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11 December 2015

BOOK OF ABSTRACTS



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BIOCHEMISTRY

EVALUATION OF MODERN BIOCHEMICAL MARKERS OF CARDIOVASCULAR RISK IN TYPE 2 DIABETIC PATIENTS TREATED WITH METFORMIN OR RECEIVING OTHER THERAPY

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Background: Metformin is a first line agent for the treatment of type 2 diabetes. Vitamin B12 malabsorption is a common complication of metformin treatment. Decreased serum levels of vitamin B12 could rise serum homocysteine (HC) concentration, hyperhomocysteinemia being an independent cardiovascular risk factor. Ultra-sensitive C reactive protein (U-CRP) is another modern marker of cardiovascular risk. Malondialdehyde (MDA) is used for evaluation of lipoperoxidation, oxidative stress providing proper background for complications in diabetes. **Material and methods:** A first pilot study was conducted during 2011-2013 on type 2 diabetic patients (n=134), followed by a more complex clinical research between May-October 2015 at the Procardia Laboratory in Tîrgu Mureş on 90 diabetic adults included in two groups depending on their treatment. A group of non-diabetic volunteers (n=22) provided data for MDA normal values. Serum vitamin B12 and HC were tested by chemiluminiscent method (Immulite), MDA by HPLC, HbA1c by Nycocard Reader. Routine biochemical analyses, dosage of minerals, U-CRP and cystatine C (to detect early nephropathy) were performed on Konelab20Xti. Statistical analysis of the data was made by GraphPad InStat software. **Results:** The majority of the diabetic patients presented good metabolic balance, but elevated homocysteine levels. We found inverse correlation between serum vitamin B12 and HC concentrations. Subjects treated with metformin had significantly lower B12 vitamin concentration ($p<0.05$) compared to diabetic patients receiving other treatment. Positive correlation was found between cystatin C and creatinine values ($p<0.0001$). Almost half of the diabetic patients presented zinc deficiency and elevated U-CRP. Significantly higher MDA concentrations were found in diabetic patients compared to non-diabetic subjects ($p<0.0001$). **Conclusions:** Intense oxidative stress, vitamin and mineral deficiencies can be found in case of many diabetic subjects. High homocysteine and U-CRP levels represent increased cardiovascular risk for these patients, which could be counteracted by intake of dietary supplements. Financial support from UMPH Tîrgu Mureş internal research grant nr. 7/23.12.2014.

Keywords: metformin, type 2 diabetes, vitamin B12, homocysteine, malondialdehyde

CARDIOLOGY

THE VALUE OF THORACIC ULTRASONOGRAPHY AT HOSPITAL DISCHARGE IN EVALUATION OF PATIENTS WITH ACUTE HEART FAILURE

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Background: Optimal timing of hospital discharge in patient with acute heart failure (AHF) is an important factor of preventing rehospitalizations. Our aim was to evaluate the value of lung ultrasonography (LUS) in assessing pre-discharge status of patients with AHF, correlating the LUS findings with the values of NT-proBNP. **Material and methods:** 24 patients (18 men, 6 women, mean age 68,2 years) hospitalized with acute heart failure underwent LUS examination in the afternoon of the day before hospital discharge. In the next morning the NT-proBNP value was also determined. The correlation between LUS findings and NT-proBNP values was analyzed using Fisher's exact test (significant $p < 0,05$). **Results:** 6 patients had 15 B lines and 2 patients had pleural effusion on LUS, while 16 patients had the value of NT-proBNP $> 1000 \text{ pg/ml}$ at discharge. The results of LUS correlated significantly ($p = 0,0022$) with the NT-proBNP values. **Conclusions:** Despite a relatively good clinical status, the majority of patients had high NT-proBNP values at the time of hospital discharge. LUS proved to be an useful tool in identifying patients with subclinical congestion reflected by the high NT-proBNP levels. These patients may need a prolongation of hospitalization and a more careful follow-up to prevent early readmission.

Keywords: acute heart failure, lung ultrasound, NT-proBNP

VIRTUAL HISTOLOGY ANALYSIS OF NEOATHEROSCLEROSIS PROGRESSION WITHIN IMPLANTED CORONARY STENTS

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Background: Histological characterisation of neoatherosclerosis lesions within implanted coronary stents is essential for a correct management of stented patients and identification of vulnerability markers in these lesions. **Material and methods:** We retrospectively analyzed a total of 30 patients at 1 year after a coronary stenting procedure, assessing the composition of the atherosclerosis plaque using ultrasound intravascular echography with virtual histology (IVUS-VH) and optical coherence tomography (OCT). **Results:** Analysis of the role of risk factors in the development of in-stent restenosis demonstrated that there is a direct correlation between cholesterol level and in-stent restenosis ($p = 0,039$), and no correlation with others comorbidities such as hypertension, diabetes mellitus, smoking or age. By IVUS-VH and OCT assessment, we found that neoatherosclerosis proliferation lesions present a larger volume, (91.2 mm^3 vs 50.20 mm^3 , $p < 0,0001$), a higher lipid content (considered $> 40\%$ of plaque structure) (41.0% vs 22.9% , $p = 0,05$), irregular luminal area (47.0% vs 27.0% , $p = 0,05$), and thinner fibrous cap ($< 100 \mu\text{m}$) compared with native plaques in native coronary artery, these vulnerability markers suggesting the potential of in-stent restenosis lesions to trigger an acute coronary syndrome. **Conclusions:** This study demonstrated the role of new imaging-based methods for a complex assessment of in-stent restenosis and identification of vulnerable components inside the neoatherosclerosis plaque developed within the implanted coronary stents.

Keywords: in-stent restenosis, acute coronary syndrome, OCT

CORRELATION BETWEEN SYNTAX SCORE AND FLUOROSCOPIC TIME DURING COMPLEX REVASCULARISATION PROCEDURES FOR LEFT MAIN STENOSIS

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Background: The fluoroscopy time necessary during PCI (Percutaneous Coronary Intervention) is a reliable marker of the complexity of such interventional procedures. The complexity of angioplasty can be well predicted by calculating the Syntax score after

conventional angiography and after non invasive MSCT coronary angiography. **Material and methods:** We included in the study 36 patients with ischaemic coronary heart disease and associated with left main stenosis. We followed the correlation between fluoroscopic time during the revascularisation procedures and the Syntax score after conventional angiography and after non invasive MSCT coronary angiography. **Results:** Both angiographic and MSCT Syntax score were significantly higher in cases which required complex PCI procedures. A good correlation between fluoroscopic time and Syntax score was demonstrated. ($r=0,385$, $p=0.02$, IC 95% (0,061, 0,673)- for Angio Syntax score and $r=0,404$, $p=0.014$, IC 95% (0,88, 0,64)- for MSCT Syntax score). **Conclusions:** When high Syntax score is identified by conventional angiography and MSCT we can expect for a complex coronary revascularisation procedure, requiring longer fluoroscopic time and association of different interventional techniques.

Keywords: left main, Syntax score, fluoroscopy time, coronary intervention, MSCT

CARDIOVASCULAR SURGERY

SIX MONTHS IN VIVO TESTING OF ACELLULAR VALVULAR XENOGRAFTS IN A SHEEP RVOT ANIMAL MODEL

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Background: Our goal was to obtain a tissue engineered valvular xenograft and to prove its preserved functionality after six months in vivo testing in a sheep animal model. **Material and methods:** Fresh porcine pulmonary roots were decellularized by immersion. To stabilize the valvular extracellular matrix, the acellular roots were treated with penta galloyl glucose (PGG). Valvular conduits were then obtained by incorporating these scaffolds into acellular bovine pericardium conduits. Because the "gold standard" for heart valve in vivo testing is considered the juvenile ovine model, we implanted 6 valvular xenograft conduits in young male sheep between the right pulmonary outflow tract and the pulmonary artery, in an extra-anatomic manner. Complete ligation of the native pulmonary artery was performed. Post-operative 6 months follow-up was achieved by periodic clinical examination and echocardiography. Explanted valves were analyzed by macroscopic evaluation and histology. **Results:** Post-operative evolution was favorable for all 6 animals, without complications. Fast recovery, normal behavior and physiologic growth was observed, with no signs of heart failure. Echocardiography assessment presented good hemodynamics with preserved cusps mobility and central coaptation, low transvalvular gradient and no regurgitation. At 6 months, macroscopic examination of the explants showed translucent, thin, smooth, flexible cusps without visible thrombi, leaflet haematoma or calcification. Histological analysis confirmed leaflets integrity, with no signs of calcification, inflammation or rejection. **Conclusions:** Our implantation surgical technique is an appropriate model for valve testing without using extracorporeal circulation. Xenogenic acellular pulmonary valves are excellent valve replacement alternatives as these can be prepared in advance, they function well, are not immunogenic, do not deteriorate with time and do not calcify. **Acknowledgments:** This work was supported by a grant from the Romanian National Authority for Scientific Research, CNCS-UEFISCDI, project number PNII-ID-PCCE-2011-2-0036.

Keywords: xenograft, pulmonary valve, sheep, decellularization, experimental

DENTAL MEDICINE

CYTO-HISTOLOGICAL CORRELATIONS OF LATERAL CERVICAL TUMORS

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Background: As the clinical and radiological examinations of lateral cervical masses are not always sufficient for therapeutical decision making, the cytological examination of the material obtained by fine needle aspiration might be an efficient tool in the preoperative investigation of these lesions. **Material and methods:** In this prospective cross-sectional study we evaluated the efficacy of fine needle aspiration cytology in the assessment of lateral cervical non-thyroid tumors, by comparing its results to those of histopathology and by measuring its diagnostic accuracy. 58 patients with lateral cervical masses were included. Preoperative cytological results were compared with the histopathologic examination of surgical specimens. **Results:** There was a prevalence of malignant tumors compared to benign lesions (62.07% vs. 37.93%), with 88.89% of malignancies found in patients aged over 50 years and the most common lesion being lymph node metastases of squamous carcinomas (44.83%). Cytology had 76.47% specificity and 78.05% sensitivity for identifying malignant lateral cervical lesions. **Conclusions:** Fine-needle aspiration cytology is a simple, quick and effective procedure that can aid in the preoperative evaluation of lateral cervical masses by differentiating benign tumors and inflammations from malignancies and thus helping to determine a subsequent therapeutic strategy.

Keywords: fine-needle aspiration cytology, lateral cervical masses, non-thyroid tumors, histopathology

THE IDENTIFICATION OF PERIODONTOPATHOGENIC BACTERIA USING THE POLYMERASE CHAIN REACTION (PCR) – DIAGNOSTIC IMPLICATIONS IN THE PERIODONTAL DISEASE

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Background: In the installation of the pathological changes in periodontal disease a series of factors are implicated. Among the microorganisms present in the oral cavity, the periodontopathogenic bacteria- *Aggregatibacter actinomycetemcomitans*, *Porphyromonas gingivalis*, *Prevotella intermedia*, *Tannerella forsythia*, *Treponema denticola*- represent a determinant factor of the specific lesions of the periodontal disease. The aim of our study is to identify these microorganisms in the periodontal pockets, in order to conduce us to an early and correct diagnosis of the periodontal disease. **Material and methods:** We included in our study 21 patients with, after the clinical examination presented inflammatory modifications in the periodontal tissue. The samples were collected from five of the deepest periodontal pockets for each patient. **Results:** The prevalence of *A. actinomycetemcomitans* was lower comparative with the other microorganisms - 14,28%. The detection ratios of *P. gingivalis*, *T.forsythia*, *T.denticola* in the collected samples were of 85,71%, 90,47, and 80,95%. All the sites that presented these microorganisms, clinically presented a PD higher than 4 mm and were BOP positive. *P. intermedia* was found 57,14%. **Conclusions:** Correlating the detection of periodontopathogenic bacteria with the clinical examination of the patients permitted the appropriate appreciation of the periodontal status and setting the diagnosis of severe chronic periodontitis or severe aggressive periodontitis.

