8%). The departments asking for help were: Internal Medicine 50%, Surgery 17, 3%, Neurology 10%, Neurosurgery 1, 8%, Gynecology, Pediatrics 0,6%, etc. The diagnosis were: acute respiratory failure 17,3% equal with malignant tumors, ischemic stroke 10,9%, kidney failure 10%, liver failure 8,2%, complications after surgery 7,2%, acute coronary syndrome 6,4%, sepsis and heart failure each 4,5%. A number of 70, 9% of the patients were in asystole, 16, 4% in PEA and 12, 7% in VF . BLS was performed, before the teams arrival at 40, 1% cases but just in 32% of this cases, ventilation on bag was done together with the chest compressions. We didn’t notice any significant relation between the results and the BLS done by the hospitals staff (p=0,761), the type of department (p=0,399), only pupils size (normal and reactive) was connected to a better outcome (p=0,038). The good immediate resuscitation results were not followed by a late positive outcome, just 2 patients were discharged from the hospital (average time in ICU 4, 2 days). Conclusions: Calls in hospital for cardiac arrest should be done according to the do not resuscitate criterias. The staff in the hospital should be better trained in resuscitation. Resuscitation performed to all patients, without clear indications, might have a good immediate response but a sad late outcome.

Keywords: inhospital resuscitation

CONVERSION TO OPEN REPAIR AFTER ENDOVASCULAR ANEURYSM REPAIR- CASE REPORT

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Introduction: Since the first successful endovascular treatment of an abdominal aortic aneurysm, in 1991, this procedure is performed with an increasing frequency. This minimally invasive approach is indicated especially in patients with high-risk for open repair. However, there are some early and delayed failures leading to primary or secondary conversion to open repair. Matheral and method: We present the case of a 75 old patient admitted in our clinic last year, who required late conversion to open repair after EVAR, for a type III endoleak. Result: Aortic reconstruction used prosthetic material wrapped around the original stent graft. Operative risk may be considered higher than in a primary open repair. Conclusions: Clinical trials still evaluate EVAR vs. Open repair. Open repair is the only answer when facing the endovascular technique’s complications.

Keywords: aneurysm, endovascular, aortic reconstruction

THE EXPERIENCE OF THE 1ST SURGICAL CLINIC IN THE MINIMALLY INVASIVE TREATMENT OF HIATUS HERNIAS

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Aim. Since the first laparoscopic fundoplication, performed almost 20 years ago by Dallemagne, the minimally invasive treatment of hiatus hernias pushed itself through the therapeutic arsenal of this disease, becoming progressively the standard method for the surgical treatment of the cases that cannot be approached with medication. The aim of this study is the analysis of the cases of hiatus hernias treated by minimally invasive methods in the 1st Surgical Clinic Târgu Mureș. Material and method. Between 2006 and 2010, in the 1st Surgical Clinic, 52 cases of hiatus hernia were operated, from which 5 cases were minimally invasive approaches. Most of the cases were sliding hernias, the patients' symptoms at presentation being caused by the gastro esophageal reflux. Results. From the total number of cases managed laparoscopically, in only one case we had to convert the operation and perform it classically due to the great size of the hernia and the tight adhesions of the herniated stomach. No major intraoperative accidents were recorded. Postoperative outcome was favorable, the mean hospital stay was no longer than 3 days. Conclusions. The minimally invasive approach deserves its front place in the surgical treatment of the hiatus hernias, because after performing the learning curve, it doesn't rise any special techni-
cal difficulties compared to the classical approach, also having all the advantages of the minimally invasive operations.

Keywords: hiatus hernias, laparoscopic fundoplication, gastroesophageal reflux

SENTINEL LYMPH NODE MAPPING IN COLORECTAL CANCER IN THE SECOND SURGICAL DEPARTMENT TG-MURES

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Background. Colorectal cancer is the most common malignant tumor of digestive tract with high mortality due to local recurrences and metastases. These are due to micrometastases undetected by classical microscopic examination of regional lymph nodes. Sentinel lymph node technique in colorectal cancer may lead to identification of micrometastases using immunohistochemistry. Aim. To assess the importance of the sentinel lymph node in colorectal cancer. Methods. We performed an observational descriptive retrospective study on 52 patients submitted to colorectal surgery. We present our experience in sentinel lymph node mapping in colorectal cancer using a lymphofil dye, on 52 patients. We present the patients selection criteria in the study, the technique of sentinel lymph node detection. Results. Identification of sentinel lymph node was performed in 48 cases, it failed in 4 cases. In 27 cases, 1 sentinel lymph node was identified, in 21 cases 2 sentinel lymph nodes were found. In 4 cases the sentinel lymph nodes were false negative. In 30 cases sentinel lymph nodes were negative on histopathology and immunohistochemistry. In 14 cases, sentinel lymph nodes were positive, 4 cases presented micrometastases confirmed only by immunohistochemical methods. Conclusions. Sentinel lymph node technique in colorectal cancer doesn’t change the surgical approach regarding the regional lymphadenectomy; can modify the tumor stadialization by detecting lymph nodes micrometastases; increase the number of patients who can benefit from the adjuvant chemotherapy and therefore, it may improve the prognosis.

Keywords: colorectal cancer, sentinel lymph node, micrometastases.

RENAral ARTERy ThromBOSIS – RARE CAUSE OF ACUTE ABDOMEN. CASE REPORT

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Introduction. Renal artery thrombosis may complicate severe aortic and renal arterial atherosclerosis and may precipitate heart failure, marked hypertension and renal failure. Although often totally asymptomatic renal artery stenosis should be considered in an elderly patient with a sudden onset of hypertension, unexplained hypokalemia or an unexplained increase in blood urea nitrogen or creatinine. Symptoms may vary from mild back pain, decrease in urine output, hematuria to severe abdominal pain from acute abdomen. Abdominal ultrasound with color Doppler imaging and renal angioscan are the main diagnostic methods. Material and method. Our study presents the clinical case of a 62 years old woman with onset of acute abdomen symptoms at presentation. The imaging examinations revealed the presence of a left renal artery occlusion. A stent angioplasty was performed the day after presentation with complete repermeabilisation of the renal artery. There are presented images during surgical intervention, the comments following to underline characteristic feature of this case.

Keywords: renal artery thrombosis, acute abdomen

THE RISK OF APARITION AND COMPLICATIONS OF HEPATIC HYDATID CYST RESIDUAL CAVITY IN THE 1-ST SURGICAL CLINIC TARGU-MURES

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Hydatid cyst is caused by a parasite class Cestoda, called Taenia Echinococcus and its location is done predominantly into the liver (55-60%). It most often affects young people, socio-professional active from endemic areas, especially in rural areas. The purpose of this study is to highlight the population groups at risk of liver hydatid infection, the degree of liver damage, complications (intra-and postoperative) of the residual cavity and the ways of solving them. These issues were highlighted into a study conducted in the 1-st Surgical Clinic, Targu-Mures, conducted over a period of 12 years (January 1998 - December 2009), in patients hospitalized and operated for hepatic hydatid cyst in this period.

In this study were included 255 patients who received surgical treatment, during the above mentioned period. Female patients were more affected, 133 (52.15%) than male-122 (47.84%). Their environment was in most cases, rural-162 (63.52%).
Affected population is predominantly young, socio-professional active, under 30 years-50 cases, and between 30-39 years-54 cases. Regarding the location of hydatid lesions, in right hepatic lobe were majority-186 (72.94%) and less in the left lobe, 37 (14.50%), or disseminate in both lobes, 32 (12.55%). This is understandable considering the “laminar flow” of the portal blood. Most lesions were single -207 (81.17%), only in 48 cases (18.82%) they were multiple.

Regarding the remaining cavity complications (after partial pericystectomies), they can be included in two categories:
- Intra-operative complications of residual cavity: biliary fistula (single or multiple) - 22 cases (8.62%), ruptured into biliary tree- 7 cases (2.74%), ruptured into the peritoneal cavity - 4 cases (1.56%), abscess - 3 cases (1.17%), purulent angiocolitis - 3 cases (1.17%), allergy manifestations - 9 cases.
- Post-operative complications of the residual cavity: abscess - 12 (4.7%), biliary leaks - 14 (5.40%), necrosis of the omentum - 3 cases (1.17%), secondary echinococcosis - 3 cases (1.17%), liver pancholangitis - 1 case (0.39%).

These complications have been resolved by surgical procedures and lately by non-surgical procedures: multiple external drainage, or biliary drainage transcystic Kehr type, patching with omentum, hepatectomies atypical or adjusted, bilio-digestive shunts, liver transplantation and ERCP (endoscopic retrograde papilo-sphincterotomy). Surgery is the main phase of liver hydatid cyst treatment. Surgical procedure is chosen depending on the location of the remaining cavity, its size and especially its complications (biliary fistula, rupture of the cyst, etc.).

**Keywords:** liver hydatid cyst, endemic, the residual cavity, complications, surgery.

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**POSTOPERATIVE SURVIVAL AFTER CEPHALIC DUODENOPANCREATECTOMY FOR MALIGNANT TUMORS OF AMPULLA OF VATER**

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Introduction: Tumors of the ampulla of Vater is rare neoplasm which is usually detected at an early stage due to their symptoms. Surgical treatment of choice in these cases is the cephalic duodenopancreatectomy. Aim: The purpose of the study is to evaluate the postoperative survival in patients undergoing cephalic duodenopancreatectomia for malignant tumors of ampulla of Vater. Materials and methods: This paper is a retrospective study over a period of 15 years (1995-2009) following remote survival after duodenopancreatectomy for malignant tumors of ampulla of Vater. We have studied two groups of patients in the Surgical Clinic of Targu Mures (24 patients) and the Surgical Clinic III Cluj Napoca (62 patients). Results: 5-year survival of patients after cephalic duodenopancreatectomy was below 50%, with better values compared with the same surgical procedure performed for pancreatic head neoplasm. Conclusions: Cephalic duodenopancreatectomy is the election treatment in malignant tumors or ampulla of Vater. Postoperative survival is influenced by several factors: tumor size, degree of tumor differentiation, lymphatic, venous and perineural invasion.

**Keywords:** postoperative survival, duodenopancreatectomy, factors influencing survival

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**SURGICAL PAHOLOGY II.**

**PENETRANT PULMONARY WOUNDS OF IATROGENIC ORIGIN AFTER TUBE-THORACOSTOMY**

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We report 3 patients referred during the last 2 years to our unit for drains placed in incorrect positions in other units (pneumothorax) in whom the clinical evolution and the CT scan demonstrated an intrapulmonary tract of the drain. Two of the cases required only extraction of the drain, one of them requiring thoracotomy for safe removal of a drain with a completely transfixiating tract through the right upper lobe. The paper also wants to emphasize that an apparently simple gesture – tube thoracostomy, may generate severe complications. Keeping in mind some basic principles is mandatory to avoid severe accidents.

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**TECHNICAL AND TACTICAL PROBLEMS IN THE SURGERY OF POSTPNEUMONECTOMY EMPiEema**

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Postpneumonectomy empiema remains a problem of modern thoracic surgery. There are well-established principles (antibiotic therapy, rapid evacuation of the pus, avoiding the contralateral pneumonia, closure of bronchial fistula, removal of necrotized tissues and obliteration of the pathologic space) but the practical modality to ensure the healing of the patients is extremely controversial. Classical solutions include tube drainage, open thoracic window, Clagett algorithm, muscular transposition and thoracoplasty (thoracomediastinalplication), to which are added complex operations and some new concepts such as accelerated debridation or video-assisted approach. In case of bronchial fistula it's solving is mandatory, the surgical options ranging from resuturing, suture-assiguration with a well-vascularised flap to the transternal approach; in the last years were communicated cases solved by endoscopic approach. Each of the proposed solutions has advantages or disadvantages, partisans and opponents and critical analyses of the literature shows the complete absence of the possibility to include them in the concept of “evidenced-based medicine”. The preference of our team (29 cases) is for thoracomediastinalplication - Botianu procedure, to which we have added in the last few years the extensive mobilization of muscular flaps, for the closing of bronchial fistula as well as for the filling of suppurated space with well vascularised tissue. In our cases the hospitalization data were: 5 days in ICU (mean), 28 days- total hospitalization (mean), mortality- 2 cases (6.9%), relapse of empyema- 2 cases (6.9%)- solved by open thoracic window.

DEFINITIVELY CIRCULAR PERCUtANEous NEPHROSTOMY

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Introduction. Percutaneous nephrostomy is a final act of life saving treatment for patients with advanced cancers of the low urinary tract or extrarrenal malignant pathology, finally arriving in acute renal failure. In these patients open nephrostomy, or cutaneous ureterostomia is a high risk intervention, even fatal. Ureteral stenting at this stage, is often impossible. Purpose. To bring to your attention a upper urinary diversion well tolerated and less aggressive. Materials and methods. Our personal experience of the last 15 years included 163 patients whom we performed definitively circular percutaneous nephrostomy. In the acute renal failure phase, percutaneous nephrostomy (PN) is followed by improvement of general condition and biological constants. At those patients wich we suppose to have a longer survival period the definitively PN was transformed into the final circular PN, through of the 2nd PN trajectory after 7-10 days. This is possible only after the initial trajectory NP maturatin. Results. Circular PN is a urinary bypass well tolerated without risk of dislocation. Is more easily maintained and changed, even in ambulatory conditions, without anesthesia and without hemorrhagic risk. We change the circular PN at every 3 months. In 163 patients we had 2 major complications: pneumothorax and bleeding (1.23%). This were resolved by the lower pleurostomie respectively hemostasis by balloon probe. The survival period of the 163 patients was between 6 months to 2-3 years. Conclusions. The circular PN is a palliative intervention, a definitive urinary derivation. It is well tolerated, effective and easily changed in ambulatory conditions. 3.Major complications 2 / 163 patients (1.23%)

Keywords: percutaneous, nephrostomy, stenting

POSTOPERATIVE COMPLICATIONS OF TRANSURETHRAL RESECTION OF PROSTATE FOR THE PROSTATE ADENOMA

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Introduction. Transurethral resection of prostate (TUR-P) is the “gold satandard” of the prostate adenoma therapy. Various complications may occur during surgery and can compromise the patient’s posterior evolution. Objectives. Evaluation of intraoperative complications in patients hospitalized in the Urology Clinic of targu Mures who underwent TUR-P. Material and method. They entered the study patients hospitalized in the Urology Clinic of Targu Mures for the diagnosis of prostate adenoma who underwent transurethral resection of prostate (TUR-P). The main intraoperative complications were bleeding, penile erection, which made resection impossible without decompression of corpus cavernosum, impossibility of resectoscope introduction, urethral sphincter lession, TUR P syndrome, prostate capsule perforation. Results. In the period 2005-2009 in our clinic were hospitalized 1,350 patients for prostate adenoma who underwent transurethral resection of prostate (TUR-P). This group of patients was analyzed in terms of intraoperative complications. The ratio of postoperative complications was similar in all years studied. Conclusions. Introperative complications of TUR-P are low, the most common was bleeding.

Keywords: transurethral, resection, prostate

BENEFITS OF MECHANICAL SUTURE IN OUR EXPERIENCE

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The evolution of mechanical suture technology experienced a continuous improvement over the 40 years of history. The implementation of these devices in current practice of Romanian surgery encountered difficulties relate mostly to increased costs. But their use gives many advantages for both patient and surgeon. The First Surgery Clinic SCJM introduced in practice these devices only in 2008, and only sporadically. Purpose: Review of casuistic related to the use of mechanical suture devices. Methods: We studied the casuistic of the First Surgery Clinic SCJM during 2004-2010 (seven years). More parameters were analyzed compared to cases in which mechanical suture was not used. Results: During the analyzed period, 44 patients have benefited from using mechanical suture (2006-1, 2008-13, 2009-13, 2010-17). Circular staplers types EAEC Premium Plus™ Tilt-Top have been used in 31 cases, linear stapler TA™ DST Series™ in 31 cases and in 10 cases Endo GIA™ staplers. Operations performed were: 10 gastric resections (9 gastric sleeves and 1 gastric tumor), 4 eso-jejunal anastomoses, 27 colo-rectal anastomoses, a duodenal stump closure and a rectal stump closure. One anastomotic fistula was found. There were two late local rectal cancer recurrences and a recto-vaginal fistula. Duration of surgery was shortened by ½ hour average and the length of stay by 3 days. Conclusions: The use of mechanical staplers offers an enormous advantage especially in patients with rectal tumors, especially in obese male patients with narrow basin, where we can save many cases of handicap caused by permanent iliac anus. The lower limit of the tumor location where we could use the mechanical anastomosis could be lowered to 6 cm getting an anastomosis at 3-4 cm from the muco-cutaneous anal line. Due to the few cases we can not estimate the anastomotic fistula rate. Many more patients could benefit from the use of stapler if tumors would be in the early stages and if specific costs would be lower.

Keywords: stapler, mechanic anastomosis.

URODYNAMIC ASPECTS OF LATE COMPLICATIONS AFTER TRANSURETHRAL RESECTION OF THE PROSTATE (TURP)

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Objectives: Urodynamics, especially uroflowmetry have an important role in the postoperative follow-up of patients with transurethral resection of the prostate (TURP), this “gold standard” of the therapeutical procedures in the treatment of benign prostatic hyperplasia (BPH). The aim of this retrospective study was to underline the importance of urodynamics in the diagnosis of causes of unsatisfactory results, late complications after TURP. Methods: We analysed 1228 flowmetric curves of patients with TURP. The urodynamic procedures were performed 3-12 month after TURP. Not all of the patients have been resolved in our clinic, there were several other urological centers were the patients were resected for BPH. Two or even three analyses were performed for each patient, and the most representative one (no artefacts) was chosen. The minimal voided volume of 150 ml was required. The postoperative follow-up included also IPSS, micturition diary, abdominal ultrasound, urine sample. For all the patients the postvoiding residual urine was assessed by ultrasound. Results: Out of 1228 (100%) patients followed-up, in 108 (8.79%) cases the results after 12 month of the TURP were considered unsatisfactory. The age range was 51-91 (means 76,1) years. Out of 108 (100%) patients 23 (21,29%) had interrupted, irregular flow +/- terminal dribbling, 56 (51,85%) had “box shaped” type flow and 29 (26,85%) had “long tail” type one. Regarding the value of the Qmax., 86 (79,62%) patients presenting 10 ml/sec.or below, were considered obstructed, in the rest of the cases we performed also filling cystometry, pressure flow studies in order to establish the real cause of the complaints. The causes of the unsatisfactory results after TURP were: stenosis of the urethral meatus, urethral stricture, sclerosis of the bladder neck, restant prostatic tissue, bladder diverticula, recurrent urinary tract infection, bladder stone +/- bladder outlet obstruction and detrusor over-activity (filling cystometry was performed). Conclusions: Urodynamics have an important role in the follow up of the patients with transurethral resection of the prostate, especially in those cases where the results are unsatisfactory. In most of the cases uroflowmetry, this non-invasive procedure, which can be repeated as many times as it is required, quantitative and qualitative assessment of the flowmetograms revealed sufficient data concerning the causes of the unsatisfactory results after TURP.

Keywords: uroflowmetry, transurethral, resection

LAPAROSCOPIC ABDOMINO-PERINEAL RESECTION - LIMITATIONS AND BENEFITS

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The endowment with adequate surgical equipment and tools made it possible to increase the number of advanced laparoscopic surgery and the range of diseases for which they are applied. Amputation of the rectum by laparoscopic approach is a recent concern of our Surgery Clinic staff. Purpose: Comparative analysis of cases of rectal amputation by laparoscopic and classical approach, the limits and
advantages of laparoscopic approach. Material and Methods: We studied the SCJM First Surgery Clinic casuistic during 2004-2010 (seven years). Several parameters were analyzed. Results: In the period analyzed were performed 70 abdomino-perineal resections. The laparoscopic approach was applied in 11 cases (15.71%) since 2009. The duration of laparoscopic surgery lasted on average with one hour more, but the numbers of days of hospitalization dropped by almost half (14 days compared to 26) and so the costs of hospitalization. Conclusions: Amputation of the rectum by laparoscopy is a reliable method with certainly beneficial results for the patient but also economic, but it requires proper equipment and tools and a learning curve that depends on each surgeon individually. We believe that this is the method of choice in well selected cases: ano-rectal tumors explored by transrectal ultrasonography which not exceed the adventitia of the rectum.

Keywords: rectal, cancer, laparoscopy, resection

LAPAROSCOPIC APPENDECTOMY - BENEFITS

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Laparoscopic appendectomy is a laparoscopic intervention that could be achieved with the improvement of laparoscopic instruments and technology. It presented an upward trend in recent years despite the many controversies surrounding this type of intervention. In our clinic was a “bridge route” to acquire advanced laparoscopic surgical techniques. Purpose: Comparative analysis of laparoscopic appendectomy and classic appendectomy; establishing advantages of laparoscopic approach. Material and methods: We have studied the casuistic of the First Surgery Clinic SCJM during 2008-2010 (3 years). Several parameters were analyzed. Results: In the period under analysis 177 appendectomies were performed: 81 (36%) by laparoscopic approach and 96 (56%) by open approach. The duration of laparoscopic surgery was on average 13.7 minutes longer than the classic. 48.94% of all women operated received laparoscopic surgery, while only 42.17% of men have had this approach. Conversions were 12.35% of total laparoscopic interventions. Complications that required reintervention were recorded in one case (20%) after the laparoscopic approach as opposed to 4 cases (80%) for the classic approach. Conclusions: Laparoscopic appendectomy weight increased progressively from year to year. The average duration of laparoscopic appendectomy learning curve was part of any specific type of laparoscopic intervention. The benefits of this type of intervention are clear, as represented by the possibility of exploring the peritoneal cavity and differential diagnosis of “painful right iliac fossa syndrome” in women, can guide classic approach in case of conversion, rapid mobilization and early resumption of transit, lower parietal pain, a lower rate of parietal infection, short-term hospitalization and faster reintegration in activity.

Keywords: Laparoscopy, Apendectomy

BILATERAL BREAST RECONSTRUCTION AFTER TOTAL MASTECTOMY. CASE PRESENTATION
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Breast reconstruction surgery is to restore lost breast following a mastectomy for breast cancer intervention and also the greatest reward for a woman who must face a double trauma: cancerous disease and physical infirmity. Purpose: The authors report the case of a 46 years woman, who underwent a double mastectomy with axillary limphadenectomy three years between each other and then a right breast reconstruction with latissimus dorsi flap in one year after mastectomy and a left breast reconstruction also with a latissimus dorsi flap in the same operative time, both followed 6 months after by a nipple-areola reconstruction. Material and methods: The results are presented through images pre-, intra- and postoperative early and late and can be improved through small-time corrections for symmetrization. Conclusion: Breast reconstruction after mastectomy in the same operative time is a reliable procedure, which could be applied to those patients who would accept it.

Keywords: Breast, Cancer, Reconstruction

THE LAPAROSCOPIC APPROACH OF THE BENIGN PATHOLOGY OF THE CARDIOESOPHAGEAL JONCTION IN CASUISTIC OF THE 1st SURGERY CLINIC, CLINICAL COUNTY HOSPITAL MURES
Gyorgy-Fazakas I., Coroş M.F., Georgescu R., Dobre A., Sorlea S., Roşca Ancuţa, Cozma D., Crăciun C., Bereczki Zs., Nagy Sz., Gyorgy-Szakacs Cs.

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The pathology of the gastro-oesophageal reflux (PGOR) represents about 75% of all oesophageal pathology; hiatus hernia and cardial achalasia being chronic illnesses represent 10-30%. This is why in the past years an increase has been seen in the number of cases coming for surgical treatment. Material and method: Our retrospective study used the case archive of the 1st Surgery Department of the Clinical County Hospital Mures from the years 2004-2010. We have analyzed 28 cases of hiatus hernia and 2 cases of cardial achalasia. Results: From the total number of 30 patients, 11 did not get a surgical intervention, the others were operated either in a laparoscopic way (14 cases) or in the classical technique (5 cases, all with hiatus hernia), in 3 cases switching laparoscopic to classical technique. From all the 19 operated cases, only 4 needed postoperative intensive therapy. The time spent in hospital in case of laparoscopic surgeries was on the average 8.2 days with an average postoperative period of 4.5 days. Postoperative evolution was favorable. There was only one decease by cardiac arrest on the grounds of global cardiac insufficiency and chronic renal insufficiency in case of a patient with huge hiatus hernia, operated in the classic way. Conclusions: laparoscopic surgery offers important advantages compared to classical surgery in the therapeutic approach of the benign pathology of the oesophageal-gastric junction: it reduces the time spent in hospital and the postoperative recovery time, giving a good functional result; reduces the rate of postoperative complications; the duration of the surgical intervention is reduced accordingly to the curve of learning advanced operative techniques. The laparoscopic way should be the first choice in the treatment of the benign pathology of the gastro-oesophageal junction, switching to classical way being always possible.

SURGICAL MANAGEMENT OF ACUTE PANCREATITIS
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Acute pancreatitis represents one of the greatest surgical emergencies, which, despite current medical progress, continues to present high rates of morbidity and mortality. Aim: An analysis of the acute pancreatitis cases of patients admitted to Surgical Clinic I of MCCH during 2004-2010. Material and method: The hereby study is retrospective, analytical and observational, based on the computerized database of our clinic and on the surgical protocols for the period of 2004-2010. A number of parameters had been taken into consideration while analyzing the management of these cases in our clinic. Results: During the above-mentioned period, a number of 125 patients, 79 males and 46 females have been admitted to Surgical Clinic I of Mures County Clinic Hospital. The anatomo-clinical forms have been represented by acute edematous pancreatitis – 100 cases and acute necrotic hemorrhagic pancreatitis – 25 cases. Out of the total number of patients, 19 have undergone surgery and required on average 3 surgical reinterventions. Postoperative mortality was 47.37%. Conclusions: The forms of acute edematous pancreatitis have a higher occurrence in women during the 5th decade of life, while acute necrotic hemorrhagic pancreatitis occurs more frequently in men during the same period of life. Patients with Star-laparostomy showed a better postoperative evolution and a lower mortality rate compared to patients who have undergone repeated laparotomies. For this reason, we consider the former method to be more indicated for patients diagnosed with acute necrotic hemorrhagic pancreatitis.

Keywords: Surgical management, Acute pancreatitis

BARIATRIC SURGERY IN THE EXPERIENCE OF FIRST SURGICAL CLINIC, MURES COUNTY HOSPITAL
Sorlea S., Coroş M.F., Georgescu R., Hintea A., Crăciun C., Cozma D., Gyorgy-Fazakas I., Rosca Anuţa, Dobre A.

Bariatric surgery today is the most effective therapy for morbid obesity. The obesity surgery has not an aesthetic purpose, the main objective being the prevention and correction of medical problems associated with obesity. Purpose: This paper evaluates the experience of Surgical Clinic SCJ Mures in bariatric surgery, comparing the initially cases operated by the classical open approach between 2006-2008 by various techniques to the cases with laparoscopic longitudinal gastric resection between 2008-2010 Material and methods: We included a study of two groups of patients, the first batch of four patients operated by classical aproach between 2006-2008, with average BMI 42.6, and a second group of 10 patients operated laparoscopically with a BMI 48,3 between 2008-2010. The classical types of interventions have been different, and the laparoscopic surgery technique was the same - sleeve gastrectomy. Results: All patients with classical surgery had postoperative complications, with an average length of stay of 8 days and with average weight loss of 30 kg at 6 months. In the case of laparoscopic technique were very good results without postoperative complications, the average length of stay of 4 days and an average weight loss of 45 kg at 6 months. Conclusions: The laparoscopic approach in gastric sleeve is a step forward in the treatment of morbid obesity, excellent immediate and late postoperative results, setting this approach as the current gold standard.
**TRANSCYSTIC LAPAROSCOPIC DRAINAGE - SOLUTION OF PHASE IN BILIOPANCREATIC OBSTRUCTION PATHOLOGY IN ABSENCE OF ERCP**


First Surgery Clinic, County Hospital Mures, UMF Tg-Mures

Lack of necessary tools for preoperative and intraoperative common bile duct (CBD) exploration has imposed alternative solutions to provide patients, with obstructive diseases of CBD, a chance to receive a minimally invasive treatment of decompression. Purpose: Transcystic drainage assessment as a viable alternative in case of absence of the possibility of intraoperative bile duct exploration and drainage. Material and methods: Between 2006-2010 there were performed 2075 interventions on CBD. In 22 cases transcystic drainage was associated (18 laparoscopic and 4 classic). Cases were analyzed tracking the reasons for which laparoscopic transcystic drainage was applied and the subsequent evolution of therapeutic attitudes in these cases. Results: In patients with laparoscopic transcystic drainage postoperative evolution was good, with rapid reduction of jaundice, a decrease of hospitalization higher than for those who received conventional drainage procedures of CBD. A total number of 12 with transcystic drainage patients have received postoperative ERCP (for 8 bile duct stones was confirmed) and 22 patients with Kehr drainage. Conclusions: The transcystic laparoscopic drainage is a safe and effective procedure, applicable whenever there is a suspicion of an obstruction of the bile duct (stones, sclerosis of papilla, adenopathy, tumors, etc.). It allows the decompression of common bile duct, its also provides access to radiologic exploration, and prevents postoperative complications (jaundice, slipping of clips, etc.). Biliary decompression once done, it allows performing subsequent minimal invasive procedures. It would be mandatory to perform the ERCP in those cases with suspicion of common bile duct obstruction, but in the absence of this possibility, the transcystic drainage is a stage solution for those cases.

**Keywords:** transcystic drainage, laparoscopic, obstruction, bile duct

**THE STUDY OF UPPER GASTROINTESTINAL BLEEDING IN THE EXPERIENCE OF SURGERY CLINIC I FROM MURES COUNTY CLINICAL HOSPITAL**

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Mureş County Clinical Hospital - Surgery Clinic I

Upper Gastrointestinal Bleeding is a syndrome with variable etiology, with frequent occurrence in the surgical emergency departments, and with a multimodal treatment: medical, interventional and surgical. Purpose: To assess the evolution of the Upper Gastrointestinal Bleeding cases admitted to the Surgery Clinic I from Târgu Mureş in terms of etiology, operability, complementary therapy options and mortality. Material and methods: We studied the Surgery Clinic I casuistic during 2004-2010. Several parameters were analyzed. Results: 125 cases with upper gastrointestinal bleeding were admitted in the period under study, 30 (24%) of them were produced by peptic ulcer disease, 59 (47.2%) by digestive cancer, 22 (17.6%) by erosive gastritis, 9 (7%) by variceal bleeding associated with liver cirrhosis and 5 cases (4%) from other causes. Operability was an average of 54.4% with a maximum of 84.7% for cancer etiology and a minimum of 0% for erosive gastritis. Overall mortality rate represented 4%. Conclusions: Ulcer disease is no longer the leading cause of Upper Gastrointestinal Bleeding. Higher mortality of these patients 4% vs. 1.65% overall mortality in the First Surgical Clinic is due to underlying disease severity and associated pathology. The degree of operability is 54% as compared to the overall average of 85%, which is an argument for primary admission in the gastroenterology department for these patients.

**Keywords:** gastrointestinal bleeding, ulcer, gastritis, variceal bleeding.

**USEFULNESS OF INTRAOPERATIVE ULTRASOUND IN RESECTION OF INTRACANALICULAR PAPILLOMA**

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Intracanalicular papilloma is a rare disease of the breast which is mainly manifested through bloody discharge from the nipple. 90% of the intracanalicular tumors associated with bloody nipple discharge are benign, while 10% are breast carcinomas. The lesions are often impalpable and less than 1 cm, which makes them difficult to trace during surgery. Purpose: Assessment of the advantages of intraoperative ultrasound in detecting intracanalicular papilloma. Material and Methods: The paper presents the technique of intraoperative breast ultrasound for detecting intracanalicular papilloma and the results of its application. Results: The technique was
applied on three patients for whom the diagnosis of benign papillomas was confirmed by morphopatology with satisfactory resection margins and the waste of a minimum volume of normal breast tissue. Conclusions: Intraoperative ultrasound is a viable alternative to wire localization for impalpable breast tumors, especially for intracanalicular papilloma, and allows excision with safe margins and minimal sacrifice of breast parenchyma.

**Keywords:** intracanalicular papilloma, ultrasound, breast tumors excision.

**DIAGNOSTIC AND THERAPEUTIC DIFFICULTIES IN A CASE OF A RUPTURED POPLITEAL ARTERY ANEURISM**

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We report a 78 years old male patient, with no particular history, admitted in a medical unit for pain and swelling of the leg. The case was diagnosed as a deep vein thrombosis and treated with antiaggregants and anticoagulants. Due to an unfavourable evolution (aggravation of the swelling with signs of ischemia and development of a thigh and abdominal wall hematoma), the patient was referred to our unit after 8 days. Ultrasound examination showed a pulsatile mass located in the popliteal fossa and arteriography showed a 15 cm diameter ruptured popliteal artery aneurism. Through a medial approach we performed a femoro-popliteal by-pass using autologous saphenous vein harvested from the contralateral leg with ligation of the superficial femoral and of the popliteal artery followed by repositioning of the patient in ventral decubitus with evacuation of a huge hematoma and partial excision of the aneurism with ligation of the collateral branches and hemothysis by endoluminal sutures. The postoperative course was extremely difficult (extreme bradycardia, cardio-respiratory arrest and prolonged mechanical ventilation) but eventually slowly favourable, with discharge on the postoperative day 20. The case is interesting due to the rarity, the wrong initial diagnostic in the absence of a doppler examination and through the difficulties of approach generated by the local conditions — overweighted patient, large ruptured aneurism located retroarticular, huge hematoma.

**TRENDS IN COLEC AND RECTAL TUMOURS TREATMENT IN 1ST SURGERY MURES CLINIC COUNTY HOSPITAL**

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This article describes surgical management approaches to colorectal tumors in past 7 years in our clinic. Colorectal tumors epidemiology changes amongst 2004-2010 were assessed and compared dynamically. Main surgical procedures performed in those years and the impact of new techniques was also reviewed. Materials and methods: Between October 2004 and October 2010, 709 patients with colorectal tumors were admitted and treated in our clinic. The retrospective analysis of their medical records was carried out dividing the patients into two groups: the colic group (CG) of 263 cases and the rectal group (RG) of 446 cases. Epidemiological aspects (age, sex, number of deceased, malign vs. benign, hospital length of stay) were studied for both groups and stratified by years to be observed dynamically. The surgical procedures performed in those cases were grouped in major types (6 for CG and 5 for RG), assessed by years and by impact of the new techniques available. A special consideration was accorded to preoperative recto-colonoscopy and CT-scans availability for both groups in those years and their impact in selecting the best surgical approach. Results: Both groups evolved ascending in total numbers but no statistically significant differences were observed, in those years, in sex distribution, hospital length of stay or number of deceased. Median ages are constantly decreased in 7 years for both groups. The almost routinely investigation by recto-colonoscopy and CT-scans in those groups dramatically increased the programmed vs. emergency surgery ratio from 3:1 in 2005 to 18:1 in 2007. For CG the observed trends for surgical procedures are: right hemi colectomy is almost constant (except for laparoscopic version increasing since 2009); left, subtotal and total colectomies are erratic and scattered over years; Keybard procedure is downward while Hartmann’s procedures and polypectomies are in constant growth. For RG the observed trends for surgical procedures are: Miles procedures are dramatically downward from 2004 thru 2007 then upward again from 2009 but in laparoscopic version; Dixon procedure are downward and almost replaced with low rectal anterior resection with mechanic anastomosis, since 2008; while Hartmann’s procedure remain constant, left colostomies are dramatically reduced. Conclusions: the number of patients with colorectal tumors admitted and treated in our clinic is in constant growth so we must accommodate that with the best surgical approach to obtain maximum results with minimum patient discomfort. If we cannot abort abdomino-perianal resection we intend to replace it with the laparoscopic version and we almost replaced Dixon procedure’s with low rectal anterior resection with mechanic anastomosis. Replacing open colostomies and colectomies with laparoscopic ones could lead us to achieve our goal in selecting best procedures for our patients.

**Keywords:** trends, surgical management, rectal, colic, tumours.

**PALLIATIVE SURGERY IN DIGESTIVE SURGERY IN THE CASUISTIC**
Regarding the surgery of inoperable digestive cancers, there is an array of surgical interventions addressing possible and existing complications or distressing symptoms, ensuring the patients a relative postoperatory comfort and significantly increasing their survival rate. Aim: Analyzing the frequency and the types of palliative surgery of digestive cancers. Material and method: For this study, we have taken into consideration the casuistic of Surgery Clinic I of MCCH on a span of 7 years (2004-2010). Different types of palliative surgery have been studied, depending on each segment of the digestive system, analyzing different parameters. Results: During the period of time considered for the study, out of 510 digestive neoplasm surgeries, 241(47,25%) have been palliative and 269(52,74%) have been radical interventions. Different types of palliative surgery have been applied, such as: palliative resections 16,33%, feeding stomas 19,33%, internal 38,83% and external 25,14% derivations. Most cases involved internal and external derivations, colon and rectum occupying the first places of the statistic. Conclusions: Palliative surgery represents an important segment of the surgery of digestive cancer, with a share comparable to that of radical surgeries. Although it does not „cure” the disease itself, it ensures a considerable immediate survival rate, even in more „desperate” cases. For such patients, most times palliative surgery is the only therapeutical option.

Keywords: cancer, palliative, surgery

There are several types of tissues of various histological origins in the retroperitoneum. These organs represent the source of a diverse range of surgical diseases, which even at the present time raise serious issues in early diagnosis and treatment. Material and method: we did a five-year long (2004-2009) retrospective study on a number of 40 patients who were hospitalized and suffered surgical procedures due to various retroperitoneal diseases in our clinic. We tracked the type, the complexity of the surgical procedure and the post-surgery evolution depending on the diagnosis. Results: out of the 40 patients, the majority of them (23 – 57.5%) presented several types of primitive retroperitoneal tumors (PRT), 18 beeing malignant (78,26%). We also had two cases of relapse after PRT surgeries and two cases of retroperitoneal metastases. There were 13 patients who suffered surgical procedures due to non-tumoral diseases: three cysts, six inflammatory diseases, four hemoretroperitoneum and one uro-hemoretroperitoneum. These patients had surgeries of various complexity levels, consisting in radical or palliative multivisceral resections. Conclusions: most of the retroperitoneal diseases have tumoral origins (especially malignant PRT). The retroperitoneal tumors we considered to be of secondary grade (adenopathies, metastases, relapses) are relatively rare. The removal of malignant retroperitoneal tumors is a delicate procedure mainly because of the vascular risk caused by the anatomic relations with the large retroperitoneal blood vessels and the tumor’s own vascularisation. In some cases, the tumor’s origins were difficult to track, even after histopathological examination. Most of the patients suffering of retroperitoneal diseases arrive relatively late, in advanced stages of the disease due to a weak and indistinctive symptomatology. The most effective imagistic investigations for a proper diagnosis of retroperitoneal diseases are CT scanning, M.R.I. and echography.

Keywords: retroperitoneal, tumor, inflammatory diseases

Introduction – The most seen pathology at our emmergenca department are the inversion injuries of the ankle, reported after sport traumas. The anterior impigement syndrome is usually related to the damage at the joint capsule. The recurrent traction and strong dorsiflexion to this site forms osteophytes and synovitis and by the movement of the ankle weight-bearing symptoms appears. The aim of this study was to evaluate the effectiveness of arthroscopic treatment of anterior bone spurs causing anterior impigement syndrome. Material and Methods - Between 2006 -2010, we treated in our department 24 patients, mean age 32 years (22 – 44), for the reason
of anterior ankle pain especially at dorsiflexion. Bony spurs, after X-ray evaluation, were classified after Scranton – Dermor scale and the patients were evaluated after AOFAS scoring table. All patients were appropriate for follow up. Results – One patient was developed reflex sympathetic dystrophy. We found excellent to very good results in 21 patients, and good in 3 patients who had osteochondritis dissecans of talus. Conclusions – Especially at the overuse syndromes, bony spurs can occur between anterior lip of tibia and talus. According to Scranton-Dermot classification system, synovial impingement syndrome progress to form talocrural osteoarthrotic destruction at the last grade. As usual, conservative therapy must be the first option composing of anti-inflammatory medication and immobilization. There are two surgical options: arthroscopy and anterolateral approach. In conclusion, anterior bone spurs can be effectively treated by arthroscopic debridement, especially to the patients who wish to make sport activities.

Keywords: arthroscopy, ankle, bone spurs

PERSONAL EXPERIENCE IN CAPSULAR BAG RECONSTRUCTION AND FIXATION METHODS WITH CAPSULAR TENSION RINGS

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In ophthalmic microsurgical practice capsular tension rings (CTR) are used to restore and stabilize the capsular bag of the lens in exceptional cases with zonular laxity or even zonulolysis. Material and method. Ten cataract surgeries performed in the past two years, which required capsular tension ring implantation were included in our study. In one of them we used CTR with sclera fixation. Etiology of zonular problems was represented by middle and high grades myopia, pseudoexfoliative syndrome and lens subluxation of unknown etiology. Results. In all cases postoperative results were very good, intraocular lens (IOL) and capsular bag stability was maintained throughout the follow up period. Conclusion. CTR is the intraoperative ideal solution for cases with high degree of difficulty. In their absence the surgical success can be compromised by lens subluxation or capsular bag elimination with the failure of an IOL implantation in the bag.

PROXIMAL TIBIAL OSTEOTOMY IN THE TREATMENT OF KNEE OSTEOARTHRITIS. A RETROSPECTIVE STUDY

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Background. Proximal tibial osteotomy (PTO) is designed to correct the mechanical axis of lower limb, to reduce the articular surface pressures; it also has a beneficial effect, by stimulating the subchondral circulation. This study evaluates indications of PTO, degree of correction of mechanical axis, assessment of clinical results and osteoarthritis progression. Material and method. Between 2000-2006 we performed 114 PTO for osteoarthritis with a varus deformity of the knee in 87 patients with the age of 35-72 years. The final evaluation was made on 86 knees (69 patients), 71 with closing-wedge osteotomy and 15 with opening-wedge, followed for a mean period of 9.5 years (4-10 years). Pre- and postoperatively we evaluated the pain, the mobility and stability of the knee. Based on the radiographic examination we classified the osteoarthritis according to Ahlback, we determined the varus deformity and the degree of correction, we examined the lateral compartment and the tibial subluxation. Results. Preoperatively, the main degree of mobility was 110°, and after surgery 105°. The average value of the mechanical angles was 170° preoperatively, 185° postoperatively and 177° at the final evaluation. Clinical results were favourable in 58 cases (67.4%), only in patients without an obvious clinical instability. After a mean period of 9.5 years, the varus deformity reappeared in 45 cases (52.3%). Conclusions. PTO has its place in the treatment of knee osteoarthritis, only if there is a valgus hypercorrection of 5-8° (mechanical axis). The ideal candidate is a patient with normal weight, early osteoarthritis, mobility over 90°, without instability and no pathological modification of the lateral compartment.

Keywords: proximal tibial osteotomy, knee osteoarthritis, varus knee

ORBITAL COMPLICATION OF AN ACUTE RHINOSINUSITIS - CASE REPORT AND PRINCIPLES OF TREATMENT

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The orbital complications of the acute and chronic rhinosinusitis are well known and not rare in our statistics. Numerous classifications have been proposed but there is still a lack of consensus regarding the principles of treatment. The authors present the case of a 9 year
old girl who was admitted to our clinic with an acute right sinoorbital syndrome, later diagnosed as right orbital cellulitis and acute sinusitis involving all the sinuses. A multidisciplinary team consisting of an otorhinolaryngologist, ophthalmologist, infectious diseases specialist and radiologist was formed in order to evaluate the patient. Although intense pressure from the rest of the team, suggesting surgical treatment, we chose to put the patient on conservatory medical treatment consisting of broad spectrum antibiotics, cortisol and nasal decongestants as primary choice of therapy. The patient reacted positively to this therapy and recovered completely in 5 weeks, making the surgical intervention unnecessary. We concluded that the orbital complication developed mainly because of a poor immune status or because of the virulence of the infection, not because of a more or less localized structural pathology of the sinoorbital region, thus making the conservatory treatment the first choice of therapy in this case and the surgical intervention secondary only to a failure of it, which was not the case. The authors discuss the principles of treatment in orbital complications of rhinosinusitis, underlining that surgery is not always the primary or main treatment option.

Keywords: rhinosinusitis, orbit, infection

THE USE OF CONTRAST AGENTS FROM THE SECOND GENERATION IN SONOHISTERO-SALPINGOGRAPHY- PRELIMINARY STUDY

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Background. The second generation of contrast substances used in ultrasonography has imposed itself mainly through sulfur hexafluoride- Sonovue. Intravenously administered is especially used in recent years to diagnose liver tumors, breast, thyroid, prostate, metastatic lymph nodes, or by injecting the probe for the study of urinary bladder vesico urethral reflux. Aim. To assess by ultrasound the tubal patency through intrauterine dye injection catheter. Material and method - ultrasound with soft for ultrasonography with contrast substance, with vaginal and abdominal tube 2D/3D, catheters for intrauterine injection type Cook, 40 ml substance prepared in a vial of Sonovue with physiological saline for each patient. The lot consisted of 10 sterile patients, investigated for tubal patency, without necessary premedication or anesthesia. Results - in all patients it has been noticed by ultrasound for real-time the tubal lumen and the periovarian relieve of the contrast substance. The time of the injection and the passage in not need more than 6 minutes, without discomfort for the patients. Eight patients had both tubes permeable, but two had unilateral proximal tubal obstruction. One of the patients with unilateral tubal obstruction was operated, with laparoscope chromotubation with the same result initially in an adherence peritubar syndrome. Conclusions - the use of contrast substance for sonohisterosalpingography is a quick and unpainful method, which brings doubtless data concerning the tubal patency. It can be the method of first choice for the investigation of a sterile patient.

PERSONAL RESULTS IN PHACOEMULSIFICATION SURGERY

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The purpose of this study is to present the personal results in phacoemulsification surgery.

Materials and methods. I performed phacoemulsification surgery in 108 patients. Cataract phacoemulsification procedure consisted of: one main incision of 2,4 mm and two sideports of 1,2 mm, capsulorhexis with needle, phacoemulsification, bimanual irrigation-aspiration and foldable IOL implantation during the parabulbar anesthesia. Results: As experience obtained, lower phacoemulsification time were observed, thus reducing the rate of postoperative oedema. The following intraoperative complications were recorded: 2 posterior capsular ruptures(one during the phacoemulsification of the last nucleus fragment, the second during the irrigation-aspiration time) and 2 compromised capsulorhexis at intumescent cataract. There were no postoperative complications. Conclusions: Because of experience obtained, the results obtained was better and I perform more difficult cases: patients with pseudoexfoliative syndrome, patients with glaucoma, with insufficiently dilated pupils required iris hooks.

ACETABULAR COMPONENT REVISION IN CASES OF SEVERE BONE LOSS

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Introduction: Severe bone loss can complicate even further the already challenging revision of the acetabular component in total hip replacement (THR). Also, since the remaining bone's quality is altered – often being thin or eburnated – it cannot offer appropriate support for the bone cement. To address this problem, a series of techniques have been developed. These include the use of bone grafts (auto or allografts) with a cemented or cementless prosthesis, the use of a metal mesh, reinforcement rings or cages with or without bone grafts, or a cementless component implanted with a high center of rotation. Aim: In the present study we analyzed the results
of revision hip arthroplasty using reinforcement device. Patients and Method: We retrospectively reviewed a number of 36 patients on whom revision THR was performed between December 2001 and January 2006. The procedures were done using an acetabular reinforcement device and morselized or structural allografts, with a cemented acetabular component. Mean age at the time of revision was 64 years (49 to 72), with 28 female patients and 9 male patients. Acetabular defects were classified according to Paprosky. Follow up consisted of clinical and radiological evaluation preoperatively and at 3, 6, 12, 24, 36 months postoperatively. The radiographs were reviewed for evidence of graft incorporation, radiolucent lines, component migration and hardware failure. The mean follow up was 4.1 years (3.5 to 5 years). Results: We found a Paprosky type-II defect (cavitary bone loss) in 14 hips (37%), a type-III defect in 23 hips (62% - combined cavitary and segmental bone loss). In a total of 34 cases we observed bony incorporation, as shown by the presence of clearly seen trabeculae that cross the graft-host junction. In three cases (7.8%) we found evidence of progressive radiolucency at the bone-cement interface, indicating component migration. Although asymptomatic, these patients are considered ‘at risk’ and remain under close review. There was no case of hardware failure. Conclusion: Based on our results, we recommend the use of reinforcement devices with morselized bone graft or structural bone grafts for cases of significant acetabular bone deficiency.

**Keywords:** revision hip arthroplasty, bone loss, acetabular reinforcement devices, bone grafting

**CONCOMITANT OPERATIVE TREATMENT OF ANTERIOR CRUCIATE LIGAMENT TEARS AND ASSOCIATED LESIONS**

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Introduction: Anterior cruciate ligament tears are rarely found as a standalone lesion of the knee joint in arthroscopic surgery. Associated lesions usually consist of synovitis, meniscal tears and chondral lesions. Objective: We tried to determine if anterior cruciate ligament reconstruction and the concomitant arthroscopic treatment of associated lesions in the knee can be performed safely, without prolonging operative time – especially tourniquet time – too much, and how does this influence the results of surgery. Methods: We performed anterior cruciate ligament (ACL) reconstruction on a number of 25 consecutive patients between July 2009 and May 2010 (mean age 32, female to male ratio 9:16). ACL reconstruction was done using hamstrings autologous grafts, with the femoral tunnel created before the tibial one and fixation by multi-braided closed loop (Retrobutton, Athrex) on the femoral side and a biocomposite interference screw (Arthrex) on the tibial side. All of the patients presented associated lesions of the knee joint that were treated arthroscopically concomitant with the ligament reconstruction. Final evaluation was performed at the end of the 6th postoperative month – we used the Lysholm scoring system, Tegner activity scale and AP and LL radiographs. Results: We found the following associated lesions – 22 cases of synovitis, 17 meniscal tears and 10 cases of chondral lesions (ICRS II and III) – for which partial synovectomy, partial meniscectomy and abrasive chondroplasty were performed. Mean operative time was 75 minutes (67 to 83 minutes). At the final follow-up we found good and excellent results for the Lysholm score in 24 cases (with a mean score of 96.4) and 1 poor result. The mean Tegner activity score increased from a preoperative value of 4.2 (range, 3-5) to a postoperative value of 6.1 (range, 5-8). Radiologic evaluation showed good positioning of the tunnels and femoral fixation device. We observed no graft ruptures. Conclusions: The described technique needed operative times that were only 10 to 15 minutes longer compared to the time needed to perform only ligament reconstruction, and the results obtained were similar to those of simple ACL reconstruction. Thus we concluded that ACL reconstruction with the concomitant operative treatment of associated intraarticular lesions is a safe management strategy that is also appealing from the patient’s point of view, possibly reducing morbidity and the cost of treatment.

**Keywords:** ACL, ligamentoplasty, associated lesions, operative treatment

**COMPUTERIZED TOMOGRAPHY METHOD FOR THE EVALUATION OF PATIENTS WITH SLEEP APNEA SYNDROME**

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Purpose of the study: Computed tomography is widely available allowing precise assessment of transverse sectional area of the respiratory airway, being used in evaluating patients with sleep respiratory disease. The possibility of three-dimensional reconstruction of axial images allows assessment of displacement of the pharynx. Methods and Resources: Our study is based on a group of patients with obstructive sleep apnea syndrome of varying degrees to which the polysomnographic examination was completed by: flexible and rigid nasofibroscopic and computed tomography to assess changes as more real and oro hipofaringiene involved in the emergence of SAOS. During the study measurements were made of transverse sectional area and volume of respiratory airway and three-dimensional reconstruction with the achievement of multiplane image which provides information on soft tissues. Results: CT imaging studies have shown that there are significant differences in the structure of the soft palate in patients with obstructive sleep apnea syndrome. There is an increase in transverse sectional area and volume of the soft palate, tongue, parapharyngeal fat tissue support, lateral pharyngeal wall in patients with sleep apnea. Conclusions: Imaging methods offer substantially more valuable data in evaluating patients before
examination methods flexible faringoscopy type. Their value increases when more studies are dynamic.

EFFECTS OF SINOVIAL, A SYNOVIAL FLUID SUBSTITUTE, ON RECOVERY AFTER ARTHROSCOPIC PARTIAL MENISCECTOMY

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Background. This was, randomised, controlled study in patients requiring partial meniscectomy. The aim was to assess whether replacing the synovial fluid lost during arthroscopy with a hyaluronic acid-containing synovial fluid substitute (Sinovial) would reduce the severity and duration of post-operative symptoms during the 4 weeks post-surgery, in comparison to the standard arthroscopy procedure alone. Methods. 84 patients were randomly assigned to either undergo arthroscopic partial meniscectomy alone (control group: n=42) or to receive 2 ml Sinovial into the joint at the end of the procedure and another 4 ml in the next two weeks after arthroscopy (Sinovial group: n=42). Sixtyfour (32 per group) completed the study. Results. Despite the patient population in this pilot study, some interesting results were obtained. On Day 1 after surgery, the mean values for pain at rest (VAS) increased in both groups but this increase was lower in the Sinovial group (VAS=8.2) than in the standard therapy group (VAS=9.1) (P=0.0426) and remained in favour of Sinovial for the first 3 days after surgery. Joint swelling decreased to a greater extent in the Sinovial group with an observed superiority at Day 7 (P=0.1082) and a proven superiority at Days 12 (P=0.012) and 28 (P=0.0068). COX2 inhibitor intake was lower in the Sinovial group from Day 3 to Day 28 with a proven superiority in favour of Sinovial on Days 3, 4, and 7 indicating that the product had an antiinflamatory effect. Conclusions. Recording to the IKDC score the authors observed that in the Sinovial group the results was superiorly that in the control group. Sinovial was safe and welltolerated and no adverse reactions occurred during the study. These findings indicate that hyaluronic acid-containing synovial fluids may be useful as a substitute after arthroscopy.

Keywords: Meniscectomy, IKDC, Synovial fluid substitute, Hyaluronic acid, Efficacy

FERRARA RINGS AND CORNEAL COLLAGEN CROSS-LINKING FOR TREATMENT OF PROGRESSIVE KERATOCONUS

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Purpose. To present a new, minimal invasive treatment option for progressive keratoconus. Material and method. We present the case of a young male patient, diagnosed with progressive keratoconus both eyes, in year 2009. The therapeutic option was: intrastromal ring segment implantation both eyes, followed by corneal collagen cross-linking with riboflavin and ultraviolet type A at left eye. Results. The postoperative results are good: early improvement of vision, no intra- or postoperative complication and absence of progression signs of the disease. Conclusions. This minimal invasive, modern surgical treatment is an effective treatment option for progressive keratoconus stages II and III, with early improvement of vision and the myopic astigmatism. It may be a new way for stopping the progression of keratectasia in keratoconus and to reduce the need for penetrating keratoplasty.

Keywords: keratoconus, intrastromal ring segments, corneal collagen cross-linking

SCREENING OF RETINOPATHY OF PREMATURITY IN TG.MURES

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Purpose: to evaluate the results of the ROP-screening of the premature babies, to correlate the ROP cases with the risk factors and to evaluate the results of the laser treatment. Material and method: we examined all the premature babies with risk factors for developing ROP who were born or transferred at the Neonatology Clinic I from Tg-Mures between november 2007-june 2010. Results: As a result of our study we observe that the number of the ROP cases and of the laser treated cases is lower compared to the literature. This fact is due mostly to the high performance of the neonatological care.