Keywords: periodontopathogenic bacteria, PCR, periodontal disease

PRELIMINARY STUDY UPON MINOR OMF TRAUMAS IN EMERGENCY ROOM OF OMF SURGERY CLINIC TG. MUREȘ

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Background: Oral and Maxillo-Facial (OMF) territory is exposed to multiple and various types of traumas, regardless age, gender, social and educational status. Thus, OMF traumas, is likely to represent a social issue from some points of view: health insurance system, leave of absence from work and school, and, nevertheless, due to secondary deformities which impose further dental, or surgical treatment. OMF trauma varies, from minor injuries, treated in the emergency room (out-patient), to multiple and combined injuries, treated only after admission in hospital (in-patient). The purpose of this preliminary study is to realise a comprehensive evaluation of minor OMF traumas (those whom did not require hospitalisation), presented and treated in emergency room of OMF Surgery Clinic Tg. Mureș. **Material and methods:** The preliminary study was conducted for 6 months (May-October 2015), upon minor traumas presented in; different features, like gender, age, types and frequency of causing agents, types and localization of injuries (teeth, soft tissues, jaw bones), treatment, healing time, were analysed statistically, and compared with the literature. **Results:** Of a total of 748 cases presented in emergency room, 177 were OMF traumas. Of these, most frequent features were: 134 males; 42 cases aged 1-10y.; 32 cases secondary to falling down from the same level; 41 cases with upper lip injuries; 29 dento-alveolar injuries, 25 cases with middle bone face fractures. **Conclusions:** Incidence of minor OMF traumas in general (about 25%), of face wounds (59,88%), followed by permanent scars, and of dental traumas (16,38%), imposing extended dental treatment, etc., sustain the initial idea of importance of minor OMF traumas, and their potential to rise social issues; but further studies being necessary.

Keywords: minor OMF traumas, emergency room, social issues

COMPARATIVE ANALYSIS OF DIFFERENT TYPES OF ROTARY FILES

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Background: New, innovative, endodontic treatment techniques are developed every year. Nowadays almost all endodontic treatments are made using rotary files. The aim of this study was to assess in vitro the efficiency of three different types of rotary files. **Material and methods:** For evaluation a number of 44 molars and premolars were selected and radiographed from buccal angle before the preparation. Of these, 42 root canals had been selected and later distributed into 3 groups of 14 root canals. Each group was prepared with a different rotary system according to the specifications of use as following: group I with Protaper Dentsply, group II with Twisted Files Sybron Endo and group III with Hyflex Colthene. After the preparation, the canals were filled with warm gutta-percha using the vertical condensation technique and radiographed from the same buccal angles. After this process, a computer software called "Digital Imaging TM" was used in order to upload the pictures of the x-rays. After the pictures calibration - using the spatial tools of the previously mentioned software, we started drawing the shape of the root canals and the software counted the number of pixels present in the resulted shape; both prepared and unprepared canals were analyzed with this software. **Results:** Data were analyzed statistically by one-way ANOVA test at a significance level of 5% and the groups differed statistically ($p < 0.05$): Group I (28.58% pixels), Group II (39.98% pixels), Group III (34.97%) pixels. **Conclusions:** Within the limitations of this study we can state that the Twisted Files system was better than the Protaper and Hyflex systems used in this study.

Keywords: rotary files, endodontic treatment, protaper, hyflex, twisted files

PULP STATUS ASSESSMENT OF TEMPORARY AND PERMANENT TEETH USING PULSE OXIMETRY IN PEDIATRIC DENTISTRY

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Background: This study is based on the possibility to evaluate the status of temporary and permanent teeth pulp using pulse oximetry. The method relies on the principle of exploration vascular function by determining oxygen saturation of pulp vessels which is a more objective method and less traumatic for children than traditional sensitivity tests. **Material and methods:** The subjects in this study were 80 children, aged 4 -12 years old, of which were selected for testing a number of 40 temporary teeth and 120 permanent teeth that includes upper central incisors and upper lateral incisors. Thus, there were formed six study groups, based on tooth integrity: two groups with vital temporary and permanent teeth without caries and restorations, three groups with temporary and permanent teeth with caries and restoration and one group with teeth without vitality. Determination of oxygen saturation (SpO₂) from pulp vessels was achieved with a sensor OxiMax Dura Y D-YS Multisite (Nellcor) adapted on an acrylic support, specially created for this purpose. In addition, control tests were performed consisting of cold thermal test, radiographic examination and determination of oxygen saturation in systemic circulation. **Results:** The final results show differences between the values of oxygen saturation in temporary and permanent vital teeth groups and also a reduction of oxygen saturation in teeth that have cavities, fractures and restorations. There is a statistically significant association between the measurements made with pulse oximetry and those performed by cold thermal test. **Conclusions:** The method of pulse oximetry has proven effectiveness in evaluation of dental pulp status both in temporary and permanent teeth and should be improved to be widely used in pediatric dentistry. The limits of this investigation are related currently with the absence of a sensor specifically designed to adapt to the anatomical surface of all temporary and permanent teeth.

Keywords: pulse oximetry, cold thermal test, pulp status, oxygen saturation

MICROLEAKAGE AND MARGINAL ADAPTATION OF RETROGRADE DENTAL ROOT FILLING MATERIALS

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Background: A long-term success in surgical root canal therapy includes the hermetically sealing of all pathways of communication between the pulpal and periradicular tissues. The purpose of the present study was to evaluate the sealing ability through dye leakage and marginal adaptation of two root-end filling materials. **Material and methods:** Sixty healthy single-rooted human extracted teeth without curvature and with closed apices, included in this experiment, were divided in two groups: (1) retrofilled with a two mineral trioxide aggregate MTA-Angelus (Angelus, Londrina, PR, Brazil) and (2) with a resin reinforced core build-up glass ionomer Vitremer (3M ESPE AG, Seefeld, Germany). The root surfaces were isolated with nail polish and teeth were immersed in silver nitrate. Roots were sectioned transversally in three sections and evaluated at a stereomicroscope to observe dye penetration. Using SEM the distance between the tested root-end filling materials and the surrounding dentin was measured at four points. Statistical analysis was performed by t test ($p < 0.05$). **Results:** MTA groups leaked significantly less than Vitremer groups in all slices ($p < 0.01$). SEM examination of the samples demonstrated variable gaps between materials and dentin walls. MTA presented smallest gaps. **Conclusions:** Mineral trioxide aggregate cements provided superior sealing ability compared to reinforced glass ionomers, used as root-end fillings.

Keywords: in vitro studies, dental materials, root-end filling materials, apical microleakage

COMPARATIVE STUDY ON MENTAL FORAMEN POSITION AND MANDIBULAR CANAL IN THE LATERAL JAW. PRELIMINARY STUDY.

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Background: During dentoalveolar surgical interventions can occur many accidents which include nerve damage. To prevent alveolar inferior nerve damage it requires locating the mentonier foramen and the position of the mandibular canal by using imaging techniques. The purpose of this study is to evaluate the distance between the alveolar bone, mentonier foramen and the mandibular canal in two groups of patients. **Material and methods:** We studied a total of 28 patients divided in two groups. First group includes patients aged from 25 to 40 and the second group patients aged from 41 to 65. All patients had conducted a CBCT investigation before surgery. We assessed the distance between the alveolar bone, mental foramen and mandibular canal in sagittal, axial and coronal sections. All the data were subjected to a statistical analysis. **Results:** 58% patients from first group presented the mandibular canal at less than 7mm from the alveolar bone. **Conclusions:** In the lateral mandibular jaw age does not affect the position of the mentonier foramen and the mandibular canal. Acknowledgement This paper was partially sustained by the Project Nr. 912/2015 financed by S.C. OPTOMED SRL in collaboration with UMF TG. MURES and the project CIGCS-CC 2013, contract number 18/2013 of University of Medicine and Pharmacy of Târgu Mureș.

Keywords: mandibular canal, cone-beam computed tomography, alveolar bone

VICIOUS DENTAL HABITS: EVEN TO DENTISTRY STUDENTS?

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Background: Bad dental habits have a remarkable impact not only on teeth structure and morphology but also on the gums, cheeks and lips. Failure to be discovered in time, bad dental habits can trouble the dental-maxillary apparatus which will eventually require extensive treatments. The purpose of this research was to demonstrate the existence of bad dental habits amongst dental students and trainee technicians and establish the harmful effects they have on oral health. **Material and methods:** This research has been created after consulting 206 students (from the Faculty of Dental Medicine) that volunteered to answer an anonymous questionnaire with 14 items related to various vicious dental habits that affect our oral health (abrasion, cracks or mal-positioning of the teeth). All data has been processed with Microsoft Office Excel programme and the results helped us come to conclusions. **Results:** Of the 1000 distributed questionnaires, 206 subjects answered (20%). The most common vicious dental habits are: thumb sucking, (inside the) cheeks/lips biting, nuts or seeds crunching. Over 50% of the bad dental habits start during early years. Continuous stress is responsible for 59% of the cases, involuntary/ordinary habits for 37% of the cases, studying/sleeping/boredom make up for the remaining 4%. Amongst dental students, 60% agreed that teeth suffer because of bad dental habits, while 40% disagreed. 66% of subjects appreciate the negative effects and manage to "control" bad habits. **Conclusions:** Dental students present themselves with bad dental habits, starting from the early years of childhood. Complex treatment and prophylaxis against negative effects may be addressed mainly by understanding and fighting it.

Keywords: vicious dental habits, oral hygiene, students

MANDIBULAR SIDE AREA AUGMENTATION WITH AUTOLOGOUS BONE HARVESTED FROM TWO DIFFERENT INTRAORAL SITES: ADVANTAGES AND DISADVANTAGES

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Background: In order to increase the mandibular alveolar bone resorbed after extraction, over time, experts have tried various methods of grafting. Intraoral harvesting area still offer multiple advantages: minimum morbidity, distance between the donor and

the receivers sites are short, similar embryological structure, simple harvesting technique, easy access, short period of healing, postoperative resorption is minimal, bone density is high. The downside is that it may generate a certain sensitivity and discomfort in the receivers sites. **Material and methods:** The study included 17 patients, men and women, and were evaluated the advantages and disadvantages in terms of surgery. Have been compared two surgical techniques to harvest intraoral bone blocks in the mentonsymphysis region and lateral side of the mandibular ascending rami. Were evaluated: the time required surgery, access methods of harvesting, postoperative symptoms after grafting of both the area, donor and receivers sites and possible complications. **Results:** To the mandibular side, the technique of harvesting bone graft from the mandibular ascending rami is preferable because it creates a single mucoperiosteal flap, the donor area is closer to the receivers, postoperative edema is unilateral, feeding of the patient is facilitated by the lack of objective and subjective signs in the mandibular anterior area. **Conclusions:** Advantages of the technique of bone augmentation with autologous grafts make this method easy, usual one that can be successfully used by doctors. Results depend on the surgical technique and the specific clinical conditions of each patient. Acknowledgement: This paper was partially sustained by CIGCS-CC 2013, UMF Tîrgu Mureş, contract 18/2013.

Keywords: bone augmentation, grafting, bone blocks

PHOTOACTIVATED DISINFECTION AS AN ADJUVANT IN SUPPORTIVE THERAPY OF PATIENTS WITH PERIODONTITIS

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Background: Oral microbial-plaque communities are biofilms composed of numerous bacteria on host surfaces. Periodontal disease status impacts markedly on biofilm composition. The purpose of the present study was to determine the effect of photoactivated disinfection (PAD) on microorganisms which are involved in pathogenesis of periodontitis. **Material and methods:** Twenty patients aged between 16-25 were enrolled in the study, according to inclusion and exclusion criteria. All the patients received full-mouth nonsurgical treatment (SRP) and were randomly divided in two groups of ten patients each. Group 1 (test group) received application of PAD on the day of SRP as well as at follow-up after one week. The time of exposure was 60s. Group 2 (control group) received no treatment with PAD. photoactivated disinfection (PAD) on microorganisms which are involved in pathogenesis of periodontitis. The following parameters were recorded: gingival index (GI), plaque index (PI), bleeding on probing (BOP), probing depth (PD). Samples for microbiological analysis will be taken. All recordings and samplings will be taken by calibrated examiners. **Results:** After three months, GI, PI and BOP were significantly reduced in both groups ($p < 0.001$) and different significantly between the groups. The results showed significant improvement in clinical parameters in both groups, with the test group showing significantly higher improvement as compared with the control group. Focusing on group of microbes, differences in the sensitivity were visible 60 s of photodisinfection ($p = 0.002$ respectively). **Conclusions:** In conclusion, the effect of photoactivated disinfection used as adjuvant in scaling and root planing has been successfully proved. Photoactivated disinfection might have potential as an adjunctive treatment when the biofilm is mechanically disrupted. Acknowledgement: The study was conducted under the framework of internal research grant University of Medicine and Pharmacy Tîrgu Mureş, nr.1262/2015 financed by SC ANDSER SRL.

Keywords: periodontitis, microorganisms, photoactivated disinfection

ENT (OTORHINOLARYNGOLOGY)

CLINICAL AND THERAPEUTIC ASPECTS OF LARYNGEAL CANCER

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Background: Laryngeal carcinoma is a relatively common condition observed in otorhinolaryngeal pathologies, representing 45% of head and neck cancers. This retrospective study aims to determine the clinical and therapeutical aspects of laryngeal cancer in ENT Clinic from Targu Mures durring 3 years. **Material and methods:** We included 230 patients with laryngeal and pharyngeal malignant tumors confirmed by histopathologic exam. **Results:** 211 laryngeal carcinomas and 19 pharyngolaryngeal malignant diseases. 105 patients had laterocervical lymphadenopathies of which 70 were metastatic and 35 were inflammatory pathologies. **Conclusions:** Curability of this condition depends on establishing earlier the diagnosis. If supraglottic cancer has curability chances between 60% and 70%, the glottis carcinoma has the chance of cure up to 90%. The survival of the patients with laryngeal malignancies depends on the precocity of diagnosis.

Keywords: laryngeal cancer, diagnosis, stage

HOW TO EVALUATE THE DAYTIME SLEEPINESS IN PATIENTS WITH OBSTRUCTIVE SLEEP APNEA SYNDROM

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Background: Excessive daytime sleepiness is a symptom of Obstructive sleep apnea syndrome. Daytime sleepiness is a form of attention deficit, resulting in decreased responsiveness and reduced vigilance by loss of function occurring regenerative and restful sleep due to its fragmentation. **Material and methods:** The study group completed standard form modified form Epworth, Stanford and Pittsburgh, used to assess daytime sleepiness and quality of life. The group included 79 subjects were aged between 20 and 79 years of both sexes, both rural and urban areas, which answer to one of the inclusion criteria. Of the subjects evaluated were 44.3% female, 55.7% male, rural area of origin of 38%, urban 62%, ages 20-40 years 34.2%, 40-60 years 27.8% and 38% over 60 years. Among the risk factors present, the allocation was based on the value of the body mass index (BMI): 29.1% normal weight, 35.4% Overweight, obese grade I, 20.3% with obesity grade II 6, 3% and 8.9% grade III obesity; the existence of high blood pressure normotensive 55.7%, 10.1% with hypertension grade I, grade II hypertension with 17.7% and 16.5% grade III hypertension; The Snoring during sleep recorded mostly sleeping partner: currently 62% of snoring and snoring subjects absent in 38% of patients. **Results:** At Stanford form, completed two consecutive days, we observed both the first and second day, at 9 am, and 60-80 age groups 40-60 years, with a maximum degree of activity in approximately 60 %, compared with 29.6% of individuals of 20-40 years. **Conclusions:** The study showed that daytime sleepiness occurs in people with risk factors and as progress increases Epworth and Stanford scores. This symptom is an important marker of sleep apnea, which causes sleep fragmentation late complications in cardiovascular, behavioral changes, depression, anxiety, accidents, accelerated progression of metabolic syndrome.

Keywords: daytime sleepness, obstructive sleep apnea syndrome, Epworth scale, Standford scale

EPIDEMIOLOGY

HPV INFECTION AND CERVICAL NEOPLASIA: ASSOCIATED RISK FACTORS

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Background: Cervical cancer is a major public health problem worldwide. Behavioral risks such as age at first sexual intercourse, number of sexual partners and partner's sexual behavior are associated with an increased risk of HPV infection, persistence of the infection and the development of neoplastic precursor lesions. The objective of this study was to evaluate the risk factors associated with HPV infection and with a diagnosis of cervical neoplasia in women referred with an abnormal cervical smear. **Material and methods:** Data were collected from 130 women with presence of koilocytes or high risk dysplastic lesions, elements that raise the suspicion of HPV infection. Risk factors for HPV infection were investigated using a questionnaire. All cervical specimens were tested for 22 HPV genotypes using the Roche polymerase chain reaction reverse line blot assay. **Results:** The overall prevalence of HPV was 55.4% of the patients tested, 34 (47.3%) with single infection, and 38 (52.7%) with multiple infections. HPV 16 was the most frequently detected (55.6%) one, it was involved in single (15 cases) and multiple (25 cases) infections, primarily associated with type 18 (12 cases), and type 52 (11 cases). The presence of HPV 18 (29.2%) and HPV 52 (23.6%) was identified after HPV type 16. First sexual intercourse before 18 years of age was significantly associated with a positive HPV test (OR 2.18; 95 %CI: 1.06 – 4.47; $p = 0.03$). A insignificant association was found between number of partners (1 versus >1) and positive HPV test (OR 0.87; 95 %CI 0.33 – 1.92; $p = 0.73$). **Conclusions:** Oncogenic HPV genotypes 16, 18, and 52 were most frequently associated in women with dysplastic lesions. The age at which a woman begins to be sexually active is associated with HPV infection and with a diagnosis of cervical neoplasia.

Keywords: Human papillomavirus, cervical cancer, HPV genotype, risk factors

SMOKE FREE UNIVERSITY PROJECT AT THE UNIVERSITY OF MEDICINE AND PHARMACY TIRGU MURES – EFFECTS ON TRAINING AFTER ONE YEAR OF IMPLEMENTATION

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Background: In the year 2014 the University of Medicine and Pharmacy Tîrgu Mures started the first smoke free medical university project from Romania. The scope of the present paper is to determine the effects of the project activities on the quality of training in the field of tobaccoology. **Material and methods:** In the first year of implementation we started an optional course of tobaccoology for second year students general medicine. Medical students were also involved in extracurricular activities, research activities as part of the project. Baseline data was collected in March 2014 (3203 participants), and repeated evaluation was made in March 2015 (3001 participants). We analyzed the answers given to the Global Health Professions Student Survey questionnaire - training related questions. We used the IBM-SPSS program for descriptive statistical evaluation. Chi square test was used to test statistical significance. **Results:** Students declared more frequently that they were taught about the dangers of smoking (76.4% in 2014 vs 81.1% in 2015 $p < 0.0001$). Discussions about the reasons why people smoke were more frequent (32.6% in 2014 vs 43.4% in 2015 $p < 0.0001$). Students received more frequently formal training in smoking cessation approaches to use with patients (18.5% in 2014 vs. 27.3% in 2015 $p < 0.0001$). The importance of providing educational materials to support smoking cessation to patients was discussed more frequently (24.9% in 2014 vs. 34.4% in 2015 $p < 0.0001$). Students were more frequently involved in extracurricular activities (19.0% in 2014 vs. 22.3% in 2015 $p = 0.0011$). **Conclusions:** Our study indicates an improvement of the quality of training in the first year of the project, but the number of students who receive training remains low. Further efforts

should be made to increase the number of trained students in this essential field. First step could be the introduction of tobaccoology training to all the faculties of the university as a compulsory course.

Keywords: training, smoking, medical student

DETERMINANTS OF SMOKING AND CESSATION DURING PREGNANCY: A QUALITATIVE STUDY

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Background: Although the smoking in pregnancy can cause substantial harm, while many women quit, others continue to smoke throughout pregnancy. The role of partners or entourage is important, but relatively an under-researched factor in relation to women's smoking in pregnancy; partner's smoking status and attitudes to smoking cessation are important influences in a pregnant women's attempt to quit. Aim: identifying influence of smokers/nonsmokers partners, socioeconomic status and educational level on women smoking behavior in relation to their consumption cigarettes during pregnancy. **Material and methods:** Socio-economic status, educational level, partners smoking status and women's smoking in pregnancy or other features were investigated using a questionnaire which was completed by 413 pregnant women from Mures county in 2015. **Results:** In our sample, 48.7% were nonsmokers, 30% stopped smoking when they got pregnant and 18.9% continued to smoke regularly the same number or a reduced number of cigarettes after they became pregnant. Smoking behavior during pregnancy was influenced by the number of other smokers at home (OR=14.5; 95% CI: 4.54-46.6; p=0.0001) and the attitudes of partners who reduced or quit smoking when they found out about pregnancy (OR=9.15; 95% CI: 3.63-23.1; p=0.0001) (logistic regression model). This attitude was different from rural versus urban areas (p=0.05), but was not influenced by the level of education (high vs low), (p=0.24) or marital status (with partner vs without partner), (p=0.25). **Conclusions:** Smoking behavior at pregnant women was negatively influenced by the presence of other smokers at home or at work places, and a small percent of them stop smoking or reduced the number and frequency of smoking during pregnancy. Research funding: Research reported in this publication was supported by the Fogarty International Center and the National Cancer Institute of the National Institutes of Health under Award Number R01 TW009280-01.