THREADED VERSUS HA COATED PRESS FIT CUPS IN UNCEMENTED TOTAL HIP ARTHROPLASTY

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Introduction: The goals of acetabular reconstruction are the relief of pain, the restoration of joint function, the preservation of bone
stock, and the maintenance of stability of the implant. Clinical studies of acetabular components that were inserted without cement have yielded mixed results. Authors have previously reported that stable fixation of porous-coated metal-backed cups can be achieved by means of osseous ingrowth, provided that a stable press-fit of the implant is obtained intraoperatively. Objective: We compared the clinical performance of two different types of implant surfaces used for acetabular components of similar geometry that were designed to be inserted without cement. Methods: All patients who were enrolled in the study had been followed for at least 3.4 years, and all had received the same type of femoral component. Thus, any measurable differences in the clinical or radiographic performance of the different acetabular components may be attributed to the different types of implant surfaces. Each patient was assessed preoperatively, in the early postoperative period, at six months, at one year, and yearly thereafter. The clinical evaluation of each patient was performed with use of the Harris hip-scoring system. The radiographs were evaluated for radiolucent lines, changes in apparent bone density, migration of the cup, and osteolysis. Three zones, based on those described by DeLee and Charnley, were delineated so that apparent radiographic changes could be documented for each patient. The stability of the acetabular component was determined with use of a modification of the criteria described by Engh et al. Results: At the time of the latest follow-up visit, the patients who had a hydroxyapatite-coated press-fit cup had a mean Harris hip score of 92 points (range, 76 to 100 points), and those who had a hydroxyapatite-coated threaded cup had a mean score of 94 points (range, 74, to 100 points). Of the 29 hydroxyapatite-coated press-fit implants, 27 were classified as stable with osseous ingrowth and two, as stable with fibrous ingrowth; of the 25 hydroxyapatite-coated threaded implants, all of them were classified as stable with osseous ingrowth. With the numbers available, no significant differences were found between the press-fit cups and threaded cups with regard to the clinical performance. Similarly, no significant differences were detected between the radiological findings of the hydroxyapatite-coated threaded cups and that of the hydroxyapatite-coated press-fit cups. Conclusions: We found that the hydroxyapatite-coated threaded cups and the hydroxyapatite-coated press-fit cups continued to perform well more than three years after the operation, and we found no significant deference between the two types of implant, possible due to the relatively short follow-up period.

Keywords: press fit, threaded, un cemented hip arthroplasty, HA coating

INTRAVITREAL BEVACIZUMAB FOR TREATMENT OF MACULAR EDEMA AND CHORIORETINAL NEOVASCULARISATION

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Purpose: To evaluate the effect of intravitreal bevacizumab on visual function and retinal thickness in patients with diabetic macular edema (DME), choroidal neovascularisation (CNV) and macular edema after branch or central retinal vein occlusion (BRVO or CRVO). Methods: Patients with ME after DM, CRVO, BRVO, CNV were included in this study. Complete ophthalmic examination, including determination of best-corrected visual acuity (BCVA), stereoscopic biomicroscopy, and retinal thickness measurement by optical coherence tomography (OCT), was done at baseline and at each follow-up visit. All patients were treated with a 0.1 ml intravitreal injection containing 2,5 mg of bevacizumab. Results: Visual acuity and OCT macular thickness measurements were obtained at baseline and 3 month post injection. The mean baseline visual acuity showed a significant improvement at 1 and 3 month follow-up. After injection, there was a statistically significant decrease in OCT thickness within 3 months. No other injection- or drug-related complications were observed. No ocular toxicity or adverse effects were observed Conclusions: Intravitreal bevacizumab injection resulted in significant improvement in BCVA and central retinal thickness, and this beneficial effect persisted for up to 3 months. However, the slight reduction in this improvement at 3 months suggests that repeated bevacizumab injections might be necessary. To evaluate the long-term safety and efficacy, further prospective randomized controlled clinical trials will be needed.

CATARACT WITH ZONULOLYSIS: SURGICAL MANAGEMENT USING CAPSULAR TENSION DEVICES

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Introduction: The authors present the case of a 73 year old woman with a corticonuclear cataract who underwent phacoemulsification with a foldable posterior chamber lens implantation. Material and methods: The biometry indicated a +21,5 D IOL, the anamnesis showed no ocular trauma. However, type 2 diabetes mellitus was present for 15 years. The planned operating technique was the operator’s standard quick chop in topical anesthesia on a 2,4 mm clear corneal wound and using a cystotome for capsulorhexis. During the phacoemulsification, a 90 degree zonulolysis was observed. Iris hooks were introduced to keep the capsular bag in position during the phacoemulsification, then a capsular tension ring was placed to make the intraocular lens implant possible. A video is presented showing the key moments of the operation. Results: the second day after operation the capsular bag and the intraocular lens were in position, although some amount of central stromal corneal edema has developed. At the first control at two weeks the cornea was clear, without refractive errors, still the vision was low. The cause was identified: clinically significant macular edema, caused by a
nonproliferative diabetic retinopathy, which was subsequently treated with LASER photocoagulation. Conclusions: capsular tension devices are useful in complicated cataract surgeries as they stabilize the capsular bag, making phacoemulsification possible. Zonulolysis is an intraoperative complication that can appear in seemingly simple cases of phacoemulsification and every cataract surgeon must be prepared to manage it with the use of the adequate capsular tension device.

RAPIDLY PROGRESSIVE BILATERAL VISUAL LOSS – CASE REPORT
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Material and methods: The authors present the case of a 45 year-old patient, who started to feel ocular pain during eye movements 15 days earlier. In spite of the topical treatment with Tobradex, the pain hasn't diminished and his vision became blurred. Beyond the ophthalmological examination he underwent several paraclinical and imagistical investigations: perimetry, MRI, carotid ultrasonography. Results: The clinical aspect correlated with the results of the imaging techniques allowed us to establish the diagnosis of bilateral retrobulbar optic neuritis. Patient received intravenous corticosteroid therapy with Solu-Medrol (1 gram/day) for 3 days, followed by Medrol tbl. (1mg/kg/day) for 11 days. His visual acuity improved spectacularly within 2 weeks. Discussion: A rapidly progressive bilateral visual impairment in a young man is a rarity. Correct diagnosis requires a precise clinical history, appropriate laboratory- and paraclinical investigations and meticulous examination of the optic disc and fundus. In spite of apparently excellent prognosis of optic neuritis, patients usually remain aware of visual deficits in the affected eye after recovery (visual field defects, dischromatopsy, decreased contrast sensitivity). Long term ophthalmic, radio-imagistic follow-up is recommended (many patients are diagnosed subsequently with multiple sclerosis).

CLINICAL AND HISTOPATHOLOGICAL FEATURES IN OCULAR SICCA SYNDROME
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Aim: To study the ocular surface and tear film aspects in patients diagnosed with autoimmune diseases. Material and method: We performed a 3 years prospective study in which 366 patients admitted for major collagen disorders were enrolled. The diagnosis of dry eye followed an examination protocol including: patient history, Ocular Surface Disease Index, slit-lamp biomicroscopy, clinical diagnostic tests for tear film stability assessment, tear secretion assessment, tear film and epithelial integrity assessment, ocular ferning test and conjunctival biopsy. Results: Rheumatoid arthritis was the most common disease (63.1%) associated with ocular sicca symptoms, followed by 14.8% mixed connective tissue disease, 10.7% disseminated lupus erythematosus, 6.6% dermatomyositis, 2.5% systemic sclerosis. Women were more affected than men, mean age 56.07 years, Std Deviation 10.575. In our study we found pathological changes of the conjunctival and corneal cells, aspects revealed by vital dye staining and conjunctival biopsies. We found statistically significant associations between quantitative tests for tear film and ocular damage severity (p<0.05). Conclusion: There are prominent and consistent ocular and oral findings in our cases related to the autoimmune-mediated loss of exocrine gland’s function. The visual prognosis of these patients depends on the proper diagnosis and efficient treatment.

Keywords: conjunctival biopsy, collagenosis, dry eye

MORPHOLOGICAL SCIENCES

PANCREATIC CALCIFICATION – CIGARETTE SMOKING AND ALCOHOLIC CHRONIC PANCREATITIS
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Chronic alcoholic pancreatitis is the most common cause of pancreatic calcifications. Pancreatic calcifications have been largely associated with chronic calcific pancreatitis from alcohol abuse. Although the exact mechanism of chronic alcoholic pancreatitis has not been clearly elucidated, the characteristic pathologic changes are well know. Although alcohol abuse remains the predominant cause of pancreatic calcifications, may other causes also deserve alteration. The mechanism by which smoking accelerates the pancreatic inflammation process is still unknown but laboratory studies have found that activation of multiple signal transduction pathways due to nicotine exposure results in high levels of intracellular calcium release and may be responsible for cell cytotoxicity and cell injury.
We report a case of the sudden and unexpected death of a 48-year-old man. At autopsy, the cause of death was moderate cardiomegaly, coronary atherosclerosis, with stenosis, myocardiosclerosis. Histopathology examination established pancreas calcifications.

**Keywords:** cigarette smoking, alcoholism, chronic pancreatitis, pancreatic calcification

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**NODAL MARGINAL ZONE LYMPHOMA-CASE REPORT**

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Primary nodal marginal zone lymphomas are rare small B cell lymphomas consists of monocytoid B cells organized in a marginal zone pattern, associated with centrocytoid cells colonizing follicles. We report a case of a 42 years old woman, who was admitted to the Surgical Department with left laterocervical adenopathy. The ultrasound examination revealed multiple, highly vascularized, hypoechochogenic adenopathies, size up to 46x16mm with possible origin from the left thyroid lobe. The macroscopic specimen was composed of adipose tissue and 4 lymph nodes with sizes between 40x30mm and 12x10mm, white-grey colour. The microscopic examination showed lymph nodes with completely replaced structure by a lymphoproliferative process with an interfollicular architecture. The neoplastic cells presented the typical morphology of monocytoid B-cells: medium size with abundant pale eosinophil cytoplasm, centrally located nuclei, with round or slightly irregular contours, clumped chromatin, and inconspicuous nucleoli. A few mitotic figures were present. Immunohistochemically the tumor cells were positive for CD20 and bcl-2 oncoprotein. CD3 and CD5 mark the surrounding reactive T-cells. CD10 mark the restant germinal centers. The differential diagnosis includes monocytoid B-cell hyperplasia, marginal zone B-cell hyperplasia, lymphoplasmacytic lymphoma/Waldenstrom macroglobulinemia, follicular lymphoma, mantle cell lymphoma and sinusoidal diffuse large B-cell lymphoma. Although nodal marginal zone lymphomas are quite rare (less than 1% of the lymphoproliferative disorders) it is important to recognize them and make the correct diagnosis.

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**MEDICO-LEGAL EXPERTISE OF THE DEAD BODY (MEDICO-LEGAL NECROPSY)**

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Purpose. The performing of an evaluation - period of 2007, Mures country - concerning prevalence and incidence of the situations when a medico-legal necropsy is needed. Material and methods. The study was performed by the Medico-Legal Institute Tg. Mures and there were analyzed 644 files of medico-legal necropsies. This showed that the main situations when there was necessary to perform a medico-legal analyze, according to the art. 114 CCP (Criminal Procedure Code), are compulsory in case of violent death, suspicious death or unknown reason death. In this way, our study showed the following situations: 423 violent deaths and 220 sudden deaths. From all the necropsies, taking into account the gender, the necropsies showed a higher rate in male, 75%, than in female, 25%. Depending on location, the rate of deaths in rural location was higher (54%) than the one from the urban location (46%). Conclusions. Concerning violent deaths, we noticed that there were predominant the deaths in the Critical Care Department; the Emergency Service for Resuscitation and Extrication, Cardiovascular surgery; General surgery, Neurosurgery. In case of non-violent deaths were predominant the deaths caused by the cardiovascular and respiratory pathology; central nervous system, digestive system and the sudden infant death syndrome.

Keywords: medico-legal necropsy, violent death, non-violent death

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**IMPROVEMENTS IN THE VIRTUAL LEARNING SYSTEM AT THE DEPARTMENT OF HISTOLOGY**

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Introduction: It is a well-known fact that starting with the 2007-2008 academic year the Department of Histology has been using a complementary virtual slide system in addition to classic histology learning. This e-learning system was very well received by the students, as reported in our previous studies, despite the fact that since its inception it was somewhat set back by the fact that it was built around a server with limited functionality, which was accessed by the students by means of a web browser. After the limit of 50 connections to this server was reached, it would shut down and needed to be manually restarted, a procedure that prevented the virtual slides from being viewed uninterruptedly. Also, this limitation rendered the virtual slides useless for study from outside the University,
since during night hours, once the shutdown limit was exceeded, the server would remain closed and there was no possibility to assign personnel to perform this task. This inconvenience was further complicated by the fact that the software was unable to host and grant access to more than 25 virtual slides at any given time, an issue that implied repeated changes in the set of available slides and could sometimes cause confusion between the syllabus of different series of students. Material and method: Our aim was to identify a way to circumvent the problem of the server constantly shutting down and not being able to restart unattended, and the inconvenience of the limited number of slides being hosted. All options taking into account open source software were discarded after a period of trials, due to the highly proprietary format of the virtual slides scanned by the hardware available at the Department of Histology. After a thorough research of the available resources on the software in question, we developed a solution that eliminates the aforementioned problems almost completely and renders the virtual slide system much more usable. Results and discussion: The problems generated by the server/client configuration of the virtual slide system were addressed by uploading all virtual slides to each of the student computers, instead of them being hosted on a single central server. Simultaneously, a two-component software consisting of a slide tray and a dedicated slide browser was also installed on each computer. The slide tray component acts as a local server, hosting the virtual slides for the browser component to access. In addition, the dedicated browser software is more advanced than the web browsing interface in terms of both speed of access and features offered, such as slide annotation. Thus, the need of a network connection for viewing the slides has also disappeared. This approach allows for the virtual slides to be accessed and studied at any time during lab activity hours. The only disadvantage of this method is that student access to the virtual slides from outside the university is no longer available but, as stated before, this feature was virtually unusable due to software limitations. Nevertheless, we believe that this new approach to virtual histology learning will grant more ease of use and that it will prove to be a more rewarding experience for our students.

ANGIOGENESIS ASSESSMENT IN NON-HODGKIN LYMPHOMAS USING IMMUNOHISTOCHEMISTRY AND DIGITAL MORPHOMETRY

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Introduction. New vessel development plays a crucial role in the biology of most solid tumors. The analysis of vascular density and other related parameters might give us a better insight into the biological behavior of the tumor. Vascular density is best described by measuring the number and surface area of the vessels of a given tumor area. Aims. Our goal was to review the literature about angiogenesis assessment techniques and tools and to develop a proprietary algorithm to be used in further studies regarding vascular density in malignant lymphomas and possibly other solid tumors. Materials and methods. We used various information sources such as books, internet, congress meetings, etc., to map current advances in terms of angiogenesis assessment with emphasis on malignant lymphomas. The testing and tuning of the angiogenesis assessment proprietary algorithm was done using 20 randomly selected cases, from paraffin embedded specimens with the diagnosis of diffuse large B-cell lymphoma. For the diagnosis we used conventional staining procedures as well as immunohistochemistry. Vascular components of the tumor was highlighted with the CD34 antigen. From each case a number of 5 digital images were taken, resulting a total of 100 digital images. The testing and tuning of the technique was performed on these microphotographs. We developed a color segmentation based digital morphometry algorithm to quantify CD34-positive elements. Results, discussion. According to literature data there are some readily available methods to analyze vascular density of a tumour, however none of them focuses on malignant lymphomas. The assessment of microvascular density using our algorithm proved to provide useful and reliable information in the study of vascular characteristics of the tumoral tissue. In our paper we briefly describe the pitfalls and caveats of digital microvascular density assessment using this algorithm.

EPITHELIOID GASTROINTESTINAL STROMAL TUMOR (GIST) – CASE REPORT

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Introduction: GISTs appear macroscopically like nodular tumors that develop in the wall of the gastrointestinal tract. They are non-encapsulated, well defined tumors with firm consistency. Exceptionally they can have a pseudo-cystic appearance, while large tumors may present necrotic or hemorrhagic zones. Microscopically, they appear most frequently as spindle-cell tumors (70%), followed by the epithelioid type (20%) and only exceptionally they show a mixed character, myxoid or signet ring cell type. Our aim is to present a rare variant of GIST, with a cystic macroscopic appearance and with a microscopic epithelioid appearance. Material and method: We present the case of a female patient admitted to the Department of Surgery II of the Emergency County Hospital Tg. Mureş for an epigastric tumor. The exploratory laparotomy revealed a cystic tumor of the posterior gastric wall. After surgical resection the specimens obtained, processed at the Department of Pathology, were represented by a multilocular, cystic tumor of 95x120x70mm with hemorrhagic content and an irregular internal surface, and a 45x30mm fragment of gastric mucosa, with a hemorrhagic area in the submucosa. Several sections was performed, some of whom were stained with HE and Alcian-blue-PAS. A number of section
underwent immunohistochemical (IHC) staining with the following antibodies: AE1/AE3, CD117, CD34, SMA, S100, desmin and Ki-67. Results: In HE staining, the tumor consisted microscopically of a proliferation of tumor cells with epithelioid aspect, with an abundant, pale eosinophilic cytoplasm, and pleomorphic nuclei with low mitotic activity (2/50hpf). We also observed that the proliferation of tumor cells was mainly present around small vascular structures, that the tumor showed large areas of cystic and hemorrhagic degeneration and also a reduced chronic inflammatory infiltrate. Tumor invasion of the gastric mucosa was not observed. From the immunohistochemical point of view, tumor cells showed membrane positivity for CD117 and CD34 and a negative reaction to cytokeratin, SMA, S100 and desmin. Less than 5% of tumor cells presented nuclear reactivity to Ki-67. Conclusions: based on the macroscopic and microscopic appearance and the immunohistochemical profile of the tumor, the diagnostic of high-grade malignancy gastrointestinal stromal tumor with gastric localization was established. The particularity of the case is represented by its presentation, as the cystic appearance is rarely reported in the literature, and on the other hand by the microscopic appearance, that of a tumor with an epithelioid character. This form of presentation is very rare and raises problems of differential diagnosis from other malignant tumors: tumors of epithelial origin (carcinomas, metastases of clear cell carcinoma) that are CK+ and negative to the other antibodies, and tumors of mesenchymal origin (epithelioid leiomyosarcoma, clear-cell sarcoma, paraganglioma) that show a specific immunohistochemical profile. In this respect IHC is essential for a correct histopathological diagnosis: gastrointestinal stromal tumors are CD117+, leiomyosarcomas SMA+, clear-cell sarcomas S100+ and HMB45, and the paragangliomas S100+

ENDOMETRIAL METASTATIC CUTANEOUS MALIGNANT MELANOMA – CASE REPORT

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The aim of the study: We discuss a case of endometrial metastatic cutaneous malignant melanoma, in the conditions that the extragenital metastatic tumours ability is uncommon at the level of the endometrium, and from this only 5% are represented by cutaneous malignant melanoma. We present a case of a 56 years old female patient with abnormal uterin bleeding. Curettage was performed with diagnostic and haemostatic goal, followed by total hysterectomy. She had a history of cutaneous malignant melanoma (diagnosed a year ago). Materials and Methods: The curettage specimen of 1 ml in quantity, was fixed in 4% formalin and proceeded for analyse with standard histopathologic methods. The paraffin block was submitted after that, to special stains and immunohistochemical reactions. The hysterectomy specimen was fixed and proceeded with standard methods. Results: Microscopically, with usual stain, between the atrophic endometrial mucosa fragments were seen a few tumoral fragments, distributed predominantly in nests or cords, with a few mitotic figures and with intracytoplasmatic melanin pigment. In the context of the clinical history of the patient, correlated with the microscopic aspect, our first diagnostic option was an endometrial metastatic cutaneous malignant melanoma, which was confirmed by the positive immunostains of the tumoral cells with Vimentin, S100 and HMB45 antibodies. On the surgical specimen a 3 mm tumoral mass was identified in the endometrial cavity, which infiltrates only superficial the endometrium. Conclusion: We present this case because of the rare and uncommon localization of the cutaneous malignant melanoma metastasis. The knowledge of the patient clinical history, the characteristic-architectural aspect of the tumour and the presence of the intracytoplasmatic melanin pigment (positive for Lillie special stain), facilitated for the accurate diagnosis.

BASAL-LIKE CARCINOMA OF THE BREAST- A WIDE SPECTRUM OF MORPHOLOGIC PATTERNS

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Basal-like carcinoma, a subset of breast cancer with a generally poor survival is usually defined by gene expression profiling and immunohistochemical features. So far, in the international literature, the classic morphology of basa-loke carcinoma of the breast has been characterized by solid architecture, high nuclear grade, numerous mitotic figures, pushing border, stromal lymphocytic infiltrate and geographic necrosis. This is the first report of a triple negative basal-like carcinoma with a unique persistent cystic morphology in both primary tumor and axillary lymph nodes metastases. A 36 year old patient was admitted to the Surgical Department for a palpable tumor mass in the left breast. Ultrasound revealed a 40mm diameter hypoechoic cystic tumor, associated with multiple hypoechoic, enlarged well-circumscribed lymph nodes in the left axilla. Grossly, the cystic central part of the tumor was surrounded by an irregular white, 5 to 25mm thick wall. Microscopically, the tumor was a poorly differentiated ductal invasive carcinoma NOS type. Immunohistochemically, the tumor cells were negative for ER, PR, Her 2, but diffusely positive for CK 8, CK 18, CK 5/6 and with a 90% Ki67 index. 23 of 34 lymph nodes found in the axilla presented metastases and of these, 19 revealed microscopically the same unusual cystic appearance as the primary tumor. Using immunohistochemical criteria, a wide spectrum of histologic subtypes can be reported to be triple negative for ER, PR and Her 2 and positive for basal-cell markers. It appears that basal-like carcinoma defined on his immunoprofile is as heterogeneous on morphology as the breast carcinoma derived from the luminal epithelial cells. We described for the first time a cystic basal-like carcinoma with a persistent cystic aspect in axillary lymph's nodes metastases difficult in differential
from florid papillary endosalpingiosis and other epithelial cystic inclusions.

**PRIMARY SIGNET RING CELL ADENOCARCINOMA OF THE CERVIX DEVELOPING AFTER THREE YEARS OF PAP SMEAR-NEGATIVE FOLLOW-UP**

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Signet ring cell adenocarcinoma of the cervix is usually of metastatic origin. However, in rare cases it can develop as a primary, with only 12 cases reported to date. Characteristically, tumor cells with eccentric nuclei and pale basophilic cytoplasm are present in nests or clusters. No evidence regarding a precursor lesion has been documented in the literature. We present the case of a 41 year old patient diagnosed three years before on a cervical biopsy of a mixed CIN III and in situ adenocarcinoma of the cervix intestinal type that was excised by a cone biopsy. Cytologic follow-up for a period of 3 years using PAP smear revealed no abnormal cells. She eventually presented with a polypoid mass protruding through the external cervical os. The biopsy showed a solid proliferation of characteristic signet ring cells containing Alcian blue-positive intracytoplasmatic sialomucins and a diffuse positivity for CK 7, CEA, p16, and focal for CK 20. The negativity for CA125, Vimentin, ER, PR further supported a cervical immunophenotype. The patient underwent radiotherapy followed by total histerectomy and bilateral salpingo-oophorectomy. On the surgical specimen, a remaining 35mm tumor was located in the cervical wall and had a polypoid appearance. Microscopically, only dissecting pools of mucin devoid of tumor cells were seen deeply infiltrating the cervical wall. This is the first documented case demonstrating a precursor lesion of intestinal type adenocarcinoma for a primary signet ring carcinoma of the cervix. Intestinal differentiation represents a risk factor for eventual invasion in premalignant glandular lesions. This case also demonstrates the positive actinic response in this adenocarcinoma of intestinal type.

**MIRTAZAPINE EFFECTS ON ADIPOGENESIS**

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Background: Mirtazapine is a widely used antidepressant. The precise mechanism of action of mirtazapine is still uncertain. In general, the tetracyclic antidepressants, mirtazapine and maprotiline, acts by increasing central noradrenergic and serotonergic (5-HT1) neurotransmission. Mirtazapine appears to act primarily as a potent antagonist at postsynaptic 5-HT2 and 5-HT3 (serotonergic) and central a1-adrenergic (noradrenergic) receptors. Mirtazapine is also a potent antagonist at central and peripheral histamine (H1) receptors, which may explain its sedative effects. Unlike maprotiline, mirtazapine has little activity at muscarinic or peripheral a1-adrenergic receptors. Common side effects of this antidepressants is weight gain, but the mechanism is unclear. Aim of study: We proposed to study the adipocytes differentiation during short and long term of mirtazapine treatment. Material and methods: 30 white adult female Whistar rats were included in the study, 10 of them being the control group, 10 of them being treated with mirtazapine in dose of 10 mg/kgbw and 10 of them with mirtazapine in dose of 30 mg/kgbw. The duration of the experiment was 6 weeks with standard food intake. All rats were weighted at 7- days intervals. After one and 6 week of treatment the forced swimm test was performed and on the end of the study the animals were sacrificed and perirenal adipose tissue was obtained. Results: Only high dose of mirtazapine exerts antidepressant effect during 6 weeks of administration. In the body weight variation there was no significant difference between groups. The histological analysis of adipocytes from the perirenal tissue revealed some differences: the lipoblast density was the highest in the animals treated with mirtazapine in low dose, but in adipocyte surface the differences between groups were not significant. Conclusion: Suboptimal dose of mirtazapine could be one factor in inducing metabolic syndrome by stimulating adipogenesis.

**ACCELERATED PARTIAL BREAST IRRADIATION WITH THREE-DIMENSIONAL CONFORMAL EXTERNAL BEAM RADIOTHERAPY FOLLOWING BREAST-CONSERVING SURGERY – PRELIMINARY RESULTS OF A PHASE II CLINICAL STUDY**

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Purpose: To implement accelerated partial breast irradiation (APBI) by means of three-dimensional conformal radiotherapy (3D-CRT) following breast-conserving surgery (BCS) for early-stage breast cancer. Methods and Materials: Between March 2006 and November
MOLECULAR PATHWAYS AND PATHOMORPHOLOGY OF COLORECTAL CANCERS

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Colorectal carcinomas (CRCs) evolve through multiple pathways. These pathways may be defined on the basis of two molecular features: 1. chromosomal instability and 2. chromosomal stability. Tumors showing chromosomal stability evolve through the so-called microsatellite instability pathway. These type of tumors show different clinicopathological features and need different therapy so very important to separate them. As hematoxilin-eosin (H&E) based histology is influenced by the different genetic alterations of a tumor, it is reasonable that different gene expression profiles result in different H&E morphology. Our aim was to find specific histomorphological features specific for colorectal tumors showing different molecular features. We analyzed the clinicopathological parameters of 122 colorectal carcinomas, 26 hereditary non-polyposis colorectal cancers, 22 sporadic high-level microsatellite-instable (MSI-H) cancers and 76 microsatellite-stable or low-level microsatellite-stable (MSI-L) cancers among them. Our results showed that we can recognize microsatellite-instable tumors on the base of clinicopathological features like patient’s age, tumor localization and histological characteristics of CRCs. Main histological parameters related to microsatellite-instability are tumor infiltrating lymphocytes, vesicular nuclei and expansive infiltrative edge of the tumors. Careful histological analysis helps to select molecular method to define molecular features and to select the most appropriate therapy of a given tumor.

GLUCOCORTICOID RECEPTOR EXPRESSION AND ANTIPROLIFERATIVE EFFECT OF DEXAMETHASONE IN HUMAN MELANOMA CELLS

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Glucocorticoids, such as dexamethasone are widely used in cancer therapy and have cell type-specific pro- or antiapoptotic effects. We examined whether melanoma cells are sensitive to dexamethasone treatment. We have demonstrated for the first time that in human melanoma cell lines as well as benign and malignant melanocytic tumors glucocorticoid receptor (GCR) was present both at mRNA and protein level. Using quantitative PCR the expression level of GCR in skin primary melanomas was found significantly lower compared to normal skin or nevus. Dexamethasone applied at high doses slightly inhibited the in vitro growth of WM983A human melanoma cells. The inhibitory effect was due to apoptosis induction. In the case of this relatively sensitive cell line dexamethasone compared to normal skin or nevus. Dexamethasone applied at high doses slightly inhibited the in vitro growth of WM983A human melanoma cells. The inhibitory effect was due to apoptosis induction. In the case of this relatively sensitive cell line dexamethasone enhanced the effect of the chemotherapeutic drug DTIC. Using prolonged treatment, dexamethasone inhibited the growth of two additional melanoma cell lines.