Keywords: pregnancy, smoking, cessation, risk factors

TOBACCO DEPENDENCE AMONG THE UMPH STUDENTS IN TARGU MURES 2015

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Background: It is well known that smoking has a very negative effect on people's health both second hand and first hand smoking. In an attempt to reduce smoking in 2014 the smoke free medical university project was started. In 2015 we evaluated the degree of addiction among smokers. **Material and methods:** During the 2015 census reevaluation of smoking habits among the students of UMPH Targu Mures we used the GHPSS questionnaire with added questions which contained the Fagerstrom test for nicotine dependence. Data collected was analyzed with the SPSS statistical analysis software v21. **Results:** In 2015, 2996 students participated to the evaluation (67% of the 4453 students). Gender distribution 70.9% female and 29.1% male. Smoking prevalence in 2015 was 30% in female and 41.8 % in male. From the 999 students considered smokers (smoked at least 1 day in the last month) 661 (66%) students completed the Fagerstrom test for nicotine dependence 40.2% male 59.8% female. Low level of addiction was found in 304 (46%), low to moderate dependence in 210 (31.7%), moderate dependence 140 (21.2%) and 7 students (1%) high dependence. **Conclusions:** There is a high prevalence of smoking among the students of the UMPH Targu Mures According to the Fagerstrom guideline there is a need for intervention to quit smoking Counselling alone could be sufficient for 46% of the smokers (low level dependence) Nicotine replacement therapy could be necessary for 54% of the smokers (low to moderate, moderate and high dependence groups)

Keywords: tobacco, dependence, students

CHANGES IN STUDENTS' ATTITUDE TOWARDS SMOKING AND EXPOSURE TO SECOND HAND SMOKING IN THE FIRST YEAR OF THE SMOKE FREE POLICY IMPLEMENTATION (2014-2015)

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Background: The main purpose of a smoke free policy is reducing the passive smoking. It requires legislative, administrative measures determining changes in mentality. The aim is to evaluate the change in perception regarding the smoke free policy between 2014-2015, in the first smoke free university in Romania. **Material and methods:** A repeated census evaluation was made of the students from the UMPH Targu Mures based on the GHPSS questionnaire adapted to our project. We made the evaluation in two consecutive years 2014-2015, using the same basic questionnaire. Statistical evaluation was made using the SPSS statistical software v21 **Results:** Participation rate decreased in 2015 - 2996 (67% of the 4453 students) compared with 2014 - 3208 (76% of the 4215 students) $p < 0.0001$. Gender distribution 2014 (71.3% female, 28.7% male), 2015 (70.9% female and 29.1% male). Smoking prevalence decreased from 34% to 33.5% with $p = 0.67$ NS, by gender it changed from 31.6% to 30% in female and 39.8% to 41.8% in male. Smoking in the university main building increased from 14.9% to 16.5 % $p = 0.21$ NS, in the campus decreased from 51 to 46.7% $p = 0.014$ S. Exposure to second hand smoking increased in their home 45.3% to 49.8% $p = 0.0004$, and public spaces 76.3% to 77.5% $p = 0.26$ NS. The intention to quit smoking decreased 16.5% to 15.4% $p = 0.56$ NS **Conclusions:** The implementation of a smoke free policy is a complex and difficult process Smoking prevalence decreased slightly but not significantly The exposure to second hand smoke increased both at home and in public spaces. It is imperative to enforce the existing smoke free legislation, and to find the optimal training methods.

Keywords: smoke free, second hand smoking, prevalence

RESULTS OF THE FIRST YEAR OF IMPLEMENTATION OF THE SMOKE FREE UNIVERSITY POLICY

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Background: In 2014 we started the smoke free university project with the following short term objectives: eliminating second hand smoking in colleges and campuses, preventing smoking in youth aged between 19-24 years, promoting smoking cessation. **Material and methods:** A repeated census evaluation was made of the 4215 students in 2014 - (respondents 3208 76%) and 4453 students in 2015 - (respondents 2996 - 67%) from the UMPH Targu Mures. Evaluation was based on the GHPSS questionnaire adapted to our project. Statistical evaluation was made using the SPSS statistical software v21 **Results:** The smoke free policy was adopted in February 2015 by the university leader board The smoke free coalition was established in February 2015 between representatives of the students and the academic and administrative personnel Evaluation of smoking habits according to the GHPSS methodology 2014, 2015 Introducing the tabacology course in the 2014-2015 medical university curricula and expanding in 2015-2016 to the dentistry university Organizing the Smoke free university week 2014, 2015 Introducing the continuous air quality monitoring (by PM 2.5) in the main building and dorms Involving the student volunteers in scientific and practical activities Dissemination of results in national and international conferences **Conclusions:** The smoke free university project implementation is a long and complex process In 2014-2015 efforts were made to implement the strategy with the aforementioned results The main result was to establish the smoke free university coalition in 2015; this provides the decision base for the full implementation of the policy

Keywords: smoke free policy, smoking prevention, smoking cessation

HEMATOLOGY

THROMBOTIC COMPLICATIONS IN PATIENTS WITH POLYCYTHEMIA VERA

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Background: Polycythemia vera is a neoplastic clonal disorder of the hemathopoietic stem cell, causing excessive proliferation of the erythroid, myeloid and megakaryocyte lineages and carrying a risk of thrombotic complications. **Material and methods:** We made a retrospective study of 60 patients with polycythemia vera, who were diagnosed and treated in Medical Clinic I-Hematology Departement, between 2000-2013. We followed the following parameters: gender, age, hemoglobin level, white blood cell count, platelet count and cardiovascular risk factors(hypertension, smoking, hypercholesterolaemia and dibetes). **Results:** The majority patients from our study were male and the average age was 57 years. 75% patients had one or more cardiovascular risk factors, of which the most frequently was arterial hypertension and dyslipidemia. 53,3% patients from our study had thrombosis before and after the diagnosis. The most thrombosis were arterial, but a significant proportion have had venous thrombosis. There was no statistically significant difference in the mean hemoglobin, white cell count and platelet count, at patients with thrombosis as compared to patients without thrombosis. **Conclusions:** Polycythemia Vera is a chronic myeloproliferative disorder characterized by a high risk of developing arterial and venous thromboembolic complications. The risk becomes higher when cardiovascular risk factors are associated.

Keywords: polycythemia vera, thrombosis, cardiovascular risk factors

FACTORS PREDICTING EARLY DEATH AND LONG-TERM SURVIVAL IN MULTIPLE MYELOMA PATIENTS NOT-ELIGIBLE FOR STEM-CELL TRANSPLANTATION

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Background: Survival of multiple myeloma (MM) patients is very heterogenic, varying from early death-ED (first months from diagnosis) to long-term survival-LTS. Some prognostic factors are described but the most powerful of them, especially cytogenetic, are not routinely reachable. The purpose of the study is to find out if some easy-to-use, not expensive baseline parameters are different in our ED or LTS MM cohort of patients who were not eligible for autologous stem-cell transplantation. **Material and methods:** A cohort of 106 MM cases, newly diagnosed between Jan 2006-Dec 2014 (follow-up maximum 120 months), was retrospectively analyzed. Some routinely noted baseline parameters (gender, age, disease stage, performance status, leucocyte, platelets and hemoglobin, marrow plasma cells count, Ig-isotype, serum, plasma total protein level, serum beta2 microglobulin, lactat dehydrogenase (LDH), albumin, calcium, creatinine) were compared for patients who survived from MM diagnosis 60 months (LTS-group C). Univariate analysis (t-test, contingency table analysis) was used especially. **Results:** When compared to group B, patients in group A had significant poorer ECOG performance, higher beta2 microglobulin, LDH, marrow plasmocytosis, IgA isotype, lower hemoglobin and serum albumin. Patients in the group of LTS (group C) were noteworthy younger, with better performance status, lower plasmocytosis, serum calcium LDH and creatinine, higher albumin level, if compared with patients in group B. Multivariate analysis failed to identify significant differences between studied groups. **Conclusions:** Because the fully understanding of disease biology, including cytogenetic, is not always reacheable, every single MM patient should be consider being at risk for ED or candidate for LTS to. Most of easy-to-use, routinely performed, parameters are lacking sensitivity or/and specificity. The appropriate chemotherapy regimen selection, proper comorbidities management and best palliative care are likely to prevent ED and possibly to promote LTS.

Keywords: multiple myeloma, early death, long-term survival

HYGIENE

UNHEALTHY FOOD HABITS AMONG STUDENTS FROM A PRIVATE SCHOOL FROM CHISINAU

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Background: Consumption of food with high content of salt, sugar and fat, sweetened soft drinks and low fruit and vegetable consumption are the primary cause in the emergence and development of diet-related diseases, malnutrition and nutritional deficiencies of children. **Material and methods:** The study was conducted in a private school in Chisinau on a sample of 134 pupils from VIIth-XIIth grades. With an anonymous questionnaire with 39 items were collected data about students nutrition issues. **Results:** Daily consume carbonated drinks with preservatives and dyes 4.5% of pupils and 28.4% several times a week. Foods with high sugar content are daily consumed by 20.1% of pupils and 49.3% several times a week. Foods with high fat content are consumed daily by 2.9% of pupils and several times a week by 16.4% pupils. A share of 5.2% pupils daily consume food with high salt content, and 29.9% pupils consume it several times a week. The most common ways of preparing meals in families of surveyed pupils are: baking (68.7%), boiling (57.5%), fried in oil (26.9%), suppression (23.9%) and grilling (16.4%). **Conclusions:** A big share of high school students daily and several times a week consume products with increased content of sugar, salt and carbonated drinks with preservatives and dyes and less food with high fat content.

Keywords: pupils, unhealthy food habit, urban areas

ISSUES OF TOBACCO CONSUMPTION AMONG PUPILS FROM HIGH SCHOOLS FROM CHISINAU

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Background: Analysis of particularities of tobacco consumption among pupils allows us to develop education programs against smoking. **Material and methods:** The study included five romanian teaching schools and 5 russian from Chisinau, the consignment included 928 pupils (450 girls and 578 boys) from Vth-VIIIth classes. The survey instrument was a questionnaire with 43 items that included five questions about tobacco consumption among pupils. **Results:** Pupils from romanian high schools from Chisinau tried to smoke at a rate of 14.4% (19.1% boys and 9.5% girls), while those from russian high schools - 15.6% (16.8% boys and 14.3% girls). Smoked regularly at least one cigarette every day for 30 days 3.4% of pupils (4.7% boys and 2.1% girls) from romanian high schools and 3.3% pupils (5.1% boys and 1.5% girls) from russian high schools. Most pupils started smoking regularly at age 11-14 years (2.4% students from romanian high schools and 2.6% students from russian high schools). In last 30 days had smoked at least one cigarette 3.2% of students from romanian high schools and 4.8% students from russian high schools. **Conclusions:** Tobacco consumption among secondary school pupils is casual.

Keywords: smoking, pupils, romanian and russian teaching schools

RELATIONSHIP OF EXPOSURE TO PRO- AND ANTI-SMOKING MESSAGES WITH SMOKING BEHAVIOR AMONG HIGH SCHOOL STUDENTS IN TIRGU MURES, ROMANIA

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Background: The aim of the study was to identify the most important channels of exposure to pro- and anti-smoking messages among 9th-grade students in Tirgu Mures and to test the correlation between smoking habits and exposure to smoking messages. **Material and methods:** The cross-sectional study included 1,835 9th grade students in Tirgu Mures. Demographic data and data about exposure to pro- and anti-smoking messages were collected using an online questionnaire. Chi-square test was used to test

associations between nominal variables. **Results:** The most frequently mentioned channels of exposure to pro-smoking messages were: the Internet (26.5%), radio and television (22.1%), billboards (12.4%), and shopping area adds (10.5%). The most frequently mentioned channels of exposure to anti-smoking messages were: radio and television (49.3%), the Internet (48.8%), billboards (33.6%), newspapers and magazines (22.3%), and shopping area adds (20.8 %). We found significant gender differences regarding the exposure to pro- and anti-smoking messages through several channels. Ever-use of cigarettes and smoking in the last 30 days were significantly associated with exposure to pro-smoking messages but not with anti-smoking messages. **Conclusions:** Half of the surveyed high school students were exposed to pro-smoking and over 80% to anti-smoking messages during the previous month. There were significant gender differences regarding the channels of exposure and cigarette ever use and smoking in the last 30 days was significantly associated with exposure to pro-smoking messages.