HYGIENE, LABOR MEDICINE, PUBLIC HEALTH, SOCIO-HUMANISTIC SCIENCES

RARE ACUTE INTOXICATIONS RECORDED IN PATIENTS ADMITTED IN TARGU-MURES OCCUPATIONAL HEALTH DEPARTMENT, BETWEEN 1990-2003

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Introduction. Intense industry development, besides beneficial effects, sometimes it has a negative influence on the environment or humans. In professional pathology it occurred cases of professional intoxication and other etiology cases, whose inventories have led to new methods of diagnosis and treatment. Material and methods. To obtain more relevant information, we have described the symptoms and treatment in 5 cases: inorganic lead intoxication, mercury metal (acute intoxication and chronic intoxication), antimony pentachloride intoxication and one case of lung toxic pre-oedema caused by gases and irritating vapors. Results and discussion.
In chronic lead intoxication we have monitored a 29-years-old worker with exposure to inorganic lead from Copsa Mica Factory. The American literature mentions that over 150 μg/100 ml of lead in blood the intoxication occurs; our patient who was hospitalized with bilateral radial paresis have had a lead concentration of 297 μg/100 ml of blood. Acute mercury intoxication shows that metallic mercury is not absorbed in the intact digestive tract. The activity of metallic mercury in the body is conditioned by the presence of oxides, without which there is no toxic effect of the mercury in the body. Antimony pentachloride, in case of external exposure, is extremely irritating, depending on the amount absorbed and the intoxication can lead to multiple ventricular extrasystoles and diarrhea. Regarding acute intoxication with irritants gases and vapors it must be mentioned a case of lung toxic oedema, which was monitored by us. Conclusion. The data obtained underscores once again the need to follow these intoxications for a very prompt response to life-threats.

**SOME ASPECTS OF MORBIDITY SURVEYS REGARDING TEMPORARY INCAPACITY FOR WORK IN ROMANIA DURING 1995-2008**

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The study of morbidity with temporary work incapacity is one of the methods used to assess the health of the population of a country. The aim of this paper is to analyze the causes of morbidity with temporary work incapacity as well as the evaluation of the number of days of sick leave issued during the period 1995-2008 and the identification of those industrial fields which have the highest index of severity. Material and method: necessary data were collected from the Health Statistics Annual of the Ministry of Health, which was then processed and interpreted. Results: during 1995-2008 there were approximately 93254000 days of sick leave issued in our country, in decreasing order for osteoarticular system diseases, respiratory diseases, accidents, circulatory system diseases and diseases of the genito-urinary tract. These six groups of diseases were the top five causes of morbidity with temporary work incapacity during the studied period. According to the severity index among the top five industrial fields was the coal industry with the highest gravity index: 1844 in 2002 and the automobile industry with the lowest gravity index 946 in 2006. Conclusions: the large number of sick leave days allocated in our country during 1995-2008, point out the problems concerning the health status of the population and thus the need for special measurements for improvement.

**ROMANIAN KNOWLEDGE AND PRACTICES REGARDING VEGETARIAN DIET**

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Purpose: To assess the knowledge and attitudes towards Romanians vegetarian diet. Material and Methods: We relied on a transversal qualitative epidemiological study, conducted on a sample of 624 subjects from around the country who have completed online, anonymously, a questionnaire of 40 items, which concern the perception and attitudes towards eating vegetarian, also implications and knowledge in the field. Results: In our study most frequent were female (76%), mostly from urban areas (93.6%) and with higher education (74.8%). Those interviewed were aged between 18 and 71 years, with predominance of young people (61% between 18 and 40 years). Of them 26.1% allows half of their monthly income on food, and 28.4% a quarter of salary. Frequency of vegetarians is 19%, lower compared other studies, and from the rest of the group, 26% are convinced that they will remain permanently omnivores. Motivations for adoption of this diet are primarily related to health status (70.2%), curiosity in young people (6.7%) or religious reasons (3.5%). Conclusions: Based on the arguments and controversies related to vegetarian nutrition we attempted in this study to enrich the database on food preference behavior of Romanians in recent years and future trends. Knowledge and practices of vegetarian diet are still emerging in our country and with a low incidence, however, these models are worth monitoring in order to prevent nutritional deficiencies inherent risks arising from inadequate nutrition.

**SEROPREVALENCE OF MEASLES ANTIBODIES: RESULTS OF A CROSS-SECTIONAL STUDY**

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Introduction: Postvaccination immunization assessment may be accomplished by serological methods, which indicates the types, quantity and specific antibody persistence in serum, antibodies correlated with protection against the disease by cellular mediation immunization. Purpose: The purpose of this study was the investigation of seroprevalence against measles in children of up to the age of 18; identifying low protection groups and correlating the antibody level with the vaccination. Material and methods: 264 children
were included in cross-sectional study, with their age ranking between 1 month and 18 years, anti-measles antibodies level being determined by ELISA method. Results: The level of IgG anti-measles antibodies varied extensively between 0.1 UA/ml and 13077.67 UA/ml (mean=281.77 UA/ml). The antibody titre was quoted up to 47.1% of children belonging to age group 1-12 months, and for the other age groups the protective level was upper unprotective level (p=0.021). For the age group of >12-24 months and >2-5 years, the protection level was estimated to be 57.9% respectively 82.8 % of the children. The older children were dosed a second vaccin and in their case they noticed a concentration of protective antibody titre of 70.3% % for the ones with their age ranking between 5 and 10 years, as well as 76.0 % for those older than 10 years of age. There was no significant statistical difference regarding to gender (p=0.46), in urban areas the rate of protected ones was 75.0 %, those who had their place of origin in a rural area presented statistically insignificant differences (p=0.49), meaning 70.6 %. Conclusions: There is a lower seropositivity in the 1-12 months group of age. The vaccinated person’s protection increases significantly as aging, concerning the older group of age there is a high antibody saturation, both due to vaccination and passing through a natural infection.

**Key words:** seroprevalence, measles, IgG antibodies.

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### THE STUDY OF WATER QUALITY OF SEVERAL LOCAL SOURCES

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Aim: The aim of this study is to analyze the water quality of several local sources (water used in rural schools and trainstations, fountains, public wells, wells of turistical interest) from Toplita-Deda region, respective from Georgheni basin in order to inform the population about the water quality and about the importance of the drinking water control. Method: In the studied two regions there were collected repeated water samples from totally 41 water sources during the year 2010. A multiparametric colorimeter, Hanna Instruments C99 was used to determine the following physical and chemical parameters: temperature, pH, durity, chloride, iron, fluoride, iodine, ammonium, nitrites, dissolved oxygen, nitrates. In the microbiological laboratory there were studied the total number of germs, E. Coli, Salmonella and Shigella. Results: There were calculated the average values and the percentage of the positive samples. The highest admitted levels were based on the Law nr. 458/2002 regarding drinkable water quality. The durity of over 25% of samples exceeded 10 german grades, while among the mineral indicators iron exceeded the limit in 18,18% and water samples were poor in fluoride (83,65%) and in iodine (98,18%). A small percentage of sources (3,63%) indicated pollution, 10,9% had high nitrate level. Analyzing the microbiological content, our water samples were within the drinkability limits required by law. Conclusion: In our study we conclude the importance of monitoring water supplies, to be aware of the water quality according mineral composition, pollution estimation and microbiological characteristics in order to prevent the unexpected influence on the health status of the consumer population.

### THE ROLE OF INTERPERSONAL COMMUNICATION IN STUDENT’S CAREER COUNSELING

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Objective: The professional attainment is for the students the sine – qua- non condition to report themselves as individuals to the society, through the prism of appurtenance to the letter, proving their adapting capacities but also their succeeding skills starting from the logistics that concerns the vocational career. Materials and methods: At the basis of our strategic intervention we took into consideration the elements that personalize the evolutilonal stages of educational status, the years of studentship, but also the use of some research methods like: conversation, observation, evaluation of developed activities and case study. All were concentrated upon the subject that we investigated, following closely the successful achievement of the inter-relation between career counseling (C.C.) and interpersonal communication (I.C.). Results: Shown the fact that the student has to be aware and to be responsible of its own involvement in professional achievement, showing among others: coherence, sobriety and will of achievement, transforming their dream into reality. Conclusions: We have to remark the fact that interfering at time in the process of formation through career counseling (C.C.) involves also interpersonal communication (C.I.) which determined the success starting from the triad: time – purpose – cause.

**Key words:** student – career – communication – counseling – strategies – involvement – community.

### EVALUATIVE VECTORS WHICH CONFIGURE THE PROFESSIONAL AND PSYCHO-PEDAGOGY PROFILE OF THE GRADUATES IN THE UNIVERSITY OF MEDICINE AND PHARMACY OF TARGU MURES

**Jude Ioan**
As shown by the title, which presents the model profile of graduate faculties and specializations within the University of Medicine and Pharmacy (UMF) Tg-Mures, model that can meet a certain configuration vector that targets the specialist skills and capabilities in the medical field, and in the movement sciences, competence achieved by the common core of the specialized disciplines, and other competences like those of educator, counselor, facilitator and organizational manager. Competences achieved through disciplines included in the Education Plan of the University and their analytical programs, by the study programs of some specific and differentiated educational structures. Structures and programs according to the expectations of EU competence and professional profile of future graduates of faculties of medicine, pharmacy, dentistry and specialties related to these faculties, and will configure the psychoprofesiograms of these specializations. The specialist competences in the medical field, in which they are preparing, and other skills and abilities in their theoretical, and practical – actional configuration, involve some evaluative vectors, such as: 1. To Know – Know - cognitive vector 2. To do - to put into practice - praxiological or actional vector 3. To be - to know how to behave with patients and other interpersonal relationships – Ethics, or attitude - behavior vector In essence this model configures the profile of the future graduate of this institution, with the educational structures mentioned, and not ultimately the Department for Teacher Training, reestablished at the UMF, we can design the general and specific objectives which structures the content of the disciplines (obligatory, optional, and facultative) in faculties and specializations, correlating the three vectors that configure the profile of future specialists and teachers in medical, pharmaceutical, dental, and preventive maintenance and recovery of population health. In this aspect some profile-specific disciplines will be combined with the normative and methodological provisions prepared in teaching specialty of these disciplines, as well as other curriculum subjects included in the Education Plan and University Charter which configures this multiforme and multiply profile. Emerging profile for current and permanent educational activities, through formal, non-formal, and informal education, and not ultimately through life experience and practice in each specialization area.

INFLUENCE OF F- ON LACTIC FERMENTATION
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Objective: The purpose of our study was to establish the influence of F- on lactic fermentation. Inhibition of this process is an anticariogenic factor and would increase milk conservation period. Material and methods: NaF 0.5 mg F-/L and 1.0 mg F-/L influences lactic fermentation of unpasteurized milk and pasteurized milk maintained at 200 C and 40C for a specified period of time. Lactose, lactic acid and milk acidity were determined. Results: In the absence of F-, the concentration of lactose from pasteurized milk decreases after 4 hours at 200 C and after 12 hours at 40 C while in milk samples that contained F-, lactose decreases after 8 hours and 24 hours respectively. At the end of the study period a decrease of lactose concentration was observed in the pasteurized milk maintained at 40 C versus the milk maintained at room temperature. At the concentration of 1.0 mg F-/L at 200 C, lactose decreased with -22.97% and at 40 C the difference from the first sample was -5.59%. In the unpasteurized milk a higher decrease was observed (-14.23%). Total pasteurized milk acidity with and without F-treatment is lower than in unpasteurized milk. At 40 C and a concentration of 1.0 mg F-/L the pasteurized milk acidity was 190 Th while unpasteurized milk acidity was 240 Th. At 40 C total acidity is lower in all samples than in the samples maintained at 200 C. Lower temperature inhibits lactic fermentation. Lactic acid presents lower increases in pasteurized milk than in unpasteurized milk in both milk and in both milk samples treated with F-. In unpasteurized, untreated milk, maintained at 200 C, lactic acid concentration increases after 4 hours while in that maintained at 40 C increases after 8 hours. At the end of the study lactic acid concentration increase is higher in milk maintained at 200 C (275.30%) than in milk maintained at 40 C (38.55%). Lactic acid concentration at 200 C in unpasteurized milk is also higher. Conclusions: The concentration of 1.0 mg F-/L, identically with that used in water fluoridation is optimum for lactic fermentation inhibition, which increases the conservation period of milk. In the same time in special areas where water is poor in F-, introducing this bioelement in milk would prevent dental caries.

NEW METHODS IN DIAGNOSIS OF OCCUPATIONAL LUNG DISEASES
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Introduction. A certain diagnosis in pulmonary diseases from the professional environment is a cornerstone in the context of concern for health and safety in the workfield. Most of the times, the clinician has to establish a diagnosis of asthma or professional COPD without having access to the most modern exploration in this regard, namely body-plethysmography, also with the measurement of the gas transfer at the alveolo-capillaries membrane level. Material and method. The study was performed on a number of 17 patients hospitalized in the Occupational Healt Department in Targu Mures during April to June 2010. The 17 patients were directed to the hospital after the periodical medical examination, when there were found different changes of the spirometry values. Results and discussions. Besides the usual spirometry and normal clinical and laboratory examinations done in any respiratory disease, the patients had their airway resistance to flow, the residual volume and the alveolo-capillary diffusion measured. Lung function test using the body-plethysmograph in a 17 patients study group from professional environment with exposure to irritant gases and vapors found
significant changes in residual volume and airway resistance to flow. These changes are also accompanied by abnormal alveolo-capillary diffusion. Data obtained with the body-plethysmograph Piston which is featured with the measurement of the gas diffusion capacity mode of the alveolo-capillary membrane, correlated with the results of simple spirometry performed during the periodical medical examination and with the clinical and paraclinical examinations obtained during the hospitalization at the Occupational Health Department, offers a correct and early diagnosis of the lung affections from the professional environment, which also involves a fair therapy and an efficient recovery of work capacity. Conclusions. The full body-plethysmography can be considered the best method for proper diagnosis of pulmonary disease in occupational environments. Most workers exposed to irritant gases and vapors who were hospitalized for various respiratory complaints have had varying degrees of emphysema. The changes occurred in regular spirometry values at periodical medical checks are accompanied by increases in airway resistance to flow. Body-plethysmography together with alveolo-capillary diffusion measurement eliminates errors in diagnosis or inaccurate diagnosis of patients with occupational respiratory diseases.

Key words: Body plethysmography, emphysema, spirometry

THE CUMULATIVE EFFECTS OF THE OTOTOXIC SUBSTANCES AND THE NOISE TO HEARING

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The aim of this study is to follow the cumulative effects of the noise and the ototoxic chemical substances to the hearing. In the work environment they are many chemical substances who may cause hearing loss and tinnitus. They can act or alone, or in combination with the noise. The ototoxic substances are: benzene, carbon-disulfid, CO, etilbenzen, hidrogencianid, lead, mercury, n-hexan, solvent mixtures, stire, tricloretilen, toluene, etc. The ototoxins can be ingested, absorbed, or inhaled into the body. Once in the bloodstream, they are circulated to the ears and damage the auditory nerve, producing hearing loss. Material and method: to follow the effect of the chemical substances to the hearing, I followed the audiometric results of two groups of patients admitted in Clinic of Occupational Medicine Targu-Mures. A group of 50 patients where exposed only to the noise effect, and an other group where exposed to the cumulative effects of the noise and chemical substances, such as organic solvents, clues, urelit, formiac acid, vaseline, lead, mercury, sa.. I followed the hearing loss in 4000 Hz of the aerian conduction, without the presbyacuzia correction in the two groups, and the association of the hearing loss in the conversational frequency. Results; The patients exposed only to the noise presents a hearing loss -68 % between 41-70 dBel. The patients in the second group exposed to the chemicals and noise presents a greater numbers of cases of hearing loss between 71-80 dBel on the audiometry finding; 17 % to 8% in the group exposed only to the noise. The hearing loss in the conversational frequency where greater in the second group of patients, those exposed to chemicals and the noise effects: 47 % to 40 % in the group exposed only to the noise. Conclusions: The results obtained in the two groups are not semnificative statistics, therefore it is obligatory to study this phenomena in a greater number of cases, and to study only the ototoxic effects of the chemical substances without the noise exposure.

ANATOMY, PHYSIOLOGY, METHODOLOGY, CELL BIOLOGY, PHYSIOPATHOLOGY, INFORMATICS, BIOCHEMISTRY

BINDING AFFINITIES OF CELECOXIB TO COX2 AND PDK1 COULD CAUSE THE ANTI-INFLAMMATORY AND ANTICANCER ACTIVITIES OF THIS COXIB

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Introduction. Celecoxib (CEL), with brand name Celebrex, is the fastest-selling drug in history. It is a cyclooxygenase-2 (COX2) selective inhibitor used as a nonsteroidal anti-inflammatory drug. Celecoxib can also be used for cancer prevention and treatment, which has become a very hot topic in the field of cancer research. Further studies have shown that celecoxib has apoptotic effect independent of COX2 inhibitory activity, implying that the anticancer activity of celecoxib is not due to the inhibition of COX2. QSAR studies were performed to identify the functional groups essential for apoptotic activity of celecoxib. Other studies have shown that celecoxib inhibits 3-phosphoinositide-dependent kinase-1 (PDK1) activity. Material and method. A starting molecular system was X-ray crystal structure of celecoxib-bound COX2 (PDB code: 3LN1). It consists by 4 identical protein chains (552 residues), 2 Octylglucoside, 4 CEL, 4 Heme, 20 N-acetylglucosamine and 111 water molecules. The other starting system was X-ray crystal structure of ATP-bound PDK1 (PDB code: 2BIY). This structure is more complete compared with other crystal structures of this kinase. It consists by a protein chain (552 residues), 2 Octylglucoside, 4 CEL, 4 Heme, 20 N-acetylglucosamine and 111 water molecules. The other starting system was X-ray crystal structure of ATP-bound PDK1 (PDB code: 2BIY). This structure is more complete compared with other crystal structures of this kinase. It consists by a protein chain (552 residues), 1 ATP, 7 Glycerol, 7 SO42- and 166 water molecules. The missing side chain atoms of residues Gln73, Arg75, Glu153, Lys228, Arg238, Lys304, Glu343, Glu348, and Lys357 from PDK1 were added automatically using wizard-like Workflows function of Maestro application from Schrödinger library (Suite 2010). The atomic coordinates of CEL atoms
were taken from Hic-Up server (Hetero-compound Information Centre Uppsala). The PDB files were taken from www.rcsb.org. The enzyme-inhibitor systems subjected to molecular docking and dynamics are COX2-CEL and PDK1-CEL. To obtain these systems the crystallographic units above described were reduced by deleting of extra molecules in Atom Selection dialog box of Maestro. Both systems were soaked in rectangular boxes filled with explicit water. The model of water molecules was SPC (Simple Point Charge). Molecular docking and dynamics were carried out with Glide and, respectively Impact applications. Molecular dynamics simulation was carried out in OPLS_2005 molecular mechanics force field at $T = 298.15$ K and $p = 101,325$ Pa. Results and discussions. The experimental values of binding free energies, $\Delta G_{\text{exbind}}$, for the two molecular systems were obtained using an approximate formula, $\Delta G_{\text{exbind}} = RT \ln K_d = RT \ln IC_{50}$. Here $R$ is the gas constant, $T$ is the absolute temperature, $K_d$ is the dissociation constant and $IC_{50}$ is the half maximal inhibitory concentration (inhibitor concentration at which PDK1 kinase activity is inhibited by 50%). The experimental values of $IC_{50}$ were obtained from literature such as Zhu J. et al, Cancer Res, 64(12):4309-4318, 2004. Computational values of binding free energies, $\Delta G_{\text{bind}}$, were calculated using formula $\Delta G_{\text{bind}} = \Delta G_{\text{exbind}} - \Delta G_{\text{sol}}$, where $\Delta G_{\text{bind}}$ is the binding enthalpy and $\Delta S$ is the binding entropy. The entropic term $-\Delta G_{\text{sol}}$ was obtained computationally based on the molecular docking data and $\Delta G_{\text{bind}}$ was calculated using the formula $\Delta G_{\text{bind}} = \Delta E_{\text{MM}} + \Delta G_{\text{sol}}$, where $\Delta E_{\text{MM}}$ is the molecular mechanical binding energy and $\Delta G_{\text{sol}}$ is the solvation free energy. Both terms were calculated from molecular dynamics trajectories (snapshots). A comparison between computational and experimental values of the binding free energy reveals a satisfactory conformity. For instance, in the case of PDK1-CEL system the values are $\Delta G_{\text{bind}} = 8.314 \cdot 298.15 \ln (48 \cdot 10^{-6}) = 24.650$ kJ/mol and $\Delta G_{\text{bind}} = 21.023$ kJ/mol. On the other hand this is a hypothesis verification.

STEPS IN ATRIAL SEPTATION IN LATER FETAL LIFE

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Once formed, the interatrial septum (IS) functions as a one-way valve, allowing blood to pass from right atrium to left atrium. The valve closes at birth, ending the shunting of blood from right atrium to left atrium. The right atrium receives oxygenated blood from umbilical vein by way of the inferior vena cava. Formation of septum primum (weeks 5-6); the septum primum (SP) is a curtain of tissue that arises in the cranial portion of the atrial roof near the midline. It proceeds to grow downward toward the endocardial cushions. As the SP grows toward the endocardial cushions, it leaves a hole on its border called the ostium primum (OP). The OP provides a passage between the right and left atria. This passage becomes smaller and smaller as the SP grows eventually obliterated as the SP fuses with endocardial cushions. Just before fusion of SP, the ostium secundum (IS) appears in the SP. The septum secundum (SSe) is a second flap of tissue that forms to the right of the SP. Instead, a persistent oval orifice, the foramen ovale of Botallo (FO), remains its inferior border. The postnatal persistence of FO is a cardiac malformation that appears at 30% of populations. The objectives of the study represented 19 cardiac mezoscopic samples from IS, from 19 aborted human foetuses with length ranging between 18-38 cm (distancia vertex-calx). We had studied with the help of stereomicroscope Nikon SMZ-2 different configurations of the SSe and SP. SSe have falciform structure and bounds FO with 2-3 mm to 50mm. of diameter. We studied the light microscopic structure of SSe with histological methods, sections were stained with usual staining as HE, orceine, trichrom and Davenport’s method elastic stain. The FO aspect is variable (bounded space, ovalar, semilunar, eight’s form, piriform), the meso-microscopic form of IS depends on variable hemodynamic relations. It is suggested that the subclassified morphology is well adapted to the condition of continuous repetitive stress was likely dependent of ventricular contractions.

DEVELOPMENT OF BILIARY APPARATUS, MODELATION CHANGES OF FOSSA VESICAE BILIARIS IN FETAL PERIOD

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The liver and biliary apparatus first form as the liver diverticulum, a ventral bud from the caudal portion of the foregut. During weeks 4 to 5, the liver diverticulum begins to branch extensively. These branches give rise to: interconnected cords of hepatic parenchymal cells, the biliary apparatus within the liver, the epithelial covering of the extrahepatic portion of the biliary apparatus, including hepatic duct and the gallbladder. Connective tissue and smooth muscle in the hepatic ducts and gallbladder arise from the splanchnic mesoderm surrounding branches of the liver diverticulum. During its early development, the liver occupies a large portion of the peritoneal cavity. It grows much more rapidly than other nearby derivatives of the gut tube. Distal branches of liver diverticulum form the intrahepatic biliary apparatus and hepatic duct. A small intermediate branch gives rise to the gallbladder and the cystic duct. The most proximal portion of the liver diverticulum becomes the bile duct draining the liver and gallbladder into duodenum. We fixed spontaneously aborted foetuses with length ranging between 18-38 cm (distancia vertex-calx). We analysed the macro-mesoscopic configuration on the visceral surface of the liver and fissuration signs around the fossa vesicae biliaris. The gallbladder is situated intraparenchymatously, it exteriorises gradually, primarily the ductus cysticus, then the hilum area and the last the fundus and the corpus vesicae bilariis. The fossa vesicae biliaris is surrounded by different structures, many fissures, lobules and extensions along the lobus dexter and lobus quadratus. On the surfaces of gallbladder are visible many small intestinal impressions. In fetal period the modelling changes of fossa vesicae biliaris provides exact anatomical information for liver surgery and laparoscopic technique of cholecystectomy.

RECOVER ENERGY FROM WASTE BY THERMAL TREATMENT
Purpose: Pyrolysis and gasification, like incineration, recover energy from waste by thermal treatment. Waste is converted to a fuel by heating the waste under controlled conditions. Whereas incineration fully converts the input waste into energy and ash, these processes limit the conversion so that combustion does not take place directly. Material and method: The ethylene dichloride is pyrolysed to vinyl chloride to make PVC. It may also be used to convert complex materials such as bio-mass or waste into substances which are either desirable or less harmful. Extreme pyrolysis, that leaves only carbon as the residue, is called carbonization. Pyrolysis is a special case of thermolysis. The process is taken place at high temperature between 500–700 degrees at specific pressure. Results: In normal pressure, waste pyrolysis gasification has different production ratio of tar for different operation temperature. If carbonization temperature is 400°C-600°C, the production ratio of tar is 13%–37%, and it is 5%–15% when use fixed bed gasification furnace. When operation temperature is 700°C, the production ratio in fluid bed gasifying furnace is about 2.5%. Tar content in rough gas without treatment is about 1–3mg/Nm3. Gas must be condensed to remove tar before it is send to internal combustion engine. As is well know, the calorific value of tar is very high and it is about 30MJ/kg. The calorific of tar make up of 10% of total caloricity of gas. Conclusions: For safeguard human health and the environment is necessary to use the latest technology and take essential measure to protect the eco-system and offer the world highly efficient and cost-effective, environmentally friendly waste management and disposal systems.

PERFORMANCE ANALYSIS AND IMPROVEMENT ON HARTREE-FOCK CALCULATIONS USING OPENMP PARALLEL PROGRAMMING

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Objective: We are looking for a way to further improve our ab initio Hartree-Fock calculations. Taking into account the computer’s evolution, the OpenMP API (Open Multi-Processing Application Program Interface) seems to be an efficient and simple method to achieve that. Method: One way to improve the running time for a numerical algorithm is by increasing clock frequency of the processor and the cache memory. Another way is by using parallel computing based on a multi-core processor, a multi-processor machine and/or multiple machines organized in a cluster. Nowadays, multi-core computers are becoming more widespread, so that their cost is becoming smaller, and parallel programming becomes a necessity. By using parallel programming several computer commands can be executed at the same time and so the overall running time is reduced. On a 2n core machine, a theoretical 2nx improvement can be achieved. The OpenMP API uses preprocessor directive to support parallelization of an existing sequential algorithm. Thus, OpenMP is the simplest way to get parallel programming. The most CPU (Central Processing Unit) intensive parts of Hartree-Fock algorithm are evaluation of wave functions and of potentials (the Hartree and exchange potentials). The problem becomes more complicated by increasing the number of electrons and/or the number of spatial points where the wave functions are defined. As the electrons number or the number of spatial points increases, the computational effort grows exponentially. We have used OpenMP in our atomic Restricted Hartree-Fock algorithm to improve the running time in which the convergence is achieved. On a multi-core machine, when the MULTI_THREADING variable is set to 1, the program will try to utilize the maximum number of cores. Results: We remark an increase of running time in order to achieve convergence by almost 18 times for Krypton-like ions (36 electrons) comparing with the Argon-like ions (18 electrons) case. By doubling the number of spatial points, an increase of 4-5 times of the running time is obtained. By using parallel calculus on a virtual machine with 4 cores we obtained an improvement of almost 3 times. Conclusions: We proved that by increasing the number of electrons and/or the number of spatial points where the wave functions are defined the running time to achieve convergence grows exponentially. Some CPU intensive sections of code are suitable for parallelization to improve efficiency and by using OpenMP’s directives the act of converting of existing sequential code to efficient parallel code is simplified. The speed-ups of the whole calculations is very significant in time units.

RECOVER ENERGY FROM WASTE BY THERMAL TREATMENT

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Purpose: Pyrolysis and gasification, like incineration, recover energy from waste by thermal treatment. Waste is converted to a fuel by heating the waste under controlled conditions. Whereas incineration fully converts the input waste into energy and ash, these processes limit the conversion so that combustion does not take place directly. Material and method: The ethylene dichloride is pyrolysed to vinyl chloride to make PVC. It may also be used to convert complex materials such as bio-mass or waste into substances which are either desirable or less harmful. Extreme pyrolysis, that leaves only carbon as the residue, is called carbonization. Pyrolysis is a special case of thermolysis. The process is taken place at high temperature between 500–700 degrees at specific pressure. Results: In normal pressure, waste pyrolysis gasification has different production ratio of tar for different operation temperature. If carbonization
temperature is 400°C-600°C, the production ratio of tar is 13%-37%, and it is 5%-15% when use fixed bed gasification furnace. When operation temperature is 700°C, the production ratio in fluid bed gasifying furnace is about 2.5%. Tar content in rough gas without treatment is about 1-3mg/Nm^3. Gas must be condensed to remove tar before it is send to internal combustion engine. As is well know, the calorific value of tar is very high and it is about 30MJ/kg. The calorific of tar make up of 10% of total caloricity of gas.