Keywords: smoking, adolescents, media exposure

CHARACTERISTICS OF PRACTICING SPORT AMONG PUPILS FROM HIGH SCHOOLS FROM CHISINAU MUNICIPALITY

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Background: Practicing sport activities influence physical development and improve health of the growing generation. **Material and methods:** In a group of 928 pupils from Vth-VIIIth classes was applied a questionnaire with 43 items, 5 of them are about sport activities among students. **Results:** Pupils from romanian teaching high schools in last 7 days did exercises or sports activities at least 20 minutes during which they sweated and breathed harder in a proportion of 85.7% (84.6% boys and 86.8% girls) and of those with teaching in russian - 85.9% (87.1% boys and 85.2% girls). In the last 12 months have played games in the school team or other teams 42.9% of pupils (61.4% boys and 23.5% girls) from romanian high schools and 62.8% of pupils (63.4% boys and 62.3% girls) from russian high schools. Share of pupils from romanian high schools that participate at least once a week in classes of physical education at school is 92.8% (92.6% boys and 92.9% girls) and the share from russian teaching high schools is 91.2% (91.6% boys and 90.7% girls). Made sports exercises more than 20 minutes during a classes of physical 55.1% of pupils (57.1% boys and 52.9% girls) from romanian high schools and 42.9% pupils (44.4% boys and 41.2% girls) from russian high schools. 91.6% of pupils from romanian teaching schools (95.3% boys and 85.2% girls) can swim and 88.4% of pupils (91.2% boys and 85.4% girls) from russian high schools. **Conclusions:** The secondary school pupils from romanian and from russian teaching practice sport.

Keywords: sports, pupils, urban areas

PERSONAL INFLUENCES ON SMOKING HABITS OF ROMANIAN ADOLESCENTS

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Background: Young people represent a very important category of smokers towards whom tobacco control experts must concentrate their efforts by strong educational policies to prevent smoking initiation and to promote early smoking cessation, before becoming severely addicted to nicotine. Our general aim was to determine the factors associated with tobacco smoking among 9th grade students from Tîrgu Mures, Romania. **Material and methods:** A cross-sectional survey was conducted among 1,835 high-school students from Tîrgu Mures (9th graders cohort from a total of 2,029 students). Data were collected using an online questionnaire. Personal factors were evaluated studying their influence on tobacco experimentation and past 30-day use. **Results:** More than half of the sample (53.2%) had tried smoking cigarettes, 24.1% of the sample smoked cigarettes during the last 30 days, and only 4.6% of participants smoked cigarettes daily in the past month. Smoking was significantly associated with the smoking status of close friends, father, mother, brothers and other persons living in the home. Peer experimentation was the strongest factor associated with cigarette experimentation and smoking in the last 30 days: OR 4.65 (3.81-5.68) and 7.94 (5.82-10.83). **Conclusions:** Adolescents represent a vulnerable population with high risk for tobacco use, peer effects representing the strongest influencing factor. Among primary prevention and cessation programs, which should be a priority for public health in Romania, it would be useful to apply ASPIRA computer-based tobacco prevention and cessation software.

Keywords: smoking habits, personal factors, youth prevention, ASPIRA program

DIFFERENCES IN THE SENSATION-SEEKING AND DEPRESSIVE SYMPTOMS RELATED TO HIGH SCHOOL STUDENTS' SMOKING STATUS

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Background: Our goal was to explore two important psychological variables of youths mental health associated with tobacco use, with impact on increasing the vulnerability of health risk behavior. We analyzed those personality-related variables, which relevantly contribute to the reported differences in smoking status, respectively non-smokers, experimenters and current smokers. We assume that high level of sensation-seeking and increased scores on the depression scale will characterize participants reporting themselves as current smokers. **Material and methods:** We included in our analysis 1835 9th-grade students attending high schools in Tîrgu Mureș, Romania. We assessed smoking status, sensation-seeking (Brief Sensation-Seeking Scale - BSSS) and depressive symptoms (CES-Depression Scale for Children) through a self-report online questionnaire as part of the baseline analysis of a computer-assisted smoking prevention and cessation program in schools. We performed two-sample t-test, ANOVA and Post-hoc test of multiple variations with PASW Statistics version 18. **Results:** The results show relevant gender differences regarding Sensation Seeking (boys mean score = 26,58; girls mean score = 25,99) and depression (boys mean score = 13,13; girls mean score = 16,70). We documented that habitually smokers' scores is significantly higher on sensation seeking scale ($p=0.001$) and on the depression scale ($p=0.001$). Both scales proved good reliability of our sample (SS Cronbach $\alpha = 0.78$; CES-D Cronbach $\alpha = 0.81$). The observed associations explain the psychological background marked by individual differences in the analyzed variables. **Conclusions:** In conclusion, sensation-seeking and depressive symptoms were relevant factors in the smoking behavior of the adolescents included in our sample. Our results are very useful for the screening and prevention in the field of mental health promotion of adolescents.

Keywords: mental health, personality, smoking habits, youth

REASONS IN FAVOR AND AGAINST SMOKING AMONG 9TH-GRADE STUDENTS IN TIRGU MURES, ROMANIA

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Background: The aim of the study was to identify the most frequent reasons in favor and against smoking among 9th-grade students in Tîrgu Mureș and to test whether the reasons have significant variations depending on the gender, the academic achievement and the smoking behaviour of the subjects. **Material and methods:** The study design was cross-sectional and the analytical sample included 1,835 9th-grade students from 16 high schools in Tîrgu Mureș, Romania. Demographic data, academic achievement, smoking status and a list of reasons to smoke and not to smoke were assessed using an online questionnaire. The study was approved by the ethical board of the University of Medicine and Pharmacy and a prior written consent was obtained from the parents of all participating students. Chi-square test was used to test statistical differences between the respondent subgroups. **Results:** The most frequently mentioned reasons to smoke were: Smoking cigarettes relieves tension (29.5% of the respondents), Cigarette smoking helps you lose weight (27.5%), Smoking helps people cope better with frustrations (25.3%). The most frequently mentioned reasons for not smoking were: Smoking cigarettes is hazardous to people's health" (91.4%), Cigarette smoking can affect the health of others (88.9), Cigarette smoking makes teeth yellow (88.2%). We found significant differences regarding the reasons to smoke and not to smoke between boys and girls, students with lower and higher academic grades, current smokers and current nonsmokers. **Conclusions:** Some of the reasons to smoke/not to smoke are more important than others to adolescents and have significant variations depending on gender, academic achievement and smoking status. Our results can contribute to a better adaptation of the smoking prevention programs addressing the adolescent population.

Keywords: adolescents, smoking, reasons to smoke, reasons not to smoke

ASSESSMENT OF ROAD TRAFFIC INJURIES IN CHILDREN FROM REPUBLIC OF MOLDOVA

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Background: Throughout the European Region, road traffic injuries are a leading cause of death and disabilities in children. Road traffic injuries are the leading cause of death among young children aged 5-19 years, in spite of improvements in traffic safety in many countries. The road traffic injuries in children and youth is a significant burden of disease thanks to considerable number of total disability-adjusted life years lost by premature death and, often, severe disabilities for survivors during the life. **Material and methods:** It was analyzed the data on road traffic injuries in children during the year 2014 presented by the Traffic Police Department of the Republic of Moldova and Chişinău city. **Results:** In Moldova in 2014, were registered 2564 traffic accidents which resulted in 324 people killed and 3080 people were traumatized. Most accidents were recorded on Sunday - 397, while 350 of them were registered between 16.00-18.00 o'clock. The most common accidents is the buffering pedestrians also recorded 884 accidents, which resulted in 96 pedestrians died and 833 others with various injuries. Children were involved in 411 accidents, which constitute 16% of road accidents, which resulted 20 deaths and 391 injured children. In 49 accidents, caused by children's own fault, occurred three children deaths and 46 injures. In Chisinau, in 2014 occurred 125 accidents with involving 133 children, 3% of which died (4 children) and 97% were injuries (129 children). **Conclusions:** Children being vulnerable on roads, road safety education is considered essential to learn them to interact with the traffic safely. It is very necessary that the message which contain information about road safety to be transmitted properly and efficiently.

Keywords: children, road traffic injuries, accidents

EFFECTS OF MOBILE PHONES ON MENTAL HEALTH

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Background: Mobile phones allow people to talk to the world, but they can do so much more. We must teach people how to really maximize the global linkage available to them through their mobile devices, especially if we expect them to be used for any kind of social good. The adoption of the mobile phone by young people has been a global phenomenon in recent years. It is now an integral part of adolescents daily lives and is for the majority, the most popular form of electronic communication. In fact, the mobile phone has turned from a technological tool to a social tool. Cell mobile phones are being used by each and every one today. Their use without any knowledge of their harmful effects is unsafe. **Material and methods:** College students of both sexes in the age group 16-20 years from urban and rural backgrounds were selected at random (those using cell phones). They were given self-administered, pre-tested questionnaire which included aspects related to few common adverse mental and physical health symptoms attributed to cell phone usage. These can include ostracism and cyber bullying. **Results:** Expectedly, almost all the subjects (95.3%) possessed cell phones, and used the device for a greater part of the day. Headache was found to be the commonest symptom (52.57%) followed by irritability/anger (51.79%). Other common mental symptoms included lack of concentration and poor academic performance, insomnia, anxiety etc. Among physical symptoms -body aches (32.19%), eye strain (37.46%), digital thumb (12.7%) were found to be frequent. Accidents are caused due to cell phone driving. **Conclusions:** Less dependence on the device, curtailing time period spent on talking, communicating more by texting, holding the device as much away from the head as possible or using headphones/loudspeaker facility, etc. were some of the take-home messages advocated to the subjects to minimize and prevent the adverse effects.

Keywords: mobile phones, young people, peer relationships

MONITORING THE LEVEL OF IODINE IN IODIZED SALT FOR HUMAN CONSUMPTION

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Background: The main etiological factor of goitre is the iodine deficiency, so that the basic prophylaxis is based on intake of iodine

supplementation in human nutrition. The aim of this study was the monitoring of the level of iodine in iodized salt for human consumption in Mures county in 2014 **Material and methods:** According to the methodology developed by the National Institute of Public Health Bucharest, Mures County Public Health Department iodized salt samples collected from distribution units and commercial units. 5 samples were collected quarterly by each type of unit: distribution warehouses, commercial units. During the sampling, there were controlled storage conditions, labeling and product group, followed by laboratory analysis in order to determine the content of iodine potassium iodide and potassium iodate in equivalent. The determination of potassium iodate (KIO₃) of salt was made according to SR 8934-9. It was calculated the absolute frequency and the proportion of inadequate samples. **Results:** In 2014 there were collected a total number of 40 samples of iodized salt from which 12 samples were inadequate (30%). From 20 samples of iodized salt harvested in dispensing units 8 were inadequate (40%), and from 20 samples collected within the commercial units 4 were non-compliant. 4 of the 12 inadequate samples were below the permissible minimum health legislation in force (33.33%) and 8 were above the maximum allowable health legislation in force (66.66%) **Conclusions:** Monitoring the level of iodine in iodized salt for human consumption in Mures county in 2014, revealed the existence of a significant number of inadequate samples.