Conclusions: For safeguard human health and the environment is necessary to use the latest technology and take essential measure to protect the eco-system and offer the world highly efficient and cost-effective, environmentally friendly waste management and disposal systems.

EVALUATING PROGRESS OF STUDENTS’ SKILLS IN COGNITIVE DOMAIN WITHIN AND BETWEEN LEVELS OF COMPLEXITY WHILE STUDYING CARDIOVASCULAR PHYSIOLOGY

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Aim: Studying Cardiovascular Physiology in Faculty of Medicine assume that students are gaining skills in cognitive domain, skills like knowledge, understanding, applying. This work tries to start evaluation of this assumption’s justness. Material and Method: different groups of medical students were tested consequently during the first four weeks at the beginning of cardiovascular physiology class. Test consisted in 5 questions calling for free answers in a ‘level of complexity’ we titled ‘blood flow through cardiovascular apparatus’, level we assumed that has been fully accomplished by students during gymnasium, high school or other previous disciplines in our faculty. Levels of complexity in studying cardiovascular physiology are, according to our definition, cognitive entities that are to be assimilated strictly one after another, passing to a higher level being possible only after previous level has been fully completed, that is every educational objectives within it being achieved. Then we evaluate students’ skills in a higher level of complexity titled ‘Ions flow through cellular membrane’, level which our cardiovascular physiology course begin with and so evaluated skills normally/probably being accomplished at the time of testing. Results: Evaluation of progress showed no significant improvement neither within levels of complexity nor between them, while a large number of students presenting important knowledge holes dispersed through all skills’ level in cognitive domain. Conclusions: While studying cardiovascular physiology using levels of complexity there is no benefic transfer of cognitive skills from a higher level to a lower one. Also, students’ skills progress in cognitive domain in a higher level is tributary, as expected, to lack of same skills that had to be gained in some lower levels.

Keywords: educational objectives, cognitive domain, affective domain, cardiovascular physiology, levels of complexity

COMPARATIVE STUDY OF COLON CARCINOMAS DEVELOPED DE NOVO AND EX ADENOMA

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According to carcinogenetic mechanisms, colon carcinomas may develop de novo or ex adenoma. Materials and methods: we processed material from 149 cases of colon carcinoma from the Laboratory of the Department of Pathology, Clinical County Hospital of Târgu-Mureș. Results: 32.8% of the cases were ex adenoma carcinomas. The clinico-pathological features of the de novo and ex adenoma carcinomas are similar, and still de novo carcinomas are more frequently poorly differentiated or undifferentiated, displaying a deeper invasion of the intestinal wall and surrounding structures. They also are more frequently associated with lymph node metastases, compared to those developed ex adenoma. Conclusions: our data are in line with the majority of the current research articles. 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

A RARE CHROMOSOMAL DISORDER: CHROMOSOME 4 RING SYNDROME

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Introduction: Chromosome 4 ring is a rare disorder that is typically characterized by deletion of genetic material from both ends of the 4th chromosome and rejoining of the chromosomal ends to form a ring. It is usually caused by novo errors very early in the development of the embryo that appear sporadically for unknown reasons. Associated symptoms and findings may vary greatly: growth retardation, microcephaly, craniofacial, skeletal, genitourinary, and cutaneous congenital anomalies, psychomotor and mental retardation, seizures. Treatment varies considerable depending on the type and severity of symptom that develop. Survival and death rates and other outcome possibilities in the overall prognosis of chromosome 4 ring syndrome are unpredictable. Case report: the
authors describe a rare case of chromosome 4 ring syndrome diagnosed in Mureş Regional Neonatal Unit. Results: The infant male was born prematurely, at 35 weeks of gestational age, with low Apgar scores at 1 and 5 minutes. There were no other complications during pregnancy or delivery. At birth, the newborn appeared dysmorphic with microcephaly, small simple helices, short neck, retromicrognathia (Pierre-Robin like) high anterior arched palate and posterior cleft palate. In addition, he had left hand polydactyly, II-III toes syndactyly of the left foot, single umbilical artery, hypospadias and undescended testes. He also presented severe pulmonary hypertension, coarctation of aorta, feeding difficulties and subtle seizures. The diagnosis was confirmed by cytogenetic karyotype: 46 XY, r(4), (p14;q31), ins(3;4)(q29;p14). All metaphases revealed a ring chromosome 4 and an insertion of a fragment of chromosome 4 (4p14-4pter) on the long arm of chromosome 3. The infant had a prolonged and complicated course in the Neonatal Intensive Care Unit. The treatment included: mechanical ventilation, parenteral nutrition, phosphodiesterase inhibitors (sildenafil), inotropic agents (dopamine and dobutamine) anticonvulsant therapy and various other symptomatic and supportive measures. Despite intensive care the infant died in a 69 day of life, due to cardiac and respiratory complications. The anatopopathological findings had confirmed the clinical ones. Conclusions: The abnormalities found during clinical examination were obviously the result of chromosomal abnormality. Due to severe defects, the infant did not survived. In other cases, surgery may be needed to correct defects or abnormalities e.g. heart defects, skull and facial abnormalities.

Keywords: chromosome 4 ring, congenital anomalies, rare chromosomal disorders

ALTERATION OF RENAL PERMEABILITY FOR PROTEINS AFTER GENERAL ANESTHESIA WITH SEVOFLURANE

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Objective. Determination of proteinuria in patients undergoing general anesthesia with sevoflurane. Material and methods. We determined through spectrophotometric method proteinuria at a wavelength of 600 nm, preoperatively and postoperatively at 24 hours and 72 hours in 52 patients undergoing general anesthesia with sevoflurane. We selected patients without preexisting renal pathology, with anesthetic risk ASA I-III, who underwent major abdominal and thoracic surgery lasting over 150 minutes, in which we used FGF of 2l/minut, 1.5 to 1.8 MAC. Results and discussion. Renal permeability is influenced by general anesthesia with sevoflurane (p>0.0001). The amount of filtered protein has a maximum at 24 hours with a gradual decrease to 72 hours, but without reaching the normal preoperatively values. Data from the literature suggests the nephrotoxicity of Sevoflurane thanks to its degradation by carbon dioxide absorbents. The data that we obtained by performing also other types of anesthesia make us believe that there is no nephrotoxicity. Conclusions. There is proteinuria after exposure to sevoflurane, which is maximum within 24 hours and tends to normalize within 72 hours. There is an association with special groups of pathology such as diabetics, hypertensives and septic patients, where we observed a marked impairment of renal permeability.

COMPARISON BETWEEN DIGITAL IMAGE PROCESSING AND SPECTROPHOTOMETRIC MEASUREMENTS METHODS. APPLICATION IN ELECTROPHORESIS INTERPRETATION.

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Introduction. Spectrophotometer is a very common instrument in various scientific fields and gives accurate information about light absorbance and transmittance through materials using monochrome light source. Though, devices used in spectrophotometry can be quite expensive, using components with high technical specifications and the procedure itself is time consuming. Regular digital image acquisition instruments like scanners and cameras on the other hand uses very cheap electronic components to record the information on 3 wide band channels (Red, Green, Blue). Purpose. This paper studies the possibility of correlating the measurements from the spectrophotometer with raw data from digital image acquisition instruments. As a direct application of the results, a software is developed to help in interpretation of protein electrophoresis and to give an estimation of the actual concentration of different proteins in blood serum. Materials and methods. Because the results will be used in protein electrophoresis, we prepared a set of plates with blood serum in different dilutions, stained with Coomassie Brilliant Blue. The absorbance of the resulting plates has been measured using a spectrophotometer and after that the plates were scanned with a regular office scanner. The digital image was converted in different color spaces (gray scale, RGBs, HSV, HSL, CIELAB) using custom developed software in C++. We statistically measured the correlation coefficient of different parameters from the color space with the absorption measured with the spectrophotometer. Results and discussion. The findings of this work show that a consumer digital scanner can be used as a fast and inexpensive alternative to
METHOD OVERVIEW: A LENTIVIRAL SYSTEM FOR CONDITIONAL EXPRESSION OF PROTEINS IN MAMMALIAN CELLS

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In recent years, the ability to overexpress proteins in living cells has been crucial for the study of biological processes. Viral vectors have been used for in vitro or in vivo delivery of a target DNA or RNA sequence to cells that are difficult to transfect by other methods. Lentiviruses have the advantage to be able to integrate into the genomes of non-dividing cells. The presentation will provide an overview of a lentiviral-based, tetracycline-regulated expression system. Invitrogen’s ViraPower T-Rex Lentiviral Expression System will be taken as an example. This vector system is based on Invitrogen’s Gateway technology whereby the cDNA of interest is cloned into an Entry vector and then recombined with a viral Destination in order to obtain the Expression vector. The latter contains elements that allow packaging of the expression construct into virions, and an antibiotic resistance marker to allow selection of stably transduced cells. The expression construct, together with helper packaging plasmids, is transfected into a producer cell line, that will subsequently secrete lentiviral vectors into the culture medium. These vectors are then used to transduce the cells that are to overexpress the protein of interest. The tetracycline-regulated expression of the gene of interest is based on the presence of a hybrid promoter in the inducible expression construct, containing two tetracycline (Tet) operator 2 sites. The presence of a regulatory expression construct that insures high-level, constitutive expression of the tetracycline repressor in the cells of interest, is also necessary. The Tet repressor binds to the Tet operator and blocks the transcription of the gene of interest. The repression is released by the addition of tetracycline in the culture medium, thus allowing for the expression of the desired protein. Biosafety guidelines on lentivirus handing and use will also be discussed. Despite the inclusion of safety features such as self-inactivation (SIN) or the removal of most of the HIV proteins, the lentiviruses produced with this system can still pose some biohazardous risk since they can transduce primary human cells.

WEB BASED ASSESSMENT SERVER

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It is well known that the Medical Informatics and Biostatistics Department from The University of Medicine and Pharmacy Tirgu-Mureş had a major part in the development of medical e-learning in Romania. As a continuous effort to improve and increase the use of computers in students education, we implemented an online assessment server. Its purpose is to ease the students examination process and to provide a transparent and objective evaluation. The solution we developed is a web application, written using PHP and Javascript. It uses MySQL as a database management system and Apache for the web server, hosted on a Linux system. The site can be accessed through a web browser capable of handling AJAX queries (Asynchronous Javascript and XML). Using the administration module, one can add or remove questions, question categories, can create tests and set its parameters (number of questions, time per question, IP addresses allowed to access the test). The administrator can also monitor the students during the test. The types of questions allowed are multiple choice with a single or multiple correct answers. After a student finishes a test, the grade is automatically displayed and there also is the possibility to review the questions and the correct answers. The system has proven itself to be quite stable; it has been in use for two years. In the nearby future, we intend to develop a second version of the server, one with more capabilities and improved functions.

MICROSCOPIC AND MACROSCOPIC FEATURES OF THE ADULT HUMAN VOMERONASAL ORGAN

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Introduction: The vomeronasal organ (VNO) has long been known as a secondary olfactory organ of vertebrates, conveying information about the other members of the species. In humans it is considered to be somewhat functional, but lacking the development and constancy it displays for instance in rodents. Scope: The present work aims at identifying the incidence of the human VNO in the local population, determining its macroscopic variants and characterizing its light microscopic features. Materials and methods: We examined 111 volunteer, healthy subjects (mean age 25 years) using a 4mm rigid nasal endoscope. The examinations were digitally...
recorded and reviewed for confirmation of the VNO's presence. A resection tissue sample was used for histological identification and characterization of the organ. Results: We noted the global incidence of the VNO, its distribution among genders, and also proposed a classification scheme for its endoscopic appearance, describing the distribution of the VNO positive cases in these proposed groups. Light microscopy was used to confirm the presence of the organ, and describe its histology. Conclusions: Our data suggest that there is a variability in the endoscopic aspects of the VNO opening on the sides of the nasal septum. The possibility of the VNO appearing in this area should be taken into consideration during nasal endoscopy, in order to avoid confusions with pathological processes.

PRELIMINARY SCREENING FOR BRCA1 MUTATION CARRIER CANDIDATES
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Introduction: In Romania breast cancer is the leading type of cancer affecting women, with an increasing trend of mortality. BRCA1 and BRCA2 mutations are major predisposing factors for breast and ovarian cancer. Aim: The present study was aimed at presumptive identification of BRCA1 gene mutation carriers, based on clinical, pathological and immunohistochemical features. Materials and methods: We processed the available recorded data of 1040 patients diagnosed with breast cancer between the years 2005 and 2010. The focus of analysis was age, histopathological type, immunohistochemical status and family history (if available). Results: As age under 35 at time of diagnosis is considered to be a strong predictive factor we included only these patients (33 - 3.17%) in further analysis. The majority of these cancers were of ductal or intraductal type (24 - 72.72%), which is not characteristic to BRCA1 gene mutation cancers. We found 1 medullary type (characteristic for BRCA1 mutation) cancer. As far as immunohistochemical characterization is concerned, breast cancers arising from BRCA1 mutation are more frequently triple negative. Conclusions: based on the above mentioned characteristics we identified a very small number of presumptive BRCA1 mutation carrier candidates, meaning that in order to characterize the BRCA mutation patterns of our population a larger sample is needed. 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

ANTIMICROBIAL ACTIVITY OF 2% CLORHEXIDINE AGAINST E. FAECALIS, S. AUREUS, E. AEROGENES AND C. ALBICANS: LITERATURE REVIEW AND CASE REPORTS
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Introduction. Endodontic irrigation is essential to accomplish a complete cleaning of the root canal, nowadays is not conceived a root canal mechanic treatment without the use of irrigation solutions and proper medication. Sodium hypochlorite and chlorhexidine are antimicrobial agents frequently used in the treatment of endodontic and periodontal infections. A great interest regarding chlorhexidine solution is over its efficiency on gram-negative bacteria, but sensitive bacteria spectrum to chlorhexidine is larger, including gram-positive bacteria and gram-negative bacteria. Material and Methods. The aim of the study was to analyze the antimicrobial action of 2% chlorhexidine solution against aerobic bacteria and facultative anaerobic bacteria isolated from infected root canals before and after irrigation, in simple and complicated gangrene cases, and make a comparison with another studies regarding 2% chlorhexidine solution efficiency. It has been taken samples from 20 incisors of 20 patients. Four microorganisms: Enterococcus Faecalis, Staphylococcus Aureus, Enterobacter Aerogenes and Candida Albicans were collected from infected root canals, using sterile paper cons. The culture mediums used for inoculation were: agar – 5% sheep blood for the isolation of Enterococcus spp, Staphylococcus spp and other gram – positive bacteria; MacConkey agar medium for Enterobacteria spp and other gram – negative bacteria; Chapman medium for Staphylococcus Aureus. The microorganism growth was recorded for each plate and the results were analysed statistically. Results. It has been shown that 2% chlorhexidine solution was efficient in decreasing the bacterial count from the root canals. The results showed that the number of colony-forming units in positive cultures obtained from chlorhexidine treated teeth was lower than the values obtained before irrigation. The obtained results are consistent with those found in other similar studies. Conclusions. Chlorhexidine as endodontic irrigant and intracanal medicament has an antibacterial activity comparable to that of sodium hypochlorite. It has a large spectrum of antibacterial activity and low toxicity. It is absorbed by the hydroxyapatite in the dentine by forming depots and has the quality of being released in time. Key words: chlorhexidine, microorganism, root canal irrigation.

PEDIATRICS

PEDIATRIC PATENTS ACCES TO MEDICAL SERVICES
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Ambulance Room (AR) of Department of Pediatric's is the place meant to carry out 12 hours and continue hospitalization. Children admission is often delayed because of the large influx of presentations in AR, because an emergency medical assistance cannot
be provided for them. The aim of this study is to highlight the obstacles faced by medical staff in Ambulance Room of Department of Pediatrics. Also we followed the needed time to solve the cases. Materials and methods: We conducted a prospective study in the Ambulance Room of Pediatric Department in Emergency County Hospital Tg. Mures, between November 1, 2009 to April 30, 2010 (6 months). We used a worksheet that was completed at the time of presentation in AR, registering: age, environment of origin, presentation criteria (emergency / planning / interclinic consultation), number of medical consultations before arriving into a specialized medical service, time until the patient is waiting to be taken over by the doctor, therapy for non-hospitalized and hospitalized patients. Results: During 6 month in AR were registered 3368 patients, with the following age groups: 0-2 months (4%); 2months-1year (16%); 1-3 years (29%); over 3 years (51%), and 55% were from urban area. The groups of patients included in the study were classified in the following situations: 1. Consultations - 1989 (59.05%); 2. 12 hours hospitalization - 414 (12.29%); 3. Admission in Department of Pediatrics - 965 (28.65%). Patients arrived as emergency - 72%, planned - 26%, interclinic consult -2%. Patients selected for the study were presented at the AR as follows: 47% without reference ticket/admission - 5% admitted in hospital for 12 hours and 9% admission in Pediatric Department; 41% with reference ticket/admission - 11% admitted in hospital for 12 hours and 23% admission; 12% were patients with chronic diseases who had periodically returned to the clinic for clinical and biological reviews. For the consulted patients at 14.6% a minimum of laboratory investigations was performed (blood count, urine exam, X-ray, ultrasound) and 15.3% received a therapeutic maneuver (nebulization, shield treatment), 13% were directed to other services, 78% had received home recommendations. Once arrived in the Department of Pediatrics 37% had received laboratory investigations in the first hour of admission and 51% had begun the treatment in this time. Conclusion: Less than one third of all patients were admitted, the big number of the rest overloading the on-call doctor, reducing the needed time for the admitted patients. Challenge: to enhance the patient circuit until his presentation for admission in Department of Pediatrics.

THE PARTICULARITIES OF ARTERIAL HYPERTENSION IN INFANTS AND CHILDREN WITH NEPHROTIC SYNDROME

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The nephrotic syndrome (NS) is one of the most frequent glomerular affections in pediatrics practice and it is characterized by edema, heavy proteinuria, hypoalbuminemia, dysproteinemia, hydro-electrolytic disturbances and hyperlipidemia. Purpose: evaluation of the particularities of the arterial hypertension (HTA) in infants and children with NS. Material and method: This is a retrospective study of a number of 65 children with NS (14 with CRNS- corticoresistent NS, 48 with CSNS– corticosensitive NS, 1 with secondary NS and 3 with congenital NS), admitted in Pediatrics Clinic II, Tg.Mureș, between 2001-2009. We followed the type of SN, the incidence and particularities of HTA and the treatment. Results: It was observed an increase in the number of NS cases in the first three years and in 2009 (23.1%). The average age in the moment of the diagnostic was of 5, 80+/-4, 43 years. The incidence was higher at children aged between 1-3 years (27%) and mostly for boys (52%). It was observed an increased incidence of HTA at patients with impure NS (87.2%). From 34 patients with HTA, 14 (41.18%) presented increased persistent values, 20 transitory HTA. HTA at the beginning was present in 18 cases, in evolution in 5 cases and in 11 patients was present in both. HTA was more frequent with boys (56%) and at the age over 10. HTA in stage 1 was the most frequent. In evolution HTA became normal in 20 cases (58.82%) and remained persistent in 41.18%. CRNS presented an increased incidence of HTA (73,33%) and also congenital NS (100%). The treatment was: hyposodic diet, diuretic and antihypertensive drugs. Conclusions: HTA was present in 52.3% of the cases, namely at 87,2% of the impure SN and 100% of the congenital SN. In 18 cases HTA was from the beginning of the disease, in 16 patients appeared during the evolution of it. It was more frequent in boys and those aged over 10. HTA had a normal evolution in 58,82% of the cases and remained persistent in 41,18% of the patients.

Key words: syndrome nephrotic, children, HTA

OSTEOPOROSIS IN CHILDREN WITH MALIGNANT DISEASES

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Osteoporosis is becoming more frequent among children due to better care of children with chronic disorders which leads to longer survival and accessibility to bone mineral density measurement. Osteoporosis is a systemic skeletal disorder characterised by low bone mass and changes in the micro-architectural structure of bone tissue which induces increased bone fragility and predisposes to pathological bone fractures. The aim of the paper is to assess osteoporosis in children suffering from malignancies, identify additional risk factors and suggest preventive measures. Material and methods: During 2009 January and 2010 April, 20 patients treated for malignancies in the Pediatric Department of the County Emergency Hospital from Tg-Mures were investigated for osteoporosis with clinical examination and anamnisis, laboratory tests (serum calcium, phosphorus, magnesium, alkaline phosphatase, osteocalcine) and calcanean ultrasound osteodensitometry. The Z score which shows bone density according to age and gender, represents osteopenia.
at values between -1.5 and -2.5 and osteoporosis under -2.5. Linear regression analysis were carried out to show correlations between bone mineral density and risk factors such as chemotherapy and glucocorticotherapy. Results: Out of the 20 patients (8 girls and 12 boys), 14 have suffered from acute lymphoblastic leukemia, 2 from acute myeloblastic leukemia, 2 from non-Hodgkin lymphoma and 1-1 from Hodgkin disease and sarcoma respectively. Boys were diagnosed at an older age than girls. Body weight was normal in 75% of the patients, while 10% were malnourished and 15% obese. Forty percent of the patients (n=8) received mineral supplementation for osteoporosis prophylaxis. Three patients were hypocalcemic at presentation and despite sustained prophylaxis they have later developed osteoporosis. Out of the other 5 patients with prophylaxis and normocalcemia at diagnosis, 1 developed osteoporosis, other 2 were osteopenic and 2 had normal bone densitometry results. Beside malignancy itself, chemotherapy and glucocorticotherapy, additional risk factors for osteoporosis such as irradiation (n=4), malnutrition (n=2), decreased physical activity (n=20), prior defective mineral metabolism (n=4 with rachitism), gastrointestinal disorders (n=10), reduced sun-exposure (n=20), were found. The mean chemotherapy length was 16,4 months (2-36 months) and the mean glucocorticoid therapy was 88 days (0-225 days). Calcaneal ultrasound osteodensitometry resulted in abnormally low Z-scores in 13 patients (n=6 with osteopenia and n=7 with osteoporosis). Linear regression analysis assessing correlations between chemotherapy, glucocorticoid treatment and bone mineral density, showed a weak correlation. The correlation was stronger, if chemotherapy and glucocorticoid therapy were studied together as independent variables. Serum osteocalcine, a marker for osteoblast activity, was measured in 10 patients out of 20 (n=5 normal, n=1 low and n=4 elevated). No patients have experienced clinically detectable pathological bone fractures. The bone density was not assessed by dual energy X-ray absorptiometry (DEXA) in our patients, a more reliable investigational tool in osteoporosis but with a significant radiation burden. Conclusions: 1.Osteoporosis is a frequent finding in children treated for malignancies (65%), due to the cancer, its treatment and additional risk factors like reduced physical exercise, decreased sun-exposure, malnutrition, anorexia, vomiting and diarrhoe, prior defective mineral metabolism (rachitism). 2. Prophylactic measurements with mineral and vitamin supplementation reduces the risk of osteoporosis, although does not provide a total prevention. 3. A healthy bone tissue before the strike of the malignancy provides a good prophylaxis against osteoporosis. 4. Calcaneal osteodensitometry is an easy, cheap and harmless investigational tool for the screening of osteoporosis in children with malignancies.

**VENTILATORY STRATEGIES IN EXTREMELY LOW BIRTH WEIGHT INFANTS**

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Background: Respiratory distress syndrome (RDS) caused by surfactant deficiency occurs in about 50% of preterm infants born at less than 30 weeks of gestational age. Prenatal corticosteroid treatment for lung maturation, conventional or high-frequency ventilation and surfactant therapy have become the standard of care in management of preterm infants with RDS. Optimal ventilatory strategy in preterm infants with RDS may begin in the delivery room with application of continuous positive airway pressure (early CPAP) to establish functional residual capacity (alveolar recruitment). It may be followed when it needed by surfactant therapy and rapid extubation to noninvasive ventilation to decrease the incidence of broncho-pulmonary dysplasia (BPD) and improve overall outcome. Nasal CPAP (NCPAP) is currently a first-line technique of respiratory support in newborns, and its use as an alternative to intubation and mechanical ventilation. Objectives: evaluation of ventilation strategies in extremely low birth weight (ELBW) premies admitted to the neonatal intensive care unit (NICU) of the Mureş Neonatal Regional Center. Methods: the authors present a prospective study from 1st January 2008 until 30 June 2010 regarding clinical outcome of infants ≤1000 grams and ≤ 30 weeks of gestational age treated with ventilatory support available in our unit, in lack of high frequency ventilators. Diagnosis of RDS was based on clinical symptoms and chest X-ray findings. Intubation and mechanical ventilation were initiated when infants exhibited arterial hemoglobin saturations SaO2<87% while receiving FiO2>40% and/or arterial PCO2>60 mmHg, pH<7.20, or when more than 4 apnea episodes occurred in one hour or mask ventilation was needed >2 times per hour. We used resuscitation respiratory unit with PIP and PEEP controls (Neo-Puff), time cycled, pressure limited ventilators (Dräger 8000, Fabian), and nasal CPAP system (Infant-Flow). 77 ELBW infants were included, born or transferred in the unit in the first 24 hours of life. Results: 77 out of 6765 representing 1,13 % ELBW newborns were accepted in the NICU during the study period, with 27.14 ± 1.86 weeks mean gestational age, 821,73 ± 178.19 g mean birth weight. 44 (57,14%) of them received prenatal corticosteroids. Early NCPAP received 52 (67,53%), intubated in delivery room were 17 (22,7%), 8 (10,38%) were born in other maternities, without ventilatory support at birth. After birth 28 (36,36%) was successfully managed with NCPAP alone and 49 (63,63%) received NCPAP+IPPV or IPPV+NCPAP. Failure of initial NCPAP occurred in 24/52 infants (46,15%). 45 (58,44%) received therapeutic surfactant. Mean ventilation period via IPPV was 12.72 ± 6.52 days and via NCPAP was 9.63 ± 4.37 days. The incidence of BPD was 21%. We had 53 (68,83%) survivors, 13 (24,52%) with different degrees of neurological sequelae. Conclusion: basic mechanical ventilation strategies showed good benefits on clinical outcome of this group of premature infants. Some preterm neonates are able to manage RDS with NCPAP assistance only, but further improvement could be done probably the use of high frequency ventilation in very immature pretermes.

**Keywords:** ELBW, respiratory distress, ventilatory strategies

**ATYPICAL MANIFESTATION IN TOTAL ANOMALOUS PULMONARY VEINOUS CONNECTION**
CEREBRAL HAEMODYNAMIC CHANGES IN SYMPTOMATIC PATENT DUCTUS ATRESIA allows for improved counseling of the parents, guides the timing and optimal location of delivery. Doppler and 2D echocardiography have a diagnostic to be made (based on anatomical shape). Both children were subjected to surgical correction. Results and discussions: TAPVC although a rare congenital heart disease is sometimes encountered in daily medical practice. The clinical manifestations are varied, depending on the anatomical form (obstructive or non-obstructive), or on the place of abnormal draining of the pulmonary veins. In absence of early diagnosis the evolution is invariably towards pulmonary hypertension in the first year or in obstructive forms towards death in the first week of life. The cases shown have been diagnosed with non-obstructive supracardiac TAPVC at the age of 2, with a favourable post-operative evolution, and at the age of 1 month, with obstructive infracardiac TAPVC for the second case. Both cases benefited from surgical correction. Conclusions: TAPVC are a group of congenital heart anomalies with varied clinical manifestations; Doppler and 2D echocardiography methods offer sufficient anatomical and functional data in order to be useful for taking a surgical therapeutic decision.