Keywords: iodine, iodized salt, health legislation

QUALITY OF SMOKING CESSATION INTERVENTIONS AMONG PREGNANT WOMEN FROM MURES GENERAL PRACTITIONER'S CABINETS

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Background: Objectives: Evaluation of smoking frequency at Mures pregnant women, the risk factors involved and cessation intervention options in General Practitioner s cabinets. **Material and methods:** We used a cross-sectional study on 202 pregnant women, registered at 50 General Practitioners cabinets from Tirgu-Mures city in 2015, who completed a questionnaire regarding smoking cessation interventions made in physicians primary cabinets. We used SPSS 22.0 program for statistical evaluation. **Results:** In our group 55.6% were women from urban areas, the average age was 29.06 years old, gestational age was 23.74 weeks, 46.82% had high education level and almost 15% were Roma people. Even most of the pregnant women received informations and advices regarding the risk of smoking especially during pregnancy, more than one third of them were careless and dont accept smoking cessation suggestions also those exposed to second-hand smoking were not changing their behavior also. Those who are living in the presence of relatives who are smoking had a higher risk of not abandonig smoking (OR=1.14) and the smoker partner has a major role in this failure for cessation (OR=2.14). **Conclusions:** Our data showed a high frequency of smoking pregnant women in our county, and also an important percentage of women exposed to second-hand during pregnancy. In order to reduce this addiction prevalence and to improve the outcomes, we will adapt the smoking cessation intervention options from our county to the present situation and population characteristics. Research funding: Research reported in this publication was supported by the Fogarty International Center and the National Cancer Institute of the National Institutes of Health under Award Number R01 TW009280-01. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

Keywords: smoking, pregnancy, risk factors, smoking cessation

SMOKING AND OTHER RISK BEHAVIOURS DURING PREGNANCY

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Background: During pregnancy a woman's life is special. During this period risk behaviours should be identified as early as possible in order to reduce their frequency to contribute to normal development of the fetus and the pregnant woman's health. Assessment of risk behaviors during pregnancy in a group of pregnant women from Mures county, in order to provide the necessary support to reduce the frequency of this. **Material and methods:** We used a cross-sectional survey based on a

questionnaire composed of 109 questions during 2013, applied to young mothers in gynecology clinics from Tirgu Mures city. **Results:** Of the 1278 women surveyed, 29.8% smoked regularly before pregnancy: and from those, during pregnancy, 43.3% continued to smoke during pregnancy, 50% consumed coffee daily more than 3 cups, 5% were using alcohol and only 15% were engaged in various types of sports and exercises. Among foods consumed daily, only 32% of all group were represented by milk, meat 7%, 14% sausages, sweets 26% and 20% fruits. Information from family doctor about lifestyle were absent in 36.3% of women. **Conclusions:** A large percentage of women were smoking during pregnancy. Among others risk behavior stand also high coffee consumption, physical inactivity and deficiencies in daily intake of nutrients. It requires effective community intervention in order to contribute to the health education of pregnant women. **Research funding:** Research reported in this publication was supported by the Fogarty International Center and the National Cancer Institute of the National Institutes of Health under Award Number R01 TW009280-01.

Keywords: smoking cessation, pregnancy, intervention, risk factors, behavior

BANNING THE USE OF ASBESTOS-CEMENT SHEETS, A NEW ISSUE OF PUBLIC HEALTH

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Background: Introduction According WHO data, more than 107,000 people die every year from diseases associated with asbestos: lung cancer, mesothelioma and asbestosis. As a result of the studies, many countries have withdrawn from use materials containing asbestos. **Objectives** 1. Analysis of data on morbidity caused by products containing asbestos, as premises for banning their use. 2. Evaluation of the situation on the use of asbestos cement materials from households in rural areas and the effects on users. **Material and methods: Materials and Methods** In this work were used different publications, including WHO, EPA, EEC etc. However data from the NBS, NCPH and survey results of 310 people who live 5 years and more in houses that are covered with asbestos cement sheets. **Results: Results** The health effects on people using asbestos cement materials (chrysotile) in household are confirmed insufficient (Varivoncic-2012); (WHO, 2014). At 70% to 100% of houses in rural areas are covered with asbestos-cement sheets, their age accounted for more than 20 years in 57.1% of cases. From 310 people surveyed, only 40 (12.9%) had heard about the diseases caused by asbestos roof sheets. From the 40 individuals 39 (97.5%) were thought even once that can become ill, 15 (37.5%) of that people are thinking about exchanging of roof material. Of them 12 people or 80% will not make the next 5 years due to lack of finances. **Conclusions: Conclusions:** 1. The developing countries can meet socio-economic impediments to the disposal of asbestos use. 2. Information flow steered through mass-media about health effects of asbestos-containing materials in combination with financial shortfalls can create new public health problems such as asbesto-phobia.

Keywords: asbestos, shelter, health, asbesto-phobia

ESTIMATING THE RISK OF ILL HEALTH IN MOLDOVA CONDITIONING OF DRINKING WATER QUALITY

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Background: Drinking water sources with varying degrees of non-compliance with the rules may be at risk for health caused by hydric disease. **Material and methods:** The aqueduct water quality supplied from r. Prut from wells and fountains served as a subject of study, was evaluated and analyzed by 11 sanitary-chemical indices, also statistical data on population morbidity. **Results:** Was quantified the existence of high direct correlation between the incidence of genitourinary system diseases, blood diseases and total water mineralization degree (ie, $r = 0,72$ and $0,71$), nitrate concentration (corresponding $r = 0,68$ and $0,79$). High direct interrelation were found between digestive and concentration of nitrates, chlorides, sulfates (ie $r = 0,94$, $0,60$ and $0,55$). In case of circulatory diseases, water from wells with high mineralization acted as a protective factor ($r = - 0,61$). The relative risk (RR) of disease in case of water wells using estimated that on the first place is the genitourinary system diseases (RR = 2,18), on the second - osteo-articular system diseases (RR = 2,18), on the third - digestive (RR = 1,13). The population who uses water from wells biggest risk is associated with genitourinary diseases (RR = 2.18), followed by blood diseases (RR = 1.9), digestive (RR = 1.9) and osteo-articular (RR = 1.5). **Conclusions:** Both, excess and deficiency of some chemicals can have an adverse effect on health.

Keywords: water quality, population morbidity, risk

SECONDHAND SMOKE EXPOSURE AMONG UNIVERSITIES IN TARGU MURES

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Background: Air pollution has negative effect on human and the environment, especially the exceeded particulate matter (PM_{2.5}) concentration. Particles resulted from cigarette combustion process are mostly lower than 2.5 µm. A study showed that measuring PM_{2.5} before and after forbidding smoking, 90% of air pollution provided from cigarette combustion. Long term exposure to high concentration PM_{2.5}, but below WHO standard values, showed also high mortality. **Material and methods:** The study was carried out measuring PM_{2.5} with a TSI Sidepak in main buildings of three different Universities (University of Medicine and Pharmacy Targu Mures, Petru Maior University Targu Mures, Sapientia University Targu Mures) in holiday and teaching period in 2013 and 2014. At the medical school before the second measuring period, since March 2014 has performed an intervention to prevent tobacco use. **Results:** Results: During the school time in 2013 concentrations at the university A (0.0306 mg/m³) and B (0.0378 mg/m³), C (0.0398 mg/m³) were significantly higher in comparison with the readings from the holiday season, same results obtained in 2014. During teaching period in 2014 has been shown a significant decrease at medical school ($p < 0.0001$), compared with 2013 (mean from 0.0306 in 2013, to 0.0162 mg/m³ in 2014). Not the same decrease could we noted at the two non-medical schools, (mean 0.0378 mg/m³ to 0.0376, $p = 0.776$; 0.03828 in 2013, to 0.0325 mg/m³ in 2014, $p = 0.276$). **Conclusions:** Although Romanian policy bans smoking in public institutions, the evidence of smoking is obvious, more attention required to protect nonsmokers.

Keywords: tobacco, pm_{2.5}, smoke, pollution

INFECTIOUS DISEASES

CLINICAL AND VIROLOGICAL ASPECTS OF INFLUENZA CASES IN 2015 SEASON IN MURES COUNTY

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Background: Seasonal flu is a contagious disease which is extremely high epidemic more frequently in winter. In Romania in recent years the number of cases of influenza confirmed increased, more likely due to virological surveillance and diagnosis. **Objectives:** clinical, virusological, and treatment in patients with severe forms of flu **Material and methods:** Methods: The study was conducted on a group of 17 patients with confirmed influenza virus infection in January-March 2015 who were admitted in Infectious Diseases Clinic and Intensive Care Unit. Virusological tests were performed at National Institute "Ioan Cantacuzino" Bucharest in samples obtained from naso-pharynx region. Real Time reverse transcriptase polymerase chain reaction assay (RT-PCR) was used. The study supervised secondary diseases and complications associated with influenza infection. **Results:** Patient age ranged between 1-60 years, female sex predominated. Virus subtypes identified were A (H1N1)pdm09: 8 patients, A (H3N2): 7 patients; Influenza virus B: 2 patients. Of all confirmed cases four patients required Intensive Care Unit. From ICU cases, 3 required intubation and mechanical ventilation for severe respiratory distress secondary to pneumonia. The clinical forms of the disease were probably due to more severe risk factors (cardiovascular, immune, neurological diseases, diabetes, pregnancy). Patients received antiviral (Oseltamivir) and antibiotic treatment. **Conclusions:** Diseases associated with patients studied were important risk factors in the development of respiratory complications.

Keywords: influenza, diagnosis, treatment

ROTAVIRUS AND HEPATITIS A VIRUS CO-INFECTION – TWO PATHOGENS SHARING A COMMON ROUTE OF TRANSMISSION

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Background: Hepatitis A and rotavirus infection have several common features. They share a common fecal-oral transmission route and both can manifest with similar digestive symptoms at onset: nausea, vomiting, diarrheic stools, abdominal pain, while jaundice may be absent from the clinical presentation of hepatitis A cases, especially in children. **Material and methods:** We present the case of a 2 year-old female patient, from poor economical background, with no sanitation facilities. She was admitted to the Clinic of Infectious Diseases I, County Clinical Hospital Mures for abdominal pain, diarrheic stools with mucus, fever and vomiting, without jaundice. Epidemiologic data revealed intrafamilial contact with an acute viral hepatitis A case (brother) two weeks previously. **Results:** The patient's laboratory analysis depicted moderately elevated liver enzymes AST 120 U/L, ALT 250 U/L. Anti-hepatitis A virus IgM serum antibodies were positive, as well as rotavirus antigen from the patient's stool. Hepatoprotector and symptomatic treatment was initiated, with good clinical and biological outcome. **Conclusions:** Rotavirus and hepatitis A virus co-infection underlines the common fecal-oral route of transmission of the two pathogens, as well as the similar clinical presentation, especially in anicteric cases of acute viral hepatitis A.

Keywords: rotavirus, hepatitis A virus, transmission route

CORRELATIONS BETWEEN VITAMIN D AND HIV INFECTION

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Background: In the human organism, vitamin D fulfills various roles, acting as both vitamin and hormone. It has peculiar

importance in patients infected with human immunodeficiency virus (HIV), with implications in osteo-renal impairment, metabolic and cardio-vascular diseases, chronic inflammatory response and immune activation. **Material and methods:** We assessed the level of vitamin D in a group of patients parenterally infected with HIV, clade F, during childhood - the "Romanian cohort", as well as the factors associated with suboptimal level of serum vitamin D (10-29 ng/mL) and vitamin D deficiency (<10 ng/mL). We assessed the level of vitamin D in a group of patients parenterally infected with HIV, clade F, during childhood - the "Romanian cohort", as well as the factors associated with suboptimal level of serum vitamin D (10-29 ng/mL) and vitamin D deficiency (<10 ng/mL). **Results:** We performed a cross-sectional study, on a group of 36 caucasian HIV-infected patients, with average age of 25.75 years, all of them diagnosed with acquired immunodeficiency syndrome (AIDS), with an average history of HIV infection of 15 years. We detected suboptimal levels of serum vitamin D in 27 (75%) patients and vitamin D deficiency in 3 (8.33%) persons. 6 (16.66%) patients had normal vitamin D levels. Two patients had hepatitis B and C virus coinfection - one with vitamin D deficiency, one with suboptimal vitamin D level. All patients are under antiretroviral therapy, including two nucleosidic reverse-transcriptase inhibitors and protease inhibitor, without any correlation with vitamin D level. Two patients had associated Mycobacterium tuberculosis infection, one had lymphoma and one had cerebral toxoplasmosis, all of them with suboptimal vitamin D levels. **Conclusions:** In our study, suboptimal levels of vitamin D prevailed in most patients diagnosed with AIDS. Vitamin D supplements will be necessary in this category of patients, in order to prevent renal and bone impairment

Keywords: HIV infection, Vitamine D, risk factors

PROGNOSTIC SCORES IN CRITICALLY ILL PATIENTS, SAPS II OR APACHE II?

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Background: Prognostic scores in Intensive Care Units (ICU) are used for the evaluation of applied treatment efficiency, evaluating temporary efficiency of the unit, comparing different intensive care units, for the training and review of professional patient management. Score systems can not be used to determine the patient admission criteria, neither for establishment of starting, continuing or interrupting therapy. The aim of this study was to compare the predictive values of prognostic scores of SAPS (Simplified Acute Physiology Score) II with APACHE (Acute Physiologic Score and Chronic Health Evaluation) II, considering predictive and real mortality at critically ill surgical patients, role of infectious complications in scoring, and their effect on mortality. **Material and methods:** A cross-sectional prospective study was performed on 50 surgical patients admitted to ICU II Clinic in 2015, the participants were chosen randomly, 25 male and 25 female, median age 67, 64% above 65 years. SAPS II and APACHE II scores were calculated online. **Results:** Predictive mortality after SAPS II was 24.77%, after APACHE II was 35.42%, real mortality rate was 22%. Case analysis (13 patients) with infectious complications (sepsis, respiratory infections, urinary tract infections, etc.) showed a predictive mortality of 41.6% after SAPS II and 49.8% after APACHE II. The real mortality rate was 53.84%. **Conclusions:** Predictive mortality calculated with SAPS II score was closer to reality, but at the patients with complications APACHE II score was more realistic. The complications clearly increased significantly the postoperative mortality. Based on results we consider the necessity of using other prognostical scores too, such as SAPS III.

Keywords: critical surgical patient, SAPS II, APACHE II

NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITOR RESISTANCE MUTATIONS IN NOSOCOMIALLY VERSUS SEXUALLY TRANSMITTED HIV INFECTION

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Background: Since the introduction of antiretroviral therapy the emergence of resistance mutations has been an increasing concern. Nucleoside reverse transcriptase inhibitors (NRTIs) have been widely used, and as a consequence resistance mutations have occurred. These resistant strains can be further transmitted. In this paper we were interested whether there were any differences between the resistance mutations of nosocomially and sexually transmitted HIV strains. **Material and methods:** A retrospective chart review was performed using the data of HIV positive patients monitored in the 1st Infectious Diseases Clinic of Tg. Mureş during 2005-2014, who had resistance mutations on genotyping resistance tests. 48 patients matched the inclusion criteria. HIV infection was transmitted nosocomially (N) in 81.25% of the cases and sexually (S) in 14.58% of the cases. **Results:**

There were differences between the two groups regarding the gender (N: 61.53% males, S: 100% males), mean age (N: 24 years, S: 48 years, $p < 0.0001$), nadir TCD4+ cell count (N 111 cells/mm³, S 260 cells/mm³ $p = 0.02$), the number of previous antiretroviral regimens (N: 5, S: 3 regimens, $p = 0.01$). Thymidine analogue mutations (TAMs) M41L, D67N, K70R, T215Y, K219Q were more frequent in group N, L210W was more frequent in group S, the differences were not significant ($p > 0.05$). From the group of non-TAMs M184V (N: 71.79%, S: 85.71%) and L74V (N: 20.51%, S: 14.28%) were found, the differences were not significant ($p > 0.05$). **Conclusions:** Despite the differences regarding the number of previous antiretroviral regimens, age, gender, nadir TCD4+ cell count no statistically significant differences were found regarding the incidence of NRTI resistance mutations between the nosocomially and sexually transmitted HIV strains. However the present study is limited by the low number of cases.

Keywords: nucleoside reverse transcriptase inhibitors (NRTIs), resistance mutations, thymidine analogue mutations (TAMs), non thymidine analogue mutations (non-TAMs), HIV

SEVERE RETROBULBAR OPTIC NEURITIS IN THE CONTEXT OF VARICELLOUS ENCEPHALO-POLINEURITIS OF CRANIAL NERVES IN IMMUNOCOMPETENT TEENAGER

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Background: Optic neuritis (ON) is an extreme complication of primo-infection with varicella zoster virus (VZV) in immunocompetent patients, whose immune-mediate mechanism, although uncertain, is supported by the absence of viruses and specific antibodies in CSF, bilateral affection and the moment of occurrence. We are presenting a new case of retrobulbar ON through its extreme severity and sequelae. **Material and methods:** Female patient, 13 years old, with no prior pathologies, immunocompetent, develops on the 12th day of varicella vision and locomotion disorders, being admitted into the Infectious Disease Clinic. The evolution under etiological (Aciclovir), depletive and steroid anti-inflammatory treatment has been unfavorable, with a rapid evolution towards blindness, marked cerebellous ataxia, cranial nerve impairment (polyneuropathy pairs III, VII, IX right), obnubilation, bradypsychia. Subsequently, the improvement of visual acuity (VA) progressed slowly, with color perception impairment, secondary incomplete optic nerve atrophy. **Results:** Cerebral MRI: lesions in T2 hypersignal and FLAIR disseminated intra - (right middle cerebellar peduncle) and supratentorial bi-hemispherically in the white matter and subcortically, with dimensions of 4-22 mm (appearance of postinfectious disseminated acute encephalitis), the largest in the occipital lobe; VA OS and OD= 1/50, funduscopic examination: normal aspect papillae; visual evoked potentials - do not occur in both eyes; CSF: clear, 18x10⁶/L lymphocytes, negative PCR-ADN (VZV). At 2 months: FO: pale-yellow papillae, relative afferent pupilar deficit OD (secondary optic atrophy), VA OS=0.3 fc, OD=0.15 fc; concentrically narrowed field-of-view, multiple bilateral scotoma. At 9 months: FO: pale temporal papillae, VA OS=0.6 fdc, OD=0.7 fc; field-of-view: generalized decrease in retinal sensibility, non-systemized scotoma. **Conclusions:** Extremely severe forms of retrobulbar ON in varicella primo-infection can also develop in immunocompetent patients. This case is unique through the development of ON and varicella cerebellitis in the context of multiple cranial nerve impairment and disseminated encephalic lesions, exceptional by themselves.. Clinical, paraclinical and evolutive data support the postinfectious mechanism.

Keywords: varicella zoster virus, optic neuritis, immunocompetent

INTERNAL MEDICINE

COMMUNICATION IN PALLIATIVE CARE - ROLE OF CLINICAL EMPATHY

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Background: new ways of communication and understanding of patients with chronic diseases, especially those in Palliative Care. Patients in Palliative Care presents unique challenges. Better understanding of these patients in medical, social, psychological, spiritual terms is essential in palliative care, and for this clinical empathy can play an important role. **Material and methods:** As a search method why used databases: Ovid MEDLINE, Embase, PsychINFO, Springerlink, ScienceDirect, Journals.Cambridge. **Keywords:** clinical empathy, empathy in Palliative Care, validation studies, professional patient relation, communication, physician-patient relations. **Results:** Patients and their families often live a tragedy that leads to a dilemma that reflects two fundamental issues specific to palliative care. The first question would be what is best for the patient and the second which is the goal of palliative care. Practically in palliative medicine, the doctor comes in contact with the dying patients and thus remembers that death exists. A feature of palliative care is defined as approaching to the spectrum of death. This makes the patient-physician communication and to be an essential one. And in this communication the empathy of the doctor towards the suffering patient can play an important role. Empathy can help the doctor to the patient's reach deep experiences both intellectually and emotionally. Empathy for the terminal patient can be the first step towards a complete compassion, and it can also be the basis of a complete patient-physician relationship and medical staff can help medical process. In the past it appeared term "clinical empathy". **Conclusions:** As conclusion, clinical empathy is widely accepted and appreciated. Skills in interpersonal relations are an essential component in the professional competence of the doctor. Patients, especially those in palliative care wish so. Sincere empathy is recognized as a major constituent part of the arsenal of a good practitioner that "heals".

Keywords: palliative care, medical communication, chronic patients, clinical empathy

THE ROLE OF CAPILLAROSCOPY IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Nailfold capillaroscopy(NVC) is an imaging technique, noninvasive, inexpensive, easy to repeat, which has an important role in assessing microcirculation in vivo. Rheumatoid arthritis (RA) is an immune mediated disease - systemic inflammatory connective tissue can affect joints, internal organs and vessels. **Objective:** The purpose of the study was to evaluate the practical utility of NVC in patients with RA, and define changes in the distribution and morphology of nailfold capillary density at these patients. **Material and methods:** Changes nailfold capillaries were evaluated by VideoCap 3.0 magnifications 200X. Capillaroscopic examinations were performed at fingers II-V on both hands. The finding classifications capillaroscopy was made in according to Maricq criteria. 81 consecutive patients with RA diagnosed at ACR/EULAR 2010 criteria were assessed NVC. **Results:** 14% were male and 86% were female, mean age(years) 56,94 +/- 11,6SD, mean disease duration of RA(years) 8,73 +/- 6,3SD. 28 patients presented signs of Raynaud's Phenomenon (RP) and 3 patients presented vasculitis. No change has been observed at capillaroscopic exam in 22 patients without RP, and 19 patients without RP showed minimal differences changes. Significant changes were found in patients with or without RP who smoked(p 0.05), have long durations of RA (p<0.0016), or have disease activity score (DAS) greater than 4.1, have antinuclear antibodies AAN positive and extraarticular manifestations as vasculitis. Morphological changes were extend loops, dilated, microhaemorrhages, moderate loss of capillaries and tortuous capillaries. **Conclusions:** Capillaroscopic changes in patients with RA are nonspecific, dilated vessels appear more frequently in the presence of RP and/or extraarticular manifestations such as vasculitis. More studies are needed for establish a possible guideline for vascular disorders management in patients with RA.

Keywords: rheumatoid arthritis, capillaroscopy, Raynaud's phenomenon

PREDICTORS OF POSTOPERATIVE OUTCOME IN PATIENTS WITH LOWER LIMB SURGICAL REVASCLARIZATION

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Background: Individual preoperative risk assessment in determining surgical indication for the patient with lower limb ischemia is crucial. Literature recommends the Finnvasc score for the assessment of short-term prognosis (within 30 days) and the Prevent III modified score (mPIII) for the long-term prognosis. **Material and methods:** The study includes 150 patients hospitalized in the Surgical Clinic 1, County Emergency Clinical Hospital, Tîrgu Mureș between January 2012 and December 2014 which were subjected to surgical revascularisation procedures for lower limb ischemia. It is an analytical retrospective study, based on observation charts. **Results:** The risk factors included in the Finnvasc score were: coronary disease: 90 patients; diabetes: 52 patients; gangrene: 35 patients; immediate surgical intervention: 31 patients. The risk factors included in the mPIII score were: coronary disease: 90 patients; tissue loss: 44 patients; age>75 - 36 patients; renal failure st. IV/V: 7 patients. The early postoperative complications were: thrombosis: 14 patients; limb amputation: 7 patients; death: 4 patients; infection: 1 patient. According to the Finnvasc score severity we had 1 point in 64 patients, 2 points in 30 patients, 3 points in 23 patients and 4 points in 5 patients. According to the mPIII score severity we had 111 patients with a low risk factor score, 39 patients with a moderate risk factor score and 1 patient with a high risk factor score. **Conclusions:** The predominant risk factor for the patients outcome according to the Finnvasc score was the coronary disease, followed by diabetes, with an insignificant impact factor on mortality. The mPIII score also revealed the coronary disease as the predominant risk factor; renal failure, had a significant impact factor on mortality. Thrombosis dominates the early postoperative complications. Most of the enrolled patients had low Finnvasc and mPIII risk scores.