THE ULTRASONOGRAPHIC DIAGNOSIS OF MAXILLARY SINUSITIS IN PEDIATRICS

Sinusitis represents a frequent pathology in pediatrics. The symptoms are non-specific, so the diagnosis is often difficult to establish. The standard diagnosis of maxillary sinusitis is the sinus puncture followed by a bacterial culture. Because of its invasive character the technique is rarely used. Other diagnosis investigations used are: the standard radiography, computed tomography, magnetic resonance imaging and ultrasonography. Objective: The aim of this study is to evaluate the role of ultrasonography in the diagnosis of maxillary sinusitis in children compared to the standard radiography. Methods: The ultrasonography exam and the X-ray of the maxillary sinus was made in 28 patients, between 4 and 16 years old who came with the suspicious of maxillary sinusitis. The ultrasonographic exam was performed with a pediatric convex transducer and with the patient in a sitting position. The exam evaluated the presence of fluid collection and mucosal thickening. The signs evaluated by the X-ray exam were opacity of the maxillary sinus and the mucosal thickening. Results: In the study were enrolled 28 children (18 boys/10 girls), with the age between 4 and 16 years. 56 maxillary sinuses were analyzed. The diagnosis agreement between the two imaging exams was 48 of 56 sinuses. The error between the two investigations was 5 for the normal aspect, 3 for the fluid collection, but the error for the undiagnosed mucosal thickening by the ultrasonography compared with the radiograph was higher, 8 sinuses. Conclusion: Ultrasonography may represent an accessible imaging alternative to the more invasive investigations used to evaluate the fluid collections in the maxillary sinus in children.

THE ROLE OF FETAL ECHOCARDIOGRAPHY IN THE MANAGEMENT OF PULMONARY ATRESIA

Aim of the study: Pulmonary atresia is a neonatal emergency, a congenital cardiac defect with ducal dependent pulmonary circulation. We aimed to assess the impact of prenatal diagnosis of pulmonary atresia on perinatal management. Materials and methods: We present a series of three cases of patients with pulmonary atresia evaluated prenatal through fetal echocardiography. Delivery was attempted in different medical centers and than referred to our Center for medical and surgical care. After delivery it was initiate the prostaglandin E therapy for maintenance of ductus arteriosus patency. After several days all patients benefit of surgical palleativ intervention – systemic to pulmonary shunt in our Institution. Results: In two cases fetal echocardiography established the diagnose of pulmonary atresia, and immediate after birth it was initiate the prostaglandine therapy. In one case fetal ecography rised the suspiciune of cardiac defect, and after birth the prostaglandine therapy was delayed until four day of life, with consecutive prolonged hypoxia. The outcome of all patients was good after palleative surgery, but the last case presents neurological complications. Conclusion: Fetal echocardiography is a good diagnostic tool, and need cooperation between obstetrician and pediatric cardioligist. A prenatal diagnosis of pulmonary atresia allows for improved counseling of the parents, guides the timing and optimal location of delivery.

CEREBRAL HAEMODYNAMIC CHANGES IN SYMPTOMATIC PATENT DUCTUS ARTERIOSUS – IN DOPPLER ULTRASONOGRAPHIC EVALUATION
Background: Patinet ductus arteriosus (PDA) is a relatively frequent finding in destressed newborns, especially premature babies. It's importance is due to haemodynamic changes that take place in the systemic circulation, influencing cardiac output, and in cerebral blood flow due to blood steal at the level of the patent ductus. This can rise the risc of brain injury among infants with haemodynamically significant left to right shunting. Our goal was to evaluate eco-Doppler appearance in these babies, interpreting measurements from the clinical point of view. Materials and methods: we measured by transfontanellar ultrasonography the eco-Doppler parameters of cerebral blood flow (CBF) at the level of the Anterior Cerebral Artery in 15 prematures with demonstrated haemodynamically significant ductus arteriosus, and compared the results with normal values for the age measured in 30 healthy prematures with the same gestational age. Results: We found in all infants with semnificative left to right shunt at the level of the PDA low levels of end-diastolic velocities, even negative values in 4 cases due to blood steal in the PDA. Clinical symptoms showed a direct corelation with the grade of left-to-right shunt and cerebral cahnges. Conclusions: Our results demonstrate the importance of monitoring the effects of PDA on CBF in the indication for medical or surgical closure of the ductus arteriosus, due to the correlation between the severity of the PDA and decrease of CBF.

Key words: patent ductus arteriosus, cerebral blood flow, transfontanellar eco-Doppler, prematurity

BRUTON DISEASE - MOLECULAR GENETIC ASSESSMENT OF THE BRUTON'S TYROSINE KINASE GENE

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Background: Bruton disease (X-linked agammaglobulinemia) is a heritable immunodeficiency disorder caused by a differentiation ar-rest in the bone marrow resulting in severe B cell deficiency. It is produced by mutations in the Bruton's tyrosine kinase gene (Btk), that encodes a pathological tyrosine kinase with a pivotal role in the life cycle of B cells. The disease usually manifests itself during the first year of life, after maternal antibodies have disappeared from the serum. Agammaglobulinemia is the most common of the primary immunodeficiencies. Method: We investigated three patients with clinical diagnosis of Bruton disease and their mothers for mutations in the Btk gene. Bruton disease was diagnosed according to the following criteria: low levels of circulating B-cells – measured by levels of CD19/CD20 positive cells in plasma samples, decreased or absent immunoglobulins in serum, and a typical clinical history, with recurrent bacterial infections or a positive family history. Genomic DNA was obtained from whole blood lysis, using standard methods. The coding segments of Btk gene were amplified by PCR (Polimerase Chain Reaction), in Department of Infectious and Pediatric Immunology from University of Debrecen Hungary. The cases are in evidence of Pediatric Clinic of Emergency Clinic Hospital from Targu Mures. Results: We present 3 patients: a boy aged nine years diagnosed with X-linked agammaglobulinemia at an early age, the genetic mutation was c.29T> A at exon 2 of BTK . The second case is a sporadic case, aged seven years at the time of diagnosis, with genetic mutation is c.1565T> C on exon 15 of BTK. The last is first patient's brother 1 year old. Discussion: All our pacients had agammaglobulinemia Bruton, two of them with severe systemic infections in their medical records. Mother's brothers with Bruton disease was proved to be heterozygous for the mutation found in her sons. Mutation detection in the Btk gene provides a definitive diagnosis in X-linked agammaglobulinemia, indispensable for adequate genetic counseling and carrier detection.

Keywords: Bruton disease, genetic diagnosis.

ASSESSING THE NUTRITIONAL STATUS OF CHILDREN WITH NEWLY DIAGNOSED WITH MALIGNANT DISEASE

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Introduction: Malnutrition represents a major problem in children suffering of cancer. Its incidence varies according to the nature of the malignant disease, size,location and the phase of the disease. Malnutrition represents an unfavourable prognosis element in children suffering of malignant diseases, it compromises the response to chemotherapy, reduces the survival rate and increases the incidence of the infections. Material and method: We have done a prospective study on a group of 23 children suffering with various malignancies who were diagnosed in the Pediatric Clinic No. 1 Tg-Mures, between December 2009 and October 2010. The nutritional status was assessed through anthropometric and biochemical parameters before the chemotherapy initiation. Patient weight, height, body mass index (BMI), median upper arm circumference (MUAC) and triceps skinfold thickness (TSF) were converted to z scores for age and sex using the Switzerland Growth Chart 1989. The albumin level and the total protein was considered normal if the value is equal to or more than 3.5 g/dl and 6.4 g/dl respectively. Results: The study group included 17 boys and 6 girls, with an average age of 7.04 years. Of the 23 patients, 11 were diagnosed with leukemia, 5 with lymphoma and 7 with solid tumors. At the begin-
ning of the malignant disease, only 2 patients (8.69%) had low weight for age. 10 patients (43.47%) had low MUAC and 8 patients (34.78%) had low TSF, both parameters indicating severe acute malnutrition. 3 patients (13.04%) had low height, indicating severe chronic malnutrition. 39.13% of the patients had the serum protein decreased and 21.74% of the patients had low serum albumin. Conclusion: Arm anthropometry shows that almost half of children with cancer are severely acutely malnourished at diagnosis.

MEDICAL OUTCOME STUDY (MOS-SF-36) QUESTIONNAIRE, OPERATIONAL TOOL IN ASSESSMENT THE QUALITY OF LIFE OF CHILDREN WITH OVERWEIGHT OR OBESITY

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Quality of life is given by individuals perceptions about their social situations in the context of cultural value systems in which they live, depending on their needs, aspirations and standards; the quality of life in medicine means physical, mental and social wellbeing. The interest in the medical world for quality of life issues is demonstrated by the big number of articles on this topic published in prestigious journals and present in international data bases. The purpose of this paper is to show the role of MOS-SF-36 questionnaire (Medical Outcome Study Short Form with 36 items) in assessment of quality life alterations in children with overweight or obese, based on the idea that obesity is a chronic disease, with prolonged evolution and complications that increase physical and mental suffering, as well as objective quantification of quality life changes by using this operational assessment tool. Material and methods. MOS-SF-36 was used in over 50 countries around the world in more than 4,000 medical studies over the past 15-20 years. In interval 09.2009-09.2010 we used these instrument in a study including 214 children between 3-18 years (77 obese children, 66 children with chronic diseases and 71 healthy children) and by processing the collected data we obtained a coefficient of quality of life. MOS-SF-36 is included in group of generic instruments, which apply to several groups of subjects, to evaluate all types of diseases/conditions applicable to any medical facility, even in general population, allowing evaluation of eight areas, each scale with a score calculated based on responses to 2-10 questions (assessment items). Physical Functioning Scale, Scale of Diseases caused by Physical Problems (Physical Role), Somatic Pain Scale and General Health Scale make up a total score representing the physical scale - Physical Health, whereas Vitality Scale, Social Functioning Scale, Scale of Problems caused by Emotional States (Emotional Role) and Mental Health Scale, totals the psicic score - Psicic Health. Results and conclusions. Physical Health Scale in our study revealed a score of 47.96 in obese children, compared to 54.34 in those with chronic illnesses and 99.9 for healthy children. While the General Health Scale of obese children showed a higher score than those with chronic disease (48.03 versus 38.93), Physical Role Score was significantly lower in obese than those with chronic disease (50.82 compared 73.93, p-0.01), meaning a limitation of activity. Mental Health Scale showed a score of 51.02 in obese children compared to 51.75 in those with chronic diseases and 97.09 in healthy children. Quality of life of obese children is lower in girls than in boys (with a Physical Health Score of 46.36 in girls and 49.26 in boys and Psicic Health Scores of 45.59 for girls compared to 55.41 in boys.). In comparison, obese girls have a Psicic Health Score significantly lower than of girls with chronic disease (45.59 versus 53.23, p - 0.03), girls being more affected by self-image than boys. Considering that in the context of medical work today is required to find operational objective criteria for measuring quality of life, MOS-SF-36 is a useful tool for assessment of the alterations caused by overweight and obesity upon the physical and psicic health of children.

ASSESSMENT OF A RAPID UREASE TEST TO DIAGNOSE HELICOBACTER PYLORI INFECTION

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Since its discovery in 1982, the Helicobacter pylori bacterium has been linked with numerous gastrointestinal diseases, including ulcers, gastritis, and dyspepsia. Helicobacter pylori is a spiral urease producing organism that lies in the interface between gastric epithelial cell surface and the overlying mucus gel. It is intensely antigenic and secretes various factors like urease, catalase, mucinase, lipase, hemolysin and alkaline phosphatase that decrease viscosity of mucus. Diagnosis of Helicobacter pylori may be made by invasive (endoscopic examination with gastric tissue biopsy, rapid urease test and histopathologic examination) or non invasive methods (serology, urea breath test and H. pylori stool antigen). Aim: Our objective were to determine if the urease test alone is a reliable diagnostic test for H. pylori gastritis in children and to describe the demographic characteristics (sex, age, region, type of residence) of the study group. Material and methods: One hundred and thirty consecutive patients with dyspeptic symptoms attending the endoscopy suite were enrolled in this study. After clinical evaluation, standard laboratory examination, all patients underwent upper-gastrointestinal endoscopy. Written informed consent was obtained from the parents of all patients. Antrum biopsy specimens were collected at endoscopy for the rapid urease test and histopathology. Sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) of urease test were compared against histology. Results: Our results indicate a high prevalence of Helicobacter pylori in patients with gastritis and suggest that H. pylori infection represents a serious public health problem. The rapid urease test was positive in 78%. Out of the 106 positive cases, 32 were male and 74 female. The sensitivity of the urease test was 97%. The presence of Helicobacter species in gastric mucosa biopsies was associated with endoscopic changes, the nodular aspect of the antral mucosa was evident in 33
% of the cases. Conclusion: The rapid urease test is the most frequently used test for the diagnosis of Helicobacter pylori infection in routine gastrointestinal endoscopy practice, but is not reliable as a sole diagnostic test because of a significant number of false negatives. The gold standard test for the diagnosis of Helicobacter pylori infection was histopathology.

**Keywords**: diagnosis, Helicobacter pylori, histopathology, rapid urease test

### GLUTEN SENSITIVE ENTEROPATHY – RARE FORM OF ONSET

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Introduction: Celiac disease is an autoimmune entheropathy triggered by the indigestion of gluten in genetically susceptible individuals, characterized by chronic intolerance to alcohol-soluble fractions of gluten: different prolamin from wheat (gliadin), rye (secalin), barley (hordein) and oats (avenin). Material and method: The authors wish to present a clinical case of celiac disease of a 1.5 year old child admitted to the Paediatric Clinic II, Targu Mures with unusual symptoms: chronic diarrhea with voluminous watery stools, lethargy, total refusal of food intake and massive swelling of the limbs. Results: Because of the atypical onset of the disease the patient, previously hospitalized in our clinic, initially followed a treatment for infectious diarrhea, and subsequently underwent surgery with suspected intestinal obstruction. Discussion and conclusion: Through this case of Celiac disease with rare form of onset we would like to present the diversity of symptomatology for this type of disease.

**Keywords**: celiac disease, gluten, child, rare form

### DENTAL MEDICINE

#### ADVANTAGES AND LIMITS IN MIOFUNCTIONAL THERAPY

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Occlusion represents a permanent biologic adjustment condition to the dental, periodontal and bone status. The aim of orthodontic treatment at children is to achieve a functional and esthetic acceptable occlusion. The miofunctional appliances used in temporary and mixed dentition can resolve a functional malocclusion or stop a skeletal abnormality. The purpose of this study is to evaluate the efficacy of miofunctional therapy efficiency at a group of children with functional anomalies. Material and method: clinical cases were analyzed at a group of 30 patients aged between 4-9 years, with Class I and II Angle malocclusion for a period of two years. Patients wore various Treiner type miofunctional appliances. Occlusion evaluation and facial appearance were basic parameters analyzed at beginning and end of treatment with miofunctional appliances. Results and discussion: Correcting malocclusion and improving facial appearance were analyzed with sagittal and transversal development indices, respectively the analysis of face-profile photos. Dental and facial parameters have improved in 75 % of cases, 25 % of evaluated patients had favorable growth pattern. So, no longer needed orthodontic treatment of fixed duration. Conclusions: Miofunctional orthodontic appliances remain an acceptable alternative to dento-maxillary anomalies of functional etiology in temporary and mixed dentition.

**Keywords**: miofunctional therapy, malocclusion, facial appearance

### THE PREVALENCE OF HYPOdontIA AND ORTHODONTICS AND PROSTHETICS SOLVING POSSIBILITIES

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Objective: This paper's aim is to present the prevalence of hypodontia of a study group and some orthodontics and prosthetics solving possibilities. Material and method: We examined the patients of the study group clinically and to confirm the diagnostic of hypodontia we used the panoramic radiographs. For functional and physionic reabilitation of the edentulous space we used the Straight-Wire technique to create the needed space and later we insert the implants. Results: Panoramic radiographs together with clinical examination allowed to achieve a sure diagnosis and orthodontic treatment combined with the prosthetic one worked together to solve the problem of the edentulous space. Conclusions: Orthodontic treatment combined with prosthetic treatment for a good final result.

**Keywords**: hypodontia, straight-wire technique, prosthetic treatment
CRANIOFACIAL CHARACTERISTICS OF CHILDREN WITH MOUTH BREATHING AND ADULTS WITH SLEEP APNEA

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Aim: to determine if there are craniofacial differences between mouth breathing children and adults patients with sleep apnea. Materials and method: cephalometric variables were measured on lateral cephalometric radiographs. Sagittal, vertical and dento-alveolars parameters of mouth breathing children and nose breathing children were compared with those of apnea patients. Results: mouth breathing children in our study showed long faces, clockwise facial rotations, retruded maxilla and mandible, alveolodental retraction of mandibular incisors. Conclusion: mouth breathing children have similar craniofacial characteristics as adults with sleep apnea. Keywords: mouth breathing, sleep apnea, cephalometry

MORPHOLOGICAL AND DEVELOPMENTAL CHARACTERISTICS OF HERTWIG'S EPITHELIAL ROOT SHEATH AND ITS INVOLVEMENT IN ROOT GROWTH AND DEVELOPMENT OF IMMATURE TEETH

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Onset of root formation occurs after dental crown reaches the final dimensions and the main role in this process plays an epithelial formation, Hertwig's sheath named after the author who described in 1874. Hertwig epithelial sheath appears as a proliferation of union between inner and outer adamantin epithelial layers of enamel organ in the underlying mesenchymal tissue making up as a thin epithelial sheath able to induce the appearance of dental hard tissue that will form the root. When the dental root reached its final length, Hertwig sheats disintegrates and the remaining epithelial elements are forming some isolated islands named Mallassez epithelial debris. Material and methods. This study aims to point out the most important morphological and developmental properties of Hertwig's sheath and how is directly involved in root formation based on recent data collected from literature. Also, this informations are supplemented by images of epithelial formation obtained by processing and histological analysis of a permanent young teeth without pulp disease found in different stages of development. Conclusions. Together, all the studies indicate that during root formation, Hertwig epithelial sheath acts as a barrier that establishes root shape and may mediate cementum formation, but does not secrete cementum itself. Although, many studies have been made relating to the role played by this complex formation in radicular maturation, there are still many questions related to its mechanism of action and involvement in apexogenesis and apexifications processes. Keywords: immature teeth, epithelial root sheath, apexogenesis

ORAL ASPECTS IN CHILDHOOD ONCOLOGY

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Introduction: Childhood neoplasias have become increasingly important in recent years in the ambit of paediatric medicine. This phenomenon has been accompanied by a spectacular improvement in the treatment of childhood cancer and long-term survival rates. Among possible secondary effects are oral manifestations of a chronic or acute nature, which may cause great discomfort, all of which will depend on the exact moment of the child’s development that treatment is undertaken. Material and method: We reviewed the clinical records and odonto-stomatological aspects of children who were treated for different neoplasias with chemotherapy and radiotherapy in the Pediatric Clinic of Tg.Mures, Hemato-Oncology Department. Results: Acute complications from chemotherapy and radiotherapy included oral bleeding, dentinal hypersensitivity, xerostomia and opportunistic infections (viral, fungal, bacterial). These aspects are more frequent in situations where caries, gingivitis and poor oral hygiene are already a problem. Long-term complications of radiotherapy, also associated with chemotherapy, included dental caries, fungal infections and dental developmental problems: dental agenesia, microdontics, tooth enamel defects, premature loss of primary teeth, delayed eruption. Conclusions: Oral complications and dental sequel in children treated for different neoplasias is influenced by the type of treatment undertaken (chemotherapy and/or radiotherapy in the maxillo-facial area) and the age of the patient. A correlation between the moment treatment is started and the beginning of mineralisation in the dental pieces affected has been observed. Acknowledgments: This paper is partially 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/89/1.5/S/60782. Keywords: child neoplasia, chemotherapy, dental sequel
POSSIBILITIES AND LIMITS IN ORTHODONTIC THERAPY OF THE ADULT PATIENT

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Objectives: In the last few years it is noticeable, that the pursuit of orthodontic therapy with fixed appliances for adults has increased very much, whereas dento-maxillary anomalies have an esthetic impact, with social implications. For that purpose, we want to present and evaluate a clinical case that came to the Orthodontic Department with the aim of improving he's appearance. Material and methods: Patient RB, 23 years old student, presents a skeletic class II anomaly, diagnosis based of the distally positioned canines and premolars and the overjet of 4.5 mm. At the intraoral examination we detected also crowding of the incisors in the upper arch with a unilateral ectopic canine. After the clinical evaluation and the analysis of diagnostic records (dental casts, photographs, panoramic radiograph, cephalometric analysis) a upper and lower fixed appliance was placed, using straight wire brackets, Roth prescription with 0.18 slot. Before the brackets where bonded, both upper first premolars were extractd, whereas the patient growth pattern was hyperdivergent. Because of the premolar extactions, a palatal bar was placed to reinforce the anchorage. Results: After 8 months of treatment, both upper canines have been moved distally, procedure which provided the necessary space for the leveling and aligning phase. Favorable effects have been obtained in the lower arch too, where the curbe of Spee has been leveled. Conclusion: If in the past orthodontic appliances were limited only to prevention and treatment of dento-maxillary anomalies in children, today they belong to a new concept of approaching the adult patient together with periodontology, prosthetics, implantology and surgery. Orthodontic therapy with fixed appliances is efficient, favorable results can be seen in short time, but the stability of the results depends of the patients patience and compliance.

Keywords: straight-wire, orthodontic therapy, adult fixed appliances

INTERNAL DISTURBANCES OF TEMPORO-MANDIBULAR JOINT AT A GROUP OF CHILDREN WITH CLASS II ANGLE MALOCCLUSIONS

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Purpose: The study of presence and evolution in internal disturbances of temporo-mandibular joint at infants with malocclusions at commencement and completion of orthodontic treatment. Material and method: A group of 80 children aged between 7-12 years, with class II Angle malocclusions, 23 boys and 57 girls were examined anamnestic and clinically, regarding the presence of signs of internal disturbances of temporo-mandibular joint, at the commencement of orthodontic treatment with functional appliances; after a year of treatment, at the completion of the treatment, meaning three years and 6 months after the completion. Results: a) At baseline were recorded 61 cases of mandibular dyskinesia, 48 cases of gnatosonia clicking type, 8 cases of pain muscles, 5 cases with reduction of maximum amplitude of the mouth opening; b) At one year of treatment were recorded 49 cases of mandibular dyskinesia, 49 cases of gnatosonia, one case of pain musclea, 5 cases with reduction of maximum amplitude of the mouth opening; c) At the end of treatment were recorded 24 cases of mandibular dyskinesia, 27 cases of gnatosonia, 2 cases with reduction of maximum amplitude of the mouth opening; d) At 6 months after the treatment were recorded 18 cases of mandibular dyskinesia, 28 cases of gnatosonia, 2 cases with reduction of maximum amplitude of the mouth opening. Conclusions: 1) The signs of internal disturbances are present even at age 7-12 years. 2) With the normalization of dento-maxillary functions through treatment with functional appliances, the signs of internal disturbances were reduced. 3) At 6 months after the treatment the patients' condition remained stationary, comparable with the completion of orthodontic treatment.

Keywords: TMJ internal disturbance, malocclusion, mandibular dyskinezia

CHANGES IN MASTICATORY MUSCLES ACTIVITY IN CHILDREN UNDERGOING VINCRISTINE THERAPY

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Introduction. The cancer treatment with vincristine in children results as side effect in some degree of peripheral, cranial nerve and autonomic neuropathy. Material and method. In order to assess the vincristine therapy cranial neurotoxicity, a clinical and electromyographic study on 12 children undergoing chemothterapeutical treatment was carried out. The masseteric and temporalis anterior reflex activity was registered. Results. Prolonged silent periods in masticatory muscles and pronounced jaw-jerk reflexes in patients with neuropathy symptoms were observed. Conclusion. Although further investigations on the masticatory muscles electromyography as a tool for electrophysiological evaluation of vincristin induced cranial neuropathies are needed, it can be concluded that the emphasised reflex responses in some patients in our study could be the expression of vincristine induced cranial neuropathy, due to the diminished
motor conduction velocity of the motor trigeminal innervation.

Keywords: vincristine, cranial neuropathy, jaw-jerk reflex, electromyographic silent period

CORRELATION BETWEEN THE LEVEL OF KNOWLEDGE OF DENTAL PROBLEMS AND METHODS OF USE IN PREVENTION OF EDENTOULISM

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The literature shows that in the etiology of partial or total edentulous are incriminated as factors leading to these changes in social environment and patient neglect. These causes may be interpreted as a lack of medical culture, which depends on the social environment (not necessarily economic), and lack of knowledge of dental health phenomena generates fear which finally makes the patient to neglect their teeth. Unfortunately, these tendencies often manifest themselves at younger ages among the likely causes the lack of dental health education in schools, media, community and even family. In this paper we propose to consider the degree of perception of the dentist, proper methods of maintaining oral hygiene, general knowledge level of dental care among adolescents. The conclusions highlight how young people's perception of the necessity of using brushing teeth, presentation to the dentist and other prevention methods. Young considers relevant medical education classes in school. To improve the situation indicated that these young people to be advised by a specialist.

Keywords: edentoulism, teeth brusing, dental care

THE CRANIOFACIAL CANCER, MORBID LESION WITH INCREASING FREQUENCY

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Introduction. The incidence of craniofacial cancer has increased in recent decades, both in Europe and United States. The increase in incidence was mostly around the age of 40. Increased consumption of tabacco and alcohol in the industrialized Western countries is the causative factor for this developement. Material and Methods. In the last year, 47 patients had been subjected to surgery in the Oro-Maxillo-Facial Clinic of Targu Mures, suffering of craniofacial cancer. We studied the risk factors and we noticed that various alcoholic beverages are associated with this type of cancer, the amount and duration of alcohol consumption having an important role in the development of the oral cancer more than the use of a specific beverage consumption. Thus smoking and the use of distilled alcohol together have a synergic effect on the etiology of Oral SCC. The other risk factors which are considered to be involved are: smoking, local irritation of the tongue, profesional risk (workers exposed to asbest mineral fibers), the usage of mouthwashes that contain large quantities of alcohol, the presence of Candida albicans or some viruses:HIV, HPV. We studied also the cases that presented at the Legal Medicine Institute, mostly cases that were not in the evidence of family doctors or patients that died after surgical interventions. Results: The facts that we have concluded are: patients lack the information about the symptoms of this disease, looking for medical care to late. Most patients are unaware of the presence of the tumor in the oral cavity prior to the doctor's appointment. They deliberately deny its existence or simply ignore it, looking for medical assistance only in advanced stages of the disease. Doctors, dentists and general practitioners have different approaches to the treatment of oral lesions. General practitioners tend to seek for other general diseases, usually of the digestive system or different infections that have manifestations in the oral cavity. Dentists prefer to use approach as denture adjustment, teeth extraction or antibiotic, inflammatory or anti fungal treatment. In case of over infection of the tumor, confusions may occur with other pathology that need incision and drainage of the infected situ. Conclusions: The significant number of oral cancer patients is a consequence of: 1. a. negligence of the patients 2. b. risk factors that patients were exposed at 3. late presentation to the doctors (mainly in advanced stages) 4. the confusion of the diagnosis by the dentist or general physician. The last but not the least important conclusion is the lack of any social support for the orofacial cancer, on institutional and on educational level. 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: Craniofacial cancer, oral lesion, risk factors, carcinogenesis

MANAGEMENT OF PATIENTS WITH ANXIETY AND DENTAL FEAR

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Aim: Oral rehabilitation treatment is often a challenge if the patient reports dental fear and anxiety. The purpose of this study is to observe how behavioral management has influence on the dental anxiety and fear. Material and method: This study is based on two
questionnaires used to assess dental fear and anxiety Dental Fear Survey (DFS) and Modified Dental Anxiety Scale (MDAS). Based on these questionnaires we selected a group of patients with medium and high dental fear and anxiety. During oral rehabilitation treatment was applied a treatment protocol specifically developed for people with dental fear and anxiety. After finishing the treatments we reapplied the questionnaires aiming to see how have changed level of dental anxiety and fear. Results: Patients with medium fear and anxiety presents a decreased level of fear and anxiety after we applied treatment protocol (test of significance Wicoxon p <0.0001) but we found out no change in the lot with high anxiety (dental phobia). Conclusion: Behavioral management can be used with efficiency on patients with medium dental anxiety but this has to be combined with pharmacological management in case of patients with dental phobia.

**Keywords:** dental anxiety, dental fear, behavioral management, oral rehabilitation

**JAWS OSTEO NECROSIS FOLLOWING BISPHOSPHONATES TREATMENT AFTER BREAST CANCER. CASE REPORT.**

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Bisphosphonates are potent inhibitors of osteoclast mediated bone resorption. They prevent skeletal complications in patients with bone metastases from a variety of solid tumors. Intravenous bisphosphonates are recognized as the more important cause of osteonecrosis at the maxillary bones. Prevention seems to be the best approach to this complication before initiating bisphosphonate therapy as well as in patients already receiving bisphosphonate treatment. Every dental treatment aimed to eliminate infections and prevent the need for future invasive dental procedures, and it must be performed before the beginning of the bisphosphonate treatment. The oncologists should consider referring all patients to dentist and / or oral and maxilla-facial surgeon for an examination. When osteonecrosis is present the patient should be informed of the usual irreversibility of the exposed bone and treatment should be coordinated with the oncologist. The treatment should be directed to eliminate or control pain and to prevent the progression of the exposed bone. The exposed bone is not painful, but when is infected will become painful and may lead to cellulites and fistula. This paper presents the clinical case of a female patient of 53 years old, who received Bisphosphonates treatment after a breast cancer, and, who displayed upper and lower jaws osteonecrosis, and its complex treatment (surgical and restorative). Discussion of these topics are very important since breast cancer has an increased frequency, and Bisphosphonates are also a choice of treatment. A comprehensive approach of these topics includes: first of all, prevention of osteonecrosis, and second, the complex treatment of female patients with dento-parodontal pathology and osteonecrosis, which are referred to dentist and oral and maxillo-facial surgeon.

**Keywords:** jaw osteonecrosis, breast cancer, bisphosphonates

**POCKET DEPTH REDUCTION BY TOOTH TYPES AND SITES AFTER INITIAL TREATMENT**

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Purpose: The aim of our study was to clarify the differences in the pocket depth reduction response to initial treatment by tooth types and sites. Materials and methods: Differences in pocket depth reduction rates were compared between different tooth types and sites after initial treatment in 41 adult periodontitis patients. All the patients involved in this study practiced good oral hygiene and were systemically healthy. Results: Pochet depths were significantly reduced after initial treatment. Response to treatment was good at 15, 25, 14, 24, 33, 43, 31, 41, 34 and 44, but was poor in 11, 21, 17, 27, 37 and 47. Response to treatment was poor on the mesiopalatal surfaces, midpalatal surfaces of 16 and 26, the distolingual surfaces of 17, 27, 37 and 47, and mesiopalatal surfaces of 11 and 21; but was good on the distibucal and midpalatal surfaces of 14 and 24, the mesio- and distal-buccal surfaces of 15 and 25 and the mesiolingual surfaces of 34 and 44. Conclusions: This study clarified which tooth types and sites require special care in periodontal treatment.

**Keywords:** pocket depth reduction, initial treatment, tooth types and sites.

**EVALUATION OF ORAL HYGIENE BY A COMPARATIVE STUDY IN TWO GENERATIONS OF STUDENTS**

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SCOPE. Evaluation of oral hygiene in two generations of students of the Faculty of Dentistry from Targu Mures. MATERIAL AND METHOD. The evaluation of the oral hygiene was achieved by determining the DMFT and CPITN indexes. The first evaluation was conducted during the academic year 1998-1999, upon a group of 100 students (70 girls, 30 boys), aged 20 to 28 years with an average of 24 years. The second evaluation was conducted during the academic year 2009-2010, upon 93 students (68 girls, 25 boys), aged 20 to 26 years with an average of 23 years. ABSTRACT. After processing the data we obtained the following results: dental damage frequency index in subjects examined between 1998-1999 was 98%, meaning a 14% higher index rate than for the subjects examined between 2009-2010. CONCLUSIONS. Unfortunately only 16% of the subjects examined between 2009-2010 show a more acceptable dentoperiodontal status which denotes a very low interest for oral health problems given the explosive evolution of the current oral hygiene methods.

Keywords: oral health, DMFT index, dentoperiodontal status

IMPROVING ORAL HYGIENE AND GINGIVAL STATUS BY USING COMPLEMENTARY MEANS

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Purpose. The evaluation of the efficiency of several additional means to improve oral hygiene. Material and Method. The study was conducted during four weeks. 28 subjects aged 15-48 years were examined, thereupon Lange's proximal plaque index was determined (API - Approximalraum Plaque Index) and BOP bleeding index (Bleeding on Probing). After the rating the subjects were divided into three groups and trained in the proper use of dental floss, interdental brush, and manual brushing respectively. After 4 weeks, the 28 subjects were reevaluated. Results. At the first examination the API and BOP indexes average values were 77 percent and 72.37 percent. At the second assessment the recorded average values were 62 percent for API and 57.23 percent for the BOP. The group of subjects who used oral hygiene in addition to interdental toothbrushes as a complementary means presented an improvement of 21 percent for the API index, and an improvement of 18.1 percent for BOP index. The reexamination of subjects who used dental floss has improved the API index by 17 percent and BOP index by 16.12 percent. For the third group of subjects who used only brushing the API index has improved by 7 percent and the BOP index by 11.2 percent. Conclusions. The results of this study indicates the efficiency of the complementary means to combat plaque. The best results were obtained in the group which used interdental toothbrushes associated to brushing.

Keywords: oral hygiene, complementary means, API index

CLINICAL ASSESSMENT OF RETENTION OVER TIME OF TWO FISSURE SEALANTS: FISSURIT AND GRANDIO SEAL

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Objective: The aim of this study was to evaluate the retention over time of two light-curing composite fissure sealants: Fissurit and Grandio Seal applied under standard conditions in a dental office. Material and method: The study was conducted during the period October 15, 2009 to October 24, 2010. The assessment involved 198 urban primary school attending children, who were aged between 6-8 years at the beginning of the study. The subjects were divided into 2 groups according to material used for fissure sealing: Fissurit group - 104 children and Grandio Seal group - 94 children. Regularly scheduled examinations were performed every six months for a proper monitoring of the sealed dental areas. Results: The immediate retention to the enamel surface was 100% for both materials. Retention at 6 months was 94.23% for Fissurit and 98.11% for Grandio Seal. Retention at 1 year was 90.80% for Fissurit and 92.90% for Grandio Seal. Conclusions: The results regarding retention at one year after placing the two sealing materials allow us to assert that performed under proper conditions, pit and fissure scaling provides effective protection from tooth decay.

Keywords: pit and fissure scaling, composite, retention.

SOLUBILITY OF DENTAL CEMENTS IN ARTIFICIAL SALIVA OF DIFFERENT pH VALUES

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Purpose. Various types of adhesive cement are used in dentistry. These cements have different mechanical and biological characteristics. The most important characteristic is stability in the oral cavity, resistance against decomposition and degradation. The aim of this study is to determine the solubility of dental cements stored in artificial saliva of different pH values. Materials and methods. Specimens preparations. Permanent and temporary cements were used in this study. For each material, 20 specimens (10 mm diameter x 2 mm thick) were randomly made. The dental cements were handled according to manufacturers instructions. A total of 120 specimens were prepared. Artificial saliva. The artificial saliva had of the following composition: NaCl, 0.400g; KCl, 0.400g; CaCl2H2O, 0.795g; NaH2PO4 0.69g; Na2S•9H2O, 0.005g; urea 1.0g; distilled water, 1000 ml. The pH was then adjusted to 3, 7 or 9 with NaOH or HCl, and the volume made up to 1 L. Experimental procedure. Each specimen was weighed and stored in 50 ml in distilled water (control group) and artificial saliva at 37°C for 1, 7, 14, 28 days. At the end of each time period, the specimens were removed from saliva, blotted with clean absorbent paper, and stored in a dessicator until constant weight was attained. The amount of weight loss was calculated as the difference between the initial weight of the specimen and its final constant weight after storage in the dessicator. Least Significant Difference multiple comparison test and analysis of variance were used for statistical evaluation. Results and conclusions. Cement type, pH values and storage time were found to be very significant factors to solubility. With the permanent cements, glass ionomer cement presented the lowest solubility value at pH 7 after seven days, while zinc phosphate cement presented the highest solubility value at pH 3 after 28 days. With the temporary cements, solubility of zinc oxide without eugenol cement was more stable than the zinc oxide-eugenol cement. Statistically significant differences in solubility were found among the specimens stored in acidic, basic and neutral artificial saliva. It was observed that the cements were more soluble in the acid medium, but stable in pH 7 medium. In conclusions, the findings of this study indicate that cement type, storage time, and medium pH exert statistically significant influences on cement solubility.

Keywords: adhesive cement, artificial saliva

CERVICAL LESIONS: FINITE ELEMENT ANALYSIS

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Objective. The mechanical theory of cervical lesion formation is widely accepted, however, its mechanism is not fully understood. Cervical, noncarious lesions of dental hard tissue may form on the buccal teeth surfaces. They are more commonly seen in the mandibular teeth, which may be due to their lingual orientation and their anatomically smaller cervical cross section. The aim of this study is to compare the behaviour of a lower intact canine to a cervical lesion model canine under external forces of different values applied at different angles. The hypothesis used in this study was that there were no difference in the stress profiles between the teeth with a fully intact structure and the teeth with undermined cervical lesion. Materials and methods. The study of stresses in mandibular canine was conducted with finite element analysis using software ALGOR-Fempro. On the basic of anatomic data from the literature, a 2D model of an intact lower canine and 2D model of a lower canine with cervical lesion were created. The physical properties used in this study are: enamel, elastic modulus 6.9•104MPa, Poisson’s ratio 0.30; dentine elastic modulus 1.67•104MPa, Poisson’s ratio 0.31. All materials were assumed to be isotropic. Forces of different values were applied onto their cervical area. Results and conclusions. The results obtained following FEM analysis are expressed by von Mises equivalent stress and specific deformation values. It was observed that these values increase in the cervical lesion tooth as compared to the intact tooth. In both models, maximum values of von Mises stress and specific deformation were noted onto the cervical area. In spite of these findings, the results of this study must be interpreted with a certain amount of caution. This analysis was a two-dimensional plane strain analysis, so it was not possible to model any small twisting movements of the tooth. The discontinuity caused a dramatic increase in the numerical values of the maximum principal stresses, and in many instances these exceeded the known failure stress for enamel. This finite elements analysis suggests a mechanism for developing cervical lesions due to high levels of assumed tooth loads. Explanation and understanding of this mechanism may allow for the prevention of cervical lesion formation.

Keywords: finite element analysis, mechanical theory, dental cervical lesion

DENTAL STUDENTS’ TRAINING AND OPINION REGARDING SMOKING CESSION

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Aims: The health care professionals have the responsibility to prevent smoking and help patients stop smoking. The objective of the present study was to investigate smoking habits and attitudes towards smoking cessation among dental students. Material and method: An anonymous questionnaire survey among dental students from 1st to 6th study year in the Faculty of Dental Medicine in Târgu-Mureş was conducted in 2010. The subjects were asked about their smoking habits, training and opinion regarding smoking
cessation in the dental setting. Statistical analyses were performed using SPSS Statistics 17.0 by Chi-square test. Results: Smoking was reported by 42% of the students participating in the survey. Majority of the students (91%) agreed that special training in smoking cessation should be part of health care personnel’s education. Less than half of the students (48%) reported sufficient skills to guide patients stop smoking. Regarding a dentist’s responsibility and duty to try to get patients to quit smoking the opinions were divided: significantly higher number of the smokers agreed with the claim compared to the non-smokers (p<0.0001). Conclusions: The prevalence of smoking was high for surveyed subjects. In curriculum of the Faculty of Dental Medicine in Târgu-Mures no training regarding tobacco control has been provided thus far, however the students have positive general attitudes towards special training in smoking cessation. These results call for pertinent measures in smoking prevention and cessation education of the future dental professionals who should play an effective role in tobacco control.

Keywords: prevalence of smoking, oral health, smoking habits

PHARMACY

DERIVATIZATION REACTION BY ELECTROPHORETICALLY MEDIATED MICROANALYSIS

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Objective: Electrophoretically mediated microanalysis (EMMA) is applied in a number of biochemical systems, assays of enzyme activity, peptide mapping, CE on microchip, etc. Recently, in-capillary derivatization has received considerable attention because this approach exhibits some remarkable advantages over conventional pre- and postcapillary derivatization, such as low consumption of reagents and sample, short reaction time, and the possibility of automation without extra equipment. Methods: The aim of this study was the development of a new electrophoretic determination method in which the derivatization reaction occurs in-capillary, parallel with the separation. The ACE inhibitor captopril was derivatized with p-bromo-phenacyl bromide to form an UV active product. The analyses were performed by an Agilent 6100 CE instrument with UV detection at 205, 260 nm, using an uncoated capillary (35cm x 50μm) and phosphate buffer solution at pH = 7.4. From the proved electrophoretically mediated microanalysis methods, the zonal sample introduction seemed to be the most useful, with a good sensibility and short run time. Results, Conclusions: The developed method’s novelty is that the derivatization of captopril is performed in-line, where the chemical reaction and detection take place consecutively, making the determination much faster.

Keywords: electrophoretically mediated microanalysis, derivatization reaction, ACE inhibitor

CHARACTERIZATION OF OFLOXACIN COMPLEXES WITH BISMUTH AND ZINC

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Objective: Ofloxacin is a synthetic antibacterial agent based on the nalidixic acid model, having as a common structural characteristic a fluorine atom in position 6. Chemical structure determines the ability of ofloxacin to function as ligand. Ofloxacin exhibit excellent complexing capacity determined by the presence of carbonyl groups (4-oxo) and carboxyl (3-carboxyl) in adjacent positions. Methods: The present study aimed to synthesize metal complexes with ofloxacin. We obtained several metal complexes of bismuth (Bi3+) and zinc (Zn2+) with ofloxacin. Metallic compounds were obtained with chemical structures such as [Zn(Ofloxacin)2] • xH2O, (Ofloxacin)4Bi • xH2O, Bi(Ofloxacin) 3 • xH2O. Results, Conclusions: Characterization of metal complexes and confirmation of their proposed chemical structures was studied by analyzing their physico-chemical properties using basic methods officinal in the European and Romanian Pharmacopoeias and using other methods of analysis.

POLYOXOMETALATES-INORGANIC COORDINATION COMPOUNDS-AND THEIR BIOLOGICAL APPLICATIONS

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Objective: The polyoxometalates is a class of macromolecular inorganic coordination compounds which had found applications in many fields of science and technology. A part of this class is represented by the heteropolyoxotungstates, compounds with special structures, with higher stability in solid form and solutions. Methods: The polyoxometalates can be divided in two types of compounds: isopolyanions and heteropolyanions. In isopolyanions, the polycondensed oxoions are identical and octacoordinated. They
are classified depending on the nature of addenda in: vanadates, molybdates, tungstates or with mixed addenda. For the heteropolyanions, there are more classifications: number and type of heteroatom, number and type of addenda, ratio between heteroatom/addenda, saturated or unsaturated structures. The outstanding properties of the polyoxometalates are based on combining the synergistic properties of the components found in the chemical formula: polycrystaline metal oxides; higher stability in H2O, air and temperature; anions with multiple anionic charges (from -3 to -30); large size molecules (6-25 A); high ionic weights (103- 104 u.m.); oxidizing/ reducing agents; capacity to incorporate more than 70 elements, forming a large number of structures; very good solubility of acid forms in water, oxygenated solvents and nonpolar solvents; they can form lacunary stable structures. Lately, the polyoxometalates are very studied because of their high stability in low concentrations and large pH and temperature intervals, electronic transfer properties, large and stable molecules. The advantage of polyoxometalates is that it can change just about anything that involves molecular recognition properties and their reactivity with the macromolecular biological target: polarity, redox potential, surface charge distribution, acidity. Lately, because of its remarkable properties, they present particular interest in medical field for their antiviral, antitumor and hypoglycemic activity. Results, Conclusions: The antiviral activity depends on structure, composition, size, electronical charge of the polyoxometalates, on virus and cell line. The polyoxometalates can only interfere with viral infection in early stages. Inactivation of virus either by filling the surface active centers, centers that host cell infection is initiated, either preventing virus replication through chelating after entering the cell. The antitumoral activity depends on structure-activity relation. These compounds are very soluble in biological systems, with which they start electronical transfer.

Keywords: polyoxometalates, clasification, properties, antiviral, antitumoral.

**A 3000 PATIENTS SURVEY REGARDING HYPERKALEMIA**

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Introduction: Hospitalized patients are often diagnosed with several diseases and are treated with multiple drug therapy. When associated, certain drugs, medications may react causing hyperkalemia as a symptom: for example despite the accumulating evidence of their efficacy, ACEIs still present certain side effects, especially when combined. The objective of this study was to evaluate the incidence and severity of hyperkalemia among patients treated for multiple diseases, using more than two drugs associated to ACEIs. Material and methods: We performed a retrospective study on 3000 inpatients. During this trial we have evaluated demographic data, associated diseases, laboratory parameters and mainly the used treatment. We have accepted as hyperkalemia results higher 5 mmol/L. During data analysis we have searched the incidence of hyperkalemia in relationship with the used pharmacotherapy. Results: The incidence of hyperkalemia was high: 301 from 3000 patients presented elevated levels. Regarding demographic data 37.54% were females and 62.45% were males, showing a peak patients aged 66-78 years. When evaluating therapy we observed that those who have received ACEIs in combination with an anti-inflammatory drug showed higher kalemia levels. The most often cardiovascular diagnoses were hypertension, chronic heart failure and ischemic heart disease, presenting as comorbid condition renal failure, diabetes mellitus or a gastrointestinal or pulmonary illness. Conclusions: We have observed that drug associations often cause adverse drug reactions – in our case hyperkalemia. The frequent use and the advantages of ACEIs requests a better recognition of the risks and benefits of these drugs.

**MICROORGANISMS FREQUENTLY IMPLIED IN URINARY TRACT INFECTIONS**

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Urinary tract infections (UTI) are among the most frequent illnesses of mankind. Usually, microorganisms belonging to the patient's intestinal, vaginal and local skin normal flora are implied and the disease affects especially the female gender. The aim of our study was to diagnose and test the antibiotic sensibility of bacteria isolated in the Microbiology Unit of the Emergency Clinical County Hospital Tg. Mures in a month period. Material and methods: in July 2010, 478 urine samples were collected from patients accusing dysuria from the different units of the above mentioned hospital. We performed culture and microscopy of spontaneously and through catheter emitted urine samples. Cystine-lactose-electrolyte-deficient agar, CLED and sheep blood agar media were used for cultivation, the incubation time was 18 hours at 370C. The isolated bacteria's antibiotic sensibilities were checked on Muller-Hinton plates by the diffusion method and interpreted in accordance with the actual CLSI standards. Our results evidenced UTI in 50 (10,67%) of the urine samples, while 428 (89,33%) had no detectable bacterial growth on the used culture media. The infections were caused by the following microorganisms: Escherichia coli in 32 patients (64%), Enterococcus spp. in 6 cases (12%) and Klebsiella spp. in 4 (8%). Streptococcus agalactiae had a frequency of 6% (3 cases), and Staphylococcus aureus appeared in only 1 case, (2%). In 2 UT
infections (4%) we diagnosed Proteus mirabilis. There was only one infection (2%) with Acinetobacter baumannii and one (2%) with a Pseudomonas aeruginosa strain. Among the isolated E. coli and Klebsiella strains multi resistance was present, some produced extended beta lactamases. None of the Enterococcus species was Vancomycin resistant (VRE). The Proteus strains were sensible against the tested antibiotics, while the S. aureus isolate was methicillin – resistant (MRSA). Both the Acinetobacter and Pseudomonas isolates were highly resistant. In conclusion, the frequency of the microorganisms causing UTI is in accordance with the literature. The number of multi resistant strains is increasing, which highlights the importance of monitoring the in vitro susceptibility testing and application of adequate treatment.

A CENTURY SINCE THE INTRODUCTION OF SALVARSAN IN SYPHILLIS THERAPY – IN MEMORIAM OF PAUL EHRLICH, THE FOUNDER OF CHEMOTHERAPY

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The venereal disease produced by the spirochete Treponema pallidum, syphillis (lues), has known an epidemic evolution in the XVIth century, but the first efficient drug used for its treatment was discovered only a century ago. The discovery of this drug, an organic arsenic compound, named Salvarsan (arsphenamine), was made by Paul Ehrlich, the founder of chemotherapy. He applied at the beginning of the XX century a new concept in drug research, searching for substances named “magic bullets” which hit only those pathogens for which they were designed to destroy. The discovery of Salvarsan in 1909, was followed by the development of Neosalvarsan which became available from 1917, and by the introduction of bismuth compounds (1921 – C.Levaditi). This arsenical compounds were the only efficient drugs used in the treatment of syphillis, until they were supplanted by penicillin in the 1940’. Paul Ehrlich (1854-1915) obtained his physician habilitation at the University of Leipzig. Possessing also remarkable chemistry skills, he experimented a series of laboratory techniques (use of azoic colorants to stain tissues for histological examination, blood analysis; diazo reaction used in urine analysis). Remarkable are his earlier studies in the domain of immunology and oncology. Ehrlich received the Nobel Prize for Medicine in 1908. Working on arsenic compounds after the famous discovery of the compound 606, he managed to discover in 1909 together with the biologist Sachachiro Hata that bird spirilzoa can be treated with the newly discovered chemical substance. The results were presented in April 1910, at the Congress of Internal Diseases, at Wiesbaden. The improved compound, neosalvarsan was an official compound in the VIIth edition of the Romanian Pharmacopoeia (1956), under the name of “Novarsenolum”. Paul Ehrlich remains a outstanding scientific personality, who together with Louis Pasteur and Robert Koch, is regarded as a pioneer in the fight against infectious diseases. He was the first researcher to optimize the biological activity of a lead compound through systematic chemical modifications, the basis for nearly all modern pharmaceutical research. He underlined the importance of the relationship between the chemical structure of the medicinal substances and their pharmacologic activity and presumed the existence of mounting locations of the molecules, receptors, with the aid of pharmaphore groups of medicinal substances.

PLACE OF MEDICINAL HERBS IN „TRAITE des PHARMACIE” (MCCCDLXXXVII)

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In 247 pages of the Treaty of Pharmacy, printed in 1887, in volume II, chapter “Special study of drugs” - presents vegetable products, so called “Alkaloids”. The General part identifies the mentioned detection agents (used also today) with the composition, method and equipment for the extraction of alkaloids. It follows the alkaloid’s list of 11 families, most of them used even now, and for each and every alkaloid, nearby a brief history, chemical formula, therapeutic effects, method of preparation with the “devices” of that time, analysis and control of the main alkaloid and derivates - are also mentioned very different formulations, like oral solutions, injections, tinctures, wines, beer, elixirs, powders and chocolate, with the formula and method of preparation, and recommendations for use, as well. It is another proof of the importance and value of the vegetable source, which was and remains essential for the pharmaceutical industry.

PhD POSTDOCTORAL STUDIES

CHROMOSOMAL ABNORMALITIES IN PATIENTS WITH HEMATOLOGICAL MALIGNancies

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Cytogenetics is considered one of the most valuable prognostic determinants in hematological malignant diseases. The aim of the study was to evaluate the incidence of chromosomal abnormalities in patients with hematological malignancies in Hematology Clinics from Tg. Mures. This work was conducted on 210 patients (141 males and 69 females) with age range four months – 81 years (between ages 4 months and 81 years). We analyzed the karyotypes of 36 acute lymphoblastic leukemia (ALL), 34 acute myeloid leukemia (AML), 7 acute promyelocytic leukemia (APL), 10 secondary leukemia, 52 chronic myeloid leukemia (CML), 25 myelodysplastic syndrome (MDS), 37 chronic lymphocytic leukemia patients (CLL) and 9 cases with lymphoma. We carried out the bone marrow and/or peripheral blood culture according to standard methods. Abnormal clones were detected in 53% (112) of our cases. In our study the most frequent aberration was structural abnormality. These findings are similar to the results obtained in other studies. Acknowledgement: This paper is partly supported by the Sectoral operational programme human resources development (SOP HRD), financed from the European social Fund and by the Romanian Government under the contract number POSDRU 60782.

Keywords: hematological malignancies, chromosomal abnormality

CHRONIC CEREBRAL VENOUS INSUFFICIENCY IN MULTIPLE SCLEROSIS PATIENTS

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Objective: Multiple sclerosis (MS) is an inflammatory and degenerative disease of the central nervous system. Demyelinated plaques are situated mainly around cerebral veins. Studies started in 2008 and still ongoing have suggested that this topographic pattern may be caused by venous congestion, a condition termed as chronic cerebrospinal venous insufficiency (CCVI) with cerebral and spinal venous Echo-Doppler pattern. Methods: 25 MS patients and 15 age-matched controls entered our preliminary cerebral venous Echo-Doppler study. They underwent an extracranial colour Echo-Doppler high-resolution examination with main focus on the detection of four parameters: reflux present in internal jugular vein (IJV), evidence of proximal IJV stenosis, flow not Doppler detectable in IJV and/or vertebral veins (VV), negative difference in the cross sectional area in IJV. The results of MS patients were compared with those obtained in the healthy controls. If a subject tested met at least 2 of the above criteria, we considered him having CCVI. Results: In 16 (64%) MS patients we found at least one impairment in the extracranial venous circulation, 3 patients fulfilled the criteria of extracranial CCVI. The most common finding was reflux in IJV (12 unilateral and 3 bilateral). 10 cases (40%) were considered having CCVI. Conclusions: 1) CCVI was not found in all MS patients; 2) More research is needed to establish if CCVI is the cause of MS or if it could explain the increased brain iron stores. 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/64109.

Keywords: multiple sclerosis, degenerative disease, echo-Doppler high resolution

MAMMOGRAPHIC AND ULTRASONOGRAPHIC UNUSUAL ASPECTS IN FEMALE BREAST PATHOLOGY

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3University of Medicine and Pharmacy Tg-Mures, Department of Surgery
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Our purpose was to report unusual ultrasonographic and mammographic features in three different cases of benign breast pathology which mimicked malignancy (a proliferative fibrocystic mastopathy, fat necrosis, radial scar). Material and method: We have retrospectively reviewed clinical, sonographic and mammographic data in three female patients, aged 27 to 49 years old. Diagnosis was established by fine needle aspiration or needle core biopsy, followed by surgical procedures, with histopathological examination. Results: Clinically, proliferative fibrocystic mastopathy, fat necrosis and the radial scar resulted in palpable masses (painful in fat necrosis). The mammographic and sonographic appearance of proliferative fibrocystic mastopathy was highly suspicious of malignancy, with architectural disorder and a speculated masse. Mammographically, fat necrosis presented as a heterogeneous opacity with oily cysts and extensive pleomorphic microcalcifications, mostly vermicular. The radial scar also showed mammographic and ultrasonographic features highly suspicious for malignancy. Conclusions: Although most breast lesions are benign, some of these may increase the risk
of developing breast cancer and/or mimick malignancy on sonographic and mammographic examination. Therefore, clinical, imaging and pathological correlations are necessary in order to establish the correct diagnosis. 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:** mammography, breast, microcalcifications

### THE THREE-DIMENSIONAL ULTRASONOGRAPHY IN THE STUDY OF FETAL NASAL BONES, AT THE SCREENING OF 12-14 GESTATIONAL WEEKS

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Background. The 3D multiplanar ultrasound is lately used for the study of the fetal face. The possibility of acquiring a volume which includes the whole fetal cephalic extremity, with further processing in various sections of nasal bone imaging, has opened new perspectives on the study of an ultrasound sign as a call for genetic syndromes. The aim of the paper is to assess the utility of acquiring of a single volume 3D, for the study of both nasal bones in the normal fetus. Material and method - a lot of 20 pregnant women, with a unique pregnancy and normal fetal echo structure, who had come at the screening of 12-14 gestational weeks, were scanned with an ultrasound machine, equipped with abdominal and vaginal 3D transducer, with a volume that included the acquisition of fetal head with the ultrasound beam direction directly to the fetus face, with an angle between the transducer and the long axis of the nose close to 45°. Further analysis of the volume through multislice technique, to obtain an oblique transverse section of the skull along the nasal bones, could lead to simultaneous evidence of the two nasal bones, with their measurement. Results - all the fetuses had an aquire of 3D volume, satisfactory in terms of further processing of the image, obtaining optimal section comprising “top” sight of both, whole nasal bones. The average duration of volume processing, up to the oblique cross section described, was 20 minutes. Conclusions - the acquire of a single volume of the cephalic extremity, with the fetal face towards the ultrasound transducer, is a reliable method to obtain a section of the two nasal bones, at the time of the screening of 12-14 gestational weeks. 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/64153

**Keywords:** 3D ultrasonography, fetal nasal bones

### ACUTE RESPIRATORY DISTRESS SYNDROME AND RELATED MODIFICATIONS DURING CARDIAC SURGERY

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Objective: To establish the immunohistochemical modifications within the lung with Acute Respiratory Distress Syndrome (ARDS) and other organs during cardiac surgery.Material and method: In 40 necropsy cases in which the death was installed after cardiac surgery, we analysed the angiogenic phenotype of the lung, myocardium, pancreas, kidney and liver. We used the following antibodies from LabVision: VEGF-A, clone VG1, VEGF-R1 (Flt-1) and VEGFR-2 (Flk-1). In the same tissues, the apoptosis was analysed with bcl-2 (clone 100/D5). Results: In the lung, VEGF-A expression decreased in alveolocytes and increased in the hyaline membranes. VEGF-R1 expression was preserved in the remaining alveolocytes but the hyaline membranes were not stained with this antibody. VEGF-R2 expression decreased in alveolocytes and endothelial cells and no expression in hyaline membranes was observed. VEGF-A also marked the pancreatic tissue, the normal myocytes, hepatocytes and renal tubules but the myocardial areas with degeneration and degenerated hepatocytes were negative. Bcl-2 expression was diffuse or focal in myocardial fibers, with overexpression in subendocardial areas. Bcl-2 also marked the degenerated hepatocytes, the necrotic renal tubules, the alveolocytes, macrophages and bronchial epithelium.Conclusions: After cardiac surgery, during cardiogenic shock, the VEGF intensity increases in normal tissues and decreases in the degenerated area. A particular feature is observed in lung were incresing of VEGF intensity in hyaline membranes seems to be a protective factor for lung damages. On the other hand, bcl-2 overexpression within necrotic areas shows an increasing anti-apoptotic activity which can be an important defending mechanism in this surgical procedures. This paper was partially supported by the CNCSIS-UEFISCSU, project number PN II- Idei 136/2008 and the project 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.

### LESIONS OF THE INTRAMYOCARDIAL MICROVASCULAR SYSTEM IN CASE OF CHRONIC REJECTION FOLLOWING HEART TRANSPLANTATION

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The presence of lesions from intramyocardial microvascular system is one of the most specific signs for the diagnosis of chronic rejection following heart transplantation. The study was performed in 34 cases of heart transplantations, between 1992 and 2008, where the rejection was confirmed from clinical and immunological aspects. The occurrence of lesions from the intramyocardial microvascular system of the myocardium was higher than those reported in the literature, including the most recent. The study was performed on paraffin sections of myocardium tissue sections, where the lesions from the intramyocardial microvascular system were pointed out. The lesions were categorized into three groups: focal, intramyocardial microvascular system occlusions (and/or intramyocardial microvascular system obliterations) (IVS), lesions from the intramyocardial microvascular system with formation of new vessels (NIVS), lesions from the intramyocardial microvascular system with formation of new vessels, and intramyocardial microvascular system occlusions (and/or intramyocardial microvascular system obliterations) (IVS), lesions from the intramyocardial microvascular system with formation of new vessels (NIVS), lesions from the intramyocardial microvascular system with formation of new vessels (NIVS), lesions from the intramyocardial microvascular system with formation of new vessels (NIVS), lesions from the intramyocardial microvascular system with formation of new vessels (NIVS), lesions from the intramyocardial microvascular system with formation of new vessels (NIVS), lesions from the intramyocardial microvascular system with formation of 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**Keywords:** intramyocardial microvascular system, chronic rejection, heart transplantation.
Introduction. The intramyocardial microvascular system represents the final stage of blood flow distribution. Following heart transplantation small intramyocardial vessels can be affected in different cases: ischemia, infections or rejection. Aim of study to determine the degree of impairment of the intramyocardial microvascular system in case of chronic rejection following heart transplantation. MATERIAL AND METHOD Our study analyzes the occurrence of chronic rejection in six heart transplant patients in the late period (one year after the intervention). We used standard histological methods, coupled with immunohistochemical investigations - monoclonal antibodies CD3, CD4, CD8 (lymphocytes), CD20 (B lymphocytes), CD68 (macrophages), CD31, CD34 and VEGF for intramyocardial small vessels. Results. The studied patients’ case histories: Case no.1: 58 years old male, with episodes of acute cellular rejection in the second month post-transplant, deceased as a result of chronic rejection two years post-transplant. Case no.2: 41 years old male, without previous episodes of rejection, deceased as a result of chronic rejection eight years post-transplant. Case no.3: 53 years old male, without previous episodes of rejection, deceased as a result of chronic rejection two years post-transplant because of chronic rejection associated with invasive keratinizing epidermoid carcinoma of the lower lip. Case no.4: 33 years old male, with numerous episodes of acute cellular rejection in the first months and in the first year, deceased as a result of chronic rejection two years post-transplant associated with grade 2 acute cellular rejection. Case no.5: 44 years old male, without previous episodes of rejection, presenting three years post-transplant suggestive lesions for chronic rejection. The patient is currently on a waiting list for another heart transplant. Case no.6: 51 years old female, with numerous episodes of acute cellular rejection in the first years post-transplant, developing chronic rejection in the seventh year, reason why she undergoes a new episode of cardiac transplant. The patient currently is alive in an exceptionally good health condition. Discussions. Chronic rejection, also called cardiac allograft vasculopathy (CAV) - is besides infections and malignant tumours, the main cause of cardiac death in the late period (one year after the intervention). Its occurrence means irreversible malfunction of the heart, the only treatment that may save the patient’s life being retransplantation. At the level of endomyocardial biopsies in case of chronic rejection a series of suggestive modifications are recorded especially at the level of small intramyocardial vessels, but the correct diagnosis is established only through the analysis of subepicardial large vessels at the level of the explanted heart or postmortem at necropsy. CONCLUSIONS Chronic rejection usually occurring during a late survival period remains a feared post-transplant cardiac complication, retransplantation being the only viable treatment for the patient. 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.

RARE CYTOGENETICS FINDINGS IN PATIENTS WITH LEUKEMIA

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Conventional cytogenetics are widely used for detection of chromosomal abnormalities, which play an important role in diagnosis in malignant haematological disease and are independent factor of prognostic. The aim of the study is to describe new and rare cytogenetic findings in patients with leukemia. Method: Conventional cytogenetic analyses were performed on bone marrow samples. We used Giemsa staining (GTG staining) technique. Karyotype was interpreted according to International System for Human Cytogenetic Nomenclature recommendation. Results: In this study some deletions and translocations t(7;12)(q22;p13), del(14)(q21), t(12;15)(q22;q13), del(15)(q22), t(14;21)(q10;q10), were founded as rare cytogenetic findings. Conclusion: newly and rare identified cytogenetic findings allow us to characterize the evolution of the hematological malignancies. Further investigations are needed to establish the prognostic impact of these new and rare chromosomal abnormalities. 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.

Keyword: leukemia, cytogenetic, translocation

D2-40 IN TESTICULAR GERM CELL TUMORS

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Introduction. Germ cell tumors (GCT) are the most frequent testicular malignancies of young patients. Even if recently there is a
tendency of only chemotherapy based treatment, the identification of the vast architectural and morphological range of GCTs is mandatory for an adapted therapy and follow-up of each case. Generally this can be accomplished on routine examination but in difficult cases establishing the tumor immunoprofile is required. The aim of this study was to evaluate, in a large series of cases, the utility of D2-40 in the diagnosis of testicular GCT. Material and method. A total of 93 routine and consultation cases of testicular GCT from the archives of the Pathology Departments of both University Hospitals Tg Mures, Romania and San Cecilio, Granada, Spain were selected for this study. They consisted of 63 cases of pure testicular GCT corresponding to 41 seminomas, 14 embryonal carcinomas, 4 yolk sac tumors, 2 teratomas and 2 spermatocitc seminomas. Other 30 cases were of mixed GCT represented by various percentages and combinations of 7 seminomas, 27 embryonal carcinoma, 21 yolk sac tumor, 17 teratomas and 4 choriocarcinoma. Serial sections of a representative paraffin block for each case were immunostained with a complete panel of antibodies that included D2-40, PLAP, CD30 and OCT3/4. For D2-40, PLAP and CD30 a membranous/cytoplasmic positivity was accepted and only nuclear stain was taken into account for OCT3/4. Results. The evaluation of D2-40 in the non-neoplastic testicular parenchyma revealed a strong positivity of the “tunica vaginalis” mesothelium and an apical-membranous pattern for the “rete testis” epithelium. Also the lymphatic endothelium was strongly and constantly positive. The basal cells of the epididymal epithelium along with its surrounding smooth muscle layer and the lamina propria of the seminiferous tubes with unimpaired spermatogenesis were moderately highlighted by D2-40. The most interesting results were achieved while examining the embryonal carcinoma cases. It marked 100% of the embryonal carcinoma cases compared with CD30 that was positive in only 90% of them. D2-40 constantly and diffusely marked the apical cell membrane of the papillary/glandular areas while the solid pattern presented only focal and incomplete membranous positivity. Seminomas were strongly positive, D2-40 sharply separating them from the embryonal carcinoma cases. The intratubular germ cell neoplasia of undifferentiated type (IGCNU) was also regularly and strongly identified. The yolk sac tumors were negative and only focal teratomatous glands and isolated sertoli維roplastoblasts were weakly positive. Conclusions. This study adds “rete testis” to the long list of normal epithelia D2-40 positive. It also confirms D2-40 as a marker for the lymphatic endothelium. Its apical positivity in the glandular/papillary areas of the embryonal carcinomas warns about the possible misdiagnosis of the lymphatic emboli especially on small biopsy fragments. The similar pattern of positivity with the “rete testis” epithelium might create confusions when evaluating associated “rete testis” hyperplasia or its infiltration by an embryonal carcinoma. Its pattern, extent and intensity of the stain differentiate seminoma from embryonal carcinoma. Concerning the others antibodies our study demonstrates the unspecificity of PLAP in GCT diagnosis and confirms the 100% sensitivity of OCT3/4 in seminomas, embryonal carcinoma and IGCNU diagnosis. ACKNOWLEDGEMENT. This study was supported by the University of Granada, Spain, the Sectoral Operational Programme, Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contracts numbers POSDRU/61.5/S/1S17 and POSDRU/89/1.5/S/60782

A CASE OF LOCALLY ADVANCED PROSTATE ADENOCARCINOMA ORIGINATING IN THE TRANSITION ZONE

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Background. Transition zone cancers are clinically silent and thus their diagnosis relies solely upon histopathological examination of the transurethral resection material or of adenomectomy specimens. It usually develops on a background of prostate hyperplasia, which accounts for signs of urinary obstruction. These tumours have a lower risk of extension outside the prostate and of lymph node metastases than tumours originating in the peripheral zone. Method. We report the case of a 61 year-old man who underwent sextant needle biopsy for adenocarcinoma suspicion followed by radical prostatectomy after five months. The radical prostatectomy specimen was fixed in neutral formalin. Resection margins were stained with two separate dyes for each side. The seminal vesicles, the resection margins at the apex and the base were sampled separately. The remaining prostate was serially sectioned. Histological assessment of both needle biopsies and radical prostatectomy specimen was performed on hematoxylin-eosin stained sections in light microscopy. Results. The diagnosis of bilateral well differentiated prostate adenocarcinoma, with a Gleason score of 7 (3+4) and 6 (3+3) was established on needle biopsies. On six out of seven biopsies we noticed small foci of microglandular proliferations consisting of crowded glands that infiltrated the stroma of the prostate. These glands were lined by a single layer of tall columnar cells with clear or pale eosinophilic cytoplasm. The nuclei were enlarged, round, hyperchromatic, without atypia, and frequently aligned at the basal pole of the cells. On the radical prostatectomy specimen we found a large tumour originating in the transition zone infiltrating the peripheral zone bilaterally. This tumour was well differentiated, with a 7 (3+4) Gleason score. Although well differentiated, the tumour extended outside the right lobe of the prostate, yielding multiple images of perineural invasion. The resection margin was positive at the left apex and at the level of the urethral stump. There were no metastases in the obturator fossa lymph nodes. Conclusions. Although transition zone tumours are generally well differentiated, with a lower risk of extension outside the prostate and of lymph node metastases than tumours originating in the peripheral zone, they can extend outside the capsule of the prostate and become locally invasive if they grow large enough to infiltrate the peripheral zone. Whereas on radical prostatectomy specimens tumour origin is easily ascertained, in limited samples such as prostate needle biopsy caution should be exerted in establishing the zone of origin based on histologic appearance. ACKNOWLEDGEMENT. This study was supported by the Sectoral Operational Programme, Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the
THE IMPORTANCE OF MOLECULAR STATUS AND SENTINEL LYMPH NODE IN THE PREDICTION OF OUTCOME OF COLORECTAL CARCINOMAS


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Objective: To establish the prognostic role of some histological criteria and immunohistochemical markers for colorectal carcinomas (CRC). Material and method: In 226 cases with CRC, surgical specimens, we made a retrospective study and analysed their clinical and histological aspects. We also performed immunohistochemical stains with following antibodies, provided by LabVision: p53, Ki67, bcl-2, c-erbB-2, CD8, Chromogranin A (Chr). We also initiated a prospective study and mapping the sentinel lymph node in 30 cases. One of the 226 cases presented recurrence at 7 years after surgical intervention. Results: Based on statistical analysis, in the 226 cases the CRC, the immunophenotype p53+/bcl-2-/c-erbB-2+/Chr+ was correlated with presence of lymph node metastases, the deepness of tumoral infiltration and also with presence of angio-lymphatic invasion. In the 30 cases with mapping of sentinel lymph node the number of examined lymph nodes was significant increased and in two cases the lymph node metastasis was identified only in the sentinel lymph node. The case with recurrence was located on the sigma and presented at the moment of diagnosis the stage pT3N0 and the immunophenotype p53+/bcl-2-/c-erbB-2+/CD8+. Only one lymph node was identified in the primary surgical specimens. The recurrence was observed in the paraaortic lymph nodes. Conclusions: To improve the diagnosis and prognosis of colorectal carcinomas, a proper management should include: an adequate surgical resection, mapping of sentinel lymph node, a careful macro- and microscopically analysis and also a molecular classification of CRC. These criteria are especially necessary for the cases without lymph node metastases in order to avoid the false-negative results. This paper was partially supported by the CNCSIS-UEFISCSU, project number PN II-RU code 504/2010 and the project Sectoral Operational Programme Human Resources Development, financed from the European Social Found and by the Romanian Government under the contract number POSDRU/89/1.5/S/60782.

THE ROLE OF HISTOLOGY AND IMMUNOHISTOCHEMISTRY IN PREDICTION OF MICROSATELLITE STATUS OF COLORECTAL CARCINOMAS

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Objective: To establish the clinical and histological criteria necessary to predict microsatellite status of colorectal carcinomas (CRC). Material and method: In 52 cases with CRC, surgical specimens, we made a correlation between clinical features, histological aspects, immunohistochemical results and molecular biology. We used the following antibodies, provided by LabVision: p53 (clone DO-7), CD8 (clone C8/144B) and MLH-1 (monoclonal). To determine microsatellite status the mononucleotides BAT25 and BAT26 were used. Results: From the 52 cases, 26 from right and 26 from left colon segments, 9 cases were MSI (microsatellite instable). All of the 9 cases were located on the right colon segments. They presented following histological and immunohistochemical criteria: nodular growing, absence of dirty necrosis, more than 3 Tumor Infiltrating Lymphocytes (TIL) at high power field, p53 index under 20%, lack of MLH-1 expression. On the other hand, the MSS (microsatellite stable) cases, located on the right colon segments, presented infiltrative growing, large areas with dirty necrosis, p53 index more than 30%, absence of TIL and positivity for MLH-1. Conclusions: To increase the financial benefits in the management of colorectal carcinomas, clinical, histological and immunohistochemical criteria should use to select those cases in which molecular analysis is necessary to be performed. This paper was partially supported by the CNCSIS-UEFISCSU, project number PN II-RU code 504/2010 and the project Sectoral Operational Programme Human Resources Development, financed from the European Social Found and by the Romanian Government under the contract number POSDRU/89/1.5/S/60782.

TRANSPLANT TOURISM: REALITIES AND PREVENTION

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Europe is campaigning for the principle of voluntary unpaid donation not only in EU but all over the world. Organ trafficking undermines the credibility of the system for eventual voluntary unpaid donors. Transplant tourism is a reality often denied, and is present as a phenomenon in less developed countries. We aim to reveal legislation, facts and figures about organ sale in Romania, by investi-
gating official information together with less classic resources. The Law in Romania considers organ donation for material purposes, organ trafficking, constraint for donation as criminal offences and punishes these activities with detention between 3 and 10 years. We searched some Romanian sites on the internet for announcements about organ transactions and established a profile for the living kidney vendor as being male of age 20 to 40 years old; it was not possible to determine any regional predominance. In about 70% of the cases, the price was also indicated. Prevention of transplant tourism and organ trafficking presumes enacting guidelines in order to protect the most vulnerable donors from becoming victims and by adopting measures to increase the availability of organs that have been lawfully obtained. It is necessary to ensure that persons responsible for organ trading are subject to legal prosecution, and to prevent healthcare services from encouraging those activities that benefit directly or indirectly from organ trafficking. European member states should intensify their cooperation under the auspices of Interpol and Europol in order to address the problem of trafficking in organs more effectively. Cooperation between prosecutors, police officers and medical staff is required for effective fight against organ trafficking. As about other continents, the retrieval of transplantable organs from executed prisoners and the exploitative use of the prisoners as providers of organs for transplantation are unjust practices developed in Asian countries, mentioned in the Taipei Recommendations (2008). We also discuss the ethical implications of the Iranian model of compensated organ donation that is based on dual source revenue for the donor partly from the government and in part from the receiver, the system being limited to Iranian citizen organ receivers and prohibited for foreigners. According to specific Regulations in Romania, each donor and receiver must give informed consent and a commission must evaluate the donor’s motivation which should be altruistic and refer to humanitarian principles. Social inquiry and affective family relations assessment are also part of the evaluation. We believe, in unrelated donor cases a special attention should be given to motivation evaluation, in order to identify possible undeclared organ trades. Organ trafficking is considered a severe criminal offence and its investigation is the task of the police department of fight against organized crime.

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Keywords: organ trafficking, transplant tourism, prevention

COMPARATIVE EVALUATION OF RIGIDITY OF CAUDATE LOBE AND THE OTHER LOBES OF THE LIVER IN CHILDREN BY REAL-TIME ELASTOGRAPHY

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A new method of exploring liver ultrasound structure, combined with the evaluation of vascularization and liver tissue elasticity in normal and pathological situations is the elastography. Technically described in the past decade, this method was introduced as an application of the latest ultrasound devices only since 2008 and 2009. This new diagnostic method provides information on elasticity / stiffness of examined tissue (Tissue Strain Analytic, Virtual Touch Tissue Imaging and Quantification), the degree of fibrosis of the tissue (eg pre-stage liver cirrhosis) respectively the degree of stiffness of a tumor tissue compared to a healthy one. The anatomically caudate lobe is distinct of the left and right liver lobes, because it has its own arterial vascularization and venous drainage. Being an independent structure, the caudate lobe is less echogenic. Sometimes it has a round shape, as a ping-pong ball. Caudate lobe expands in Budd-Chiari syndrome. The purpose of this paper is to assess by real-time elastography the caudate lobe stiffness compared with the other lobes of the liver in children with healthy liver tissue and in patients with pathological liver tissue. Material and methods We studied a group of 41 children admitted to Pediatric Clinic during September 15 - October 30, 2010. Elasticity of the liver tissue was evaluated, global and segmental. The children were divided into two groups: those with liver free tissue, 51.1% (21 people) and those with cancer - 48.9% (20 people). Statistical correlations were made between stiffness of caudate lobe (segment I) and segment VII of liver tissue free children and those with cancer. Results and discussion Our group consisted of 16 girls (39%) and 25 boys (61%), mean age was 7.22 years ± 5.48 SD. The liver segment I has an average shear wave velocity (SVW) of 1.36 ± SD 0.47 m/s, while the liver segment VII, an average SVW of 1.43 ± 0.50 SD m/s. Comparing the SVW values by Mann-Whitney test for liver tissue elasticity in the whole group, there it was found no statistically significant differences between segment I (caudate lobe) and segment VII (right lobe) (p = 0.478). Taking broken lots, the caudate lobe, respectively segment VII in children with cancer-free liver tissue and those with malignancy we found that in healthy children, the SVW are higher in the liver segment VII compared with liver segment I, statistically significant (p = 0.001), speeds which are not significant in the groups of children with cancer, probably due to secondary liver fibrosis after chemotherapy. In conclusion, in healthy children, the SVW of caudate lobe is significantly lower than in the liver segment VII, which could be explained by its own vascularization of segment I; elastography thus plays an important role in evaluating hepatic vasculature. Due to the caudate lobe own vascularisation, real-time elastography evaluation of caudate lobe may have further implications in liver transplantation. "This paper is partially supported by the ANCS Project No. 421/2010 named Corelations between caudat and other liver lobes stiffness in children by real elastography, with implications in liver transplant

REAL TIME ELASTOGRAPHY IN THE STUDY OF HEPATOTOXICITY IN CHILDREN WITH NEOPLASTIC DISEASES

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The drugs hepatotoxicity represents a major problem of the iatrogenic pathology. The chemotherapy affects the liver, one of the tissues with the most intensive metabolic activity of the organism. However, chemotherapy-induced liver disease in children occurs more frequently in cases of prolonged therapy, debilitated chronic diseases, immunosupresion, viral hepatitis, malnutrition, infections, total parenteral nutrition. The biochemical parameters (Bilirubin, transaminases, GGT, AP and albumin) are not enough for the assessment of hepatotoxicity; thus it is necessary the abdominal ultrasonography and computerised tomography, and in some cases even a liver biopsy. In this respect elastography provides information related to the elasticity/stiffness of the examined-tissue, degree of tissue fibrosis, respectively the degree of stiffness of a tumor tissue compared to the free one, method which often replaces liver biopsy. The purpose of this paper is to assess liver-tissue stiffness in children post-chemotherapy, compared with normal liver tissue in healthy children. Material and Methods A prospective study was performed in the Pediatric Clinic Ist between September 15 - October 30, 2010, on a total of 41 hospitalized children, who were divided into two groups: control-group consisted of 21 children (51.2%) with normal liver and biochemical parameters, and study-group composed of 20 children (48.8%) who are after chemotherapy for different malignancy; the liver tissue elasticity has been evaluated and statistical correlations were established. Results and discussion Our group consisted of 16 girls (39%) and 25 boys (61%), mean age was 7.22 years ± 5.48 SD. In control group (51.2%) the mean ALT (IU) was 41.17 ± 47.19 SD, respectively AST (IU) 37.18 ± 19.93 SD with an average elasticity (shear wave velocity SWV) of 1.15 ± SD 0.30 m / s. In the study group, transaminase mean ALT (IU) was 28 ± 19.2 SD, respectively AST (IU) 30.45 ± 17.52 SD and elasticity was 1.39 ± SD 0.41 m / s. Comparing the values of GOT, GPT, namely liver tissue elasticity between the two groups (study group versus control group) insignificant differences were obtained between the values of GPT (P = 0.2599), for AST (p = 0.2884) and elasticity (p = 0.0849). Elastography data were corroborated with transaminase levels, establishing correlations. For the study group there it was a positive correlation between the GOT and liver tissue elasticity with a correlation coefficient r = 0.606 and p = 0.004. So compared with the control group, post chemotherapy GOT parallel increases with speed elasticity and thus with the degree of fibrosis (fibrosis gr. I), with a statistically significant positive correlation. In conclusion, elastography can quantify the elasticity and fibrosis of liver tissue, as a faithful parameter for the assessment of post chemotherapy hepatotoxicity. „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“

**EVALUATION OF BLOOD PRESSURE CHANGES BY 24-HOURS AMBULATORY BLOOD PRESSURE MONITORING (ABPM) IN CHILDREN WITH DIABETES MELLITUS TYPE I**

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Arterial hypertension is a major risk factor for micro- and macrovascular complications in type 1 diabetes. Diagnosis of hypertension in children is complicated because normal and abnormal blood pressure values vary with age, sex, and height and are therefore difficult to remember. Twenty-four hour ambulatory blood pressure (ABPM) is a valuable tool to assess blood pressure (BP) changes in children with type 1 diabetes mellitus (DM1). The aim of this study was to evaluate usefulness of ABPM to examine circadian patterns of BP alterations and the relationship between glycemic control and BP alteration in children with DM1. Material and methods: We conducted a prospective study in 32 patients with DM1 aged 12,81± 3,99 years, with 5,81±3,74 years of DM1. 24h ABPM was performed by a Meditech 03 device to obtain daytime (6 AM to 10 PM, readings at 15-min interval) and nighttime (10 PM to 6 AM, readings at 30-min interval) measurements in study group. All the subjects had type 1 diabetes according to the standard criteria of an onset in childhood and insulin dependency. In all subjects, the diagnosis of diabetes had been made at least two years before enrollment. At the time of enrollment, none of the subjects had clinical evidence of diabetic complications, such as proliferative retinopathy, clinical neuropathy, or nephropathy. Four patients were noncompliant so we had to give up to their recordings data; finally we evaluated the recordings of 28 patients. Results: The influence of HbA1c, years of DM on blood pressure was analyzed. There was a significant positive correlation of HbA1c with diastolic blood pressure (p<0.05). Mean BP was normal in 64,28%, whereas 3,58% had pre-hypertension and 32,14% had stage 1 hypertension. Those who had abnormal BP had higher HbA1c and were more likely to be female than those with normal BP. Nocturnal dipping for systolic BP was reduced in 67,86% of the patients, while only 47,37% from these had HTN. Non-dipper (the loss of fall in BP) for systolic BP was observed in 19 patients while the loss of fall in diastolic BP was observed in 7 patients. Our data demonstrate higher 24-h and daytime diastolic BP and loss of nocturnal dip in type 1 diabetic adolescents and children. Conclusions: ABPM is a useful method in detecting early BP alterations in children with DM type 1. Poor diabetes control and female gender appear to be risk factors for abnormal BP as measured by 24h ABPM. Increased BP and suppressed diurnal BP variations could represent an increased risk of cardiovascular complications in young patients with diabetes mellitus type 1. Acknowledgments: This study was supported by a CNCSIS Grant - 137/2008 for Young PhD, Romania.

**Keyword**: blood pressure, hypertension, children, diabetes
AGT GENE POLYMORPHISM AND HIGH BLOOD PRESSURE IN CHILDREN. LINKAGE STUDY

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The renin angiotensin system (RAAS) helps maintain blood pressure and salt homeostasis and appears important in the pathogenesis of hypertension. Genes encoding products of the RAAS are plausible candidate genes for modifying blood pressure. The angiotensinogen gene (AGT) is one of the few candidates that has been investigated extensively and its genetic variant in exon 2 shows a transition resulting in replacement of methionine by threonine at amino-acid position 235 (M235T). Positive associations between the AGT M235T polymorphism, plasma angiotensinogen levels, and arterial hypertension indicate a pathway by which the AGT gene determines arterial blood pressure (BP). The purpose of the present study was to assess the possible association of the angiotensinogen M235T polymorphism and high blood pressure in children.

Material and methods: A total of 29 patients with high blood pressure and a control group of 31 normotensive subjects were studied. The angiotensinogen M235T gene polymorphism was determined by polymerase chain reaction (PCR) and RFLP technique utilizing specific primers. Arterial hypertension in children was defined as systolic and/or diastolic based on repeated measurements (more than three occasions) above the 95th percentile for age, sex, and height, according to National Blood Pressure Education Program, Working Group on Children and Adolescents.

Results: The results of the study showed that the frequency of MM, MT and TT genotypes were 13.8%, 86.2% and 0% in hypertensive group respectively 48.38%, 35.48% and 16.14% in control group with significantly higher frequency of MT genotype in hypertensive patients compared to the control group (p<0.05). The allele frequency (M; T) of AGT M235T were not significantly different between patients with high blood pressure and the control group. The homozygous for the AGT T235 allele were found only in the normotensive subjects and just in female gender.

Conclusions: These results suggest that AGT MT genotype may be a potent risk factor for developing high blood pressure in children, while the AGT TT genotype seems to be a protective factor against hypertension in children for females not for males.

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Keywords: angiotensinogen, gene, polymorphism, blood pressure, children