Keywords: preoperative predictors, outcome, risk scores

THE BENEFIT OF BMI DECREASE IN NONALCOHOLIC STEATOHEPATITIS

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Background: Nonalcoholic steatohepatitis is a condition with unclear etiology and few therapeutical resources to prevent a possible evolution towards hepatic cirrhosis, therefore the present study attempts to point out the most useful therapeutical attitude. **Material and methods:** We included 63 patients, of ages between 25-65 years, with hepatic cytolysis syndrome, overweight or obesity, and hepatic steatorrhoea demonstrated by abdominal ultrasonography. The patients were divided into 3 groups: A=19 patients who kept a generalized diet +/- physical exercise, B= 23 patients who received liver protecting treatment, C= 21 patients who benefitted from liver protecting treatment and diet for 6 months. **Results:** We observed a progressive decrease up to a normal level in the 6th month for 37(58%) patients. In the first group, we identified normal levels of transaminase for 12 (66%) patients; 4(22%) did not stick to the diet. In group B, 10 (43%)patients attained a normal transaminase level in 6 months. In the third group, 19 (90%) patients present decreasing transaminase, and out of these 15 (71%) attained a normal transaminase level. The statistic analysis revealed a statistically significant difference between the first and the second group: p=0,0003, between the third and the second group: p=0,0002, but no statistically significant difference between the first and the second group: p=0,001. **Conclusions:** Diet associated with BMI decrease is the main therapeutical method in nonalcoholic steatohepatitis.

Keywords: nonalcoholic steatohepatitis, BMI, liver protectors

ADVANCED ULTRASOUND SIMULATOR TRAINING INTEGRATED IN CLINICAL MEDICINE- AN INNOVATIVE PROJECT

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Background: In internal medicine training, a fifth grade medical student must learn the skills to communicate with the patients in order to obtain information about medical history, medication and clinical examination for a reliable final diagnosis. Declared as the "stethoscope of the new millennium" ultrasonography tends to become one of the most utilized investigational methods, with interdisciplinary involvement. In this regard, during their internal medicine preparation, medical students become aware of the ultrasound method, physical principles, obtaining and interpretation of the US images. **Material and methods:** 24 medical students were trained in abdominal US for two hours per week theoretical lectures and two hours per week practical hands-on examinations on the simulator mannequin. They were invited to complete a test with five questions: 1. technical information, 2. organ recognition, 3. US vocabulary, 4. type of abdominal sections and 5. US utility. Test was recorded before and after four hour US preparation. Teachers implicated in this project were medical teachers from the IV-th Medical Department trained in medical ultrasound with US Certificate from Health Ministry. **Results:** All students improved their responses after theoretical and hands-on preparation. Questions 1, 3 and 4 were most incorrect in the innitial evaluation. Questions 2 and five were most correct, but the number of organs recognised by US in the final test was higher. **Conclusions:** Students are able to combine their internal medicine knowledge with hands-on training. Abdominal ultrasound simulator allows them to accommodate with clinical US pathologies in order to recognize them better in practice. The final goals of this project are: no educational burden for fifth-grade students, improvement of the overall medical competency, development of new medical skills. Project will continue to a large number of students in the future.

Keywords: ultrasound, simulation, hands-on preparation

COLAGEN DISEASE WITH POLYSEROSITIS

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Background: There is mentioned in literature the increase pleural-onset of the collagen diseases especially of the systemic lupus erythematosus. **Material and methods:** A 35 year-old male was admitted in hospital for a slow onset (3 month) malaise with fatigue, sweating, appetite and weight loss, low fever, cough. Chest-X-ray: right pneumonia with nodular structure and right pleural epanchement. **Results:** The clinical and imagistic presentation suggests a systemic diseases so we performed immunological investigation which confirmed a collagen disease (pozitiv ANA, rheumatoid factor, ASLO, double stranded DNA antibodies, SSA and SSB antibodies were higher than normal). The patient received systemic corticoid medication, oxigenotherapy, bronchodilators, cardioselective betablocants, antistreptococic antibiotics, fluid aspiration. Clinical status improved after 2 weeks. **Conclusions:** Collagen diseases may have a long and less symptomatic evolution and can begin with respiratory (especially pleural effusion) and general symptoms. Chronic nonresponsive polyserositis has to be investigate for autoimmune disease.

Keywords: collagen disease, poliserositis, case presentation

OBSTRUCTIVE SLEEP APNEA - CORELATIONS BETWEEN CLINICAL EXAM, EPWORTH SLEEPINESS SCALE AND SLEEP STUDY TOOLS

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Background: Obstructive sleep apnea (OSA) is a well-known sleep disorder which can be associated with severe complications in

the absence of the early treatment: cardiovascular diseases (hypertension, atherosclerosis, atrial fibrillation, stroke risk, heart failure), diabetes, cognitive decline, traffic accidents and impaired quality of life. In Romania OSA is common considering the high level of obesity of the population and the particular life style (with fat diet, alcohol and smoking and without physical activity). In Romania OSA is dramatic underdiagnosed due to lack of sleep labs, sleep study devices and lack of accredited specialists. In patients with high clinical probability for OSA polygraphy (PG) sleep study with at least 4 channels recording (nasal flow, chest movements, abdominal movement, nocturnal oximetry, body position) are nowadays considered good enough to confirm OSA (upon international 2014 guidelines) and is not so expensive. **Material and methods:** In a group of 210 adults with high suspicion of OSA after clinical examination (analyse of the daytime sleepiness, snoring, sleep apnea, blood pressure, neck circumference/waist, BMI, assessment of comorbidities/ complications), we performed sleep studies: polygraphy (PG) or polysomnography (PSG). **Results:** We registered 155 polygraphies and 55 polysomnographies from which we found 173 cases with sleep apnea (82.38%): 165 with OSA (95.4 %) patients, 8 with central apnea and with other sleep disorders. Epworth scale showed in 84,8% the presence of daytime sleepiness in 140 from 165 patients diagnosed by PG/PSG with OSA (values ≥ 10 points). Among patients with PG concordance between Epworth scale and final OSA diagnosis was even higher 94%. Adherence to investigation was higher in those with PG (2 examinations for diagnosis and 1 for initial treatment setting - Automatic Positive Airways Pressure APAP titration) unlike those with PSG (60% of cases required 3-4 consults for diagnostic - for PSG acceptance - and 2 consults for treatment). In 87% of cases with PSG there was a 3 months delay in treatment initialization. **Conclusions:** The clinical examination with adequate patient selection and evaluation, Epworth scale and PG, allow the correct diagnosis of OSA patients, increase compliance to treatment and permit early CPAP therapy.

Keywords: obstructive sleep apnea, polygraphy, polysomnography

MICROBIOLOGY

EVALUATION OF FUNGAL AND MYCOTOXIN CONTENT OF COMMONLY USED SPICES

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Background: The spices are the most common used food additives. Their organic nature and way of storage, makes them susceptible to fungal contamination. **Objectives:** Evaluation of fungal contamination and mycotoxin content in pepper powders (black pepper, white pepper, sweet and hot chili). **Material and methods:** Samples of pepper powders from 9 different producers were acquired from general supermarket. For mycological evaluation, 10 grams of spices were mixed in 90 ml saline on magnetic stirrer. From the supernatant, 100 microliters were inoculated on PDA agar, and incubated for up to 5 days. The fungal colonies were identified to the level of genus/species, counted and reported as CFU/g. The pH and humidity of the samples were also evaluated. The mycotoxins were extracted in pure ethyl acetate from 5g spices samples. AflatoxinB1, OchratoxinA and Zearalenone were quantified by reverse-phase HPLC in a Dionex Ultimate3000 system with UV detector, and reported as Area Under Curve.

Results: The white pepper was the most contaminated with fungi (22700 CFU/g), followed by black pepper (12300 CFU/g), sweet chili (6200 CFU/g) and hot chili (600 CFU/g). Four producers (44.4%) presented contamination of over 1000 CFU/g. Two producers (22.2%) presented no fungal contamination in their products. The most common fungal species was *Aspergillus* spp. (92.5% - *A.fumigatus*, *A.niger*, *A.flavus*). *Rhizopus*, *Mucor*, *Fusarium*, *Penicillium*, *Absidia* species were also found in smaller percents (< 3% each). Aflatoxin and Zearalenone were mostly found in black pepper (AUC 1.4 and 2805 respectively), while ochratoxin in white pepper (AUC 463). The low pH (~5) and humidity (~9%) of chili products were associated to a very low level of mycotoxins in these spices. **Conclusions:** The commonly used spices are heavily contaminated with fungi (mostly *Aspergillus* spp.) and mycotoxins (mostly Zearalenone). The study was conducted within the project 31/16432/11.12.2013 of the University of Medicine and Pharmacy Tîrgu-Mureş, Internal Competition for Research Grants.

Keywords: fungi, mycotoxins, food microbiology

NEONATOLOGY

NEONATAL MORBIDITY ASSOCIATED WITH LATE PRETERM IN AN ACADEMIC PERINATAL TERTIARY LEVEL INTENSIVE CARE CENTER

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Background: Obstetrical and medical complications in pregnancy may necessitate delivery between 34 and 37 weeks of gestation. To assist decision making process and patient counseling we sought to determine the incidence of neonatal morbidities between 34 and 37 weeks of gestation. **Material and methods:** Retrospective cohort study of live births and the preterm neonates admitted to referral tertiary level Intensive Care Unit of the University Hospital Mures over one year period. The incidence of neonatal morbidity between 34 and 37 were calculated. **Results:** 28 late preterm infants between 34-37 weeks of gestation were admitted in Neonatal Intensive Care Unit during study period. Gestational age was inversely related to Apgar score at 1 minute but not at 5 minutes, apnea, hypotension, poor feeding, sepsis, hyperbilirubinemia, respiratory distress ($p < 0.05$ for all). Respiratory distress requiring CPAPN occurred in 20%, 16%, 9% and 4% of infants born at 34, 35, 36 and 37 weeks of gestation, respectively ($p < 0.05$). **Conclusions:** There is a decreased neonatal respiratory morbidity for each week gained between 34 and 37 weeks of gestation.

Keywords: Pediatrics, late preterm, neonatal, morbidity, outcomes

MATERNAL MEDICAL CONDITIONS ASSOCIATED WITH LATE PRETERM BIRTH AND NEONATAL OUTCOMES

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Background: The morbidity and mortality rates for those infants born before term are higher compare to those born at term. The closer the fetus gets to term, the lower the risk of complications associated with prematurity and this is in large part the rationale for recommending elective delivery at or after 39 weeks of gestation. When a patient has an obstetrical or medical complication that require delivery at 34 to 37 weeks of gestation, factoring neonatal morbidity is only part of the decision making process. **Material and methods:** Retrospective cohort study to assess maternal morbidity considered in context of specific complications of late preterm infants admitted in a tertiary level care academic perinatal center during one year study period. **Results:** Among 28 late preterm infants admitted to Neonatal Intensive care units during study period severe preeclampsia and gestational hypertension were observed for 6.67%, 20%, 0%, 0%, for pregnant women given birth at 34, 35, 36 and 37 weeks of gestation. Documented infection during pregnancy was observed for 20%, 0%, 0% and 10% for those infants born at 34, 35, 36 and 37 weeks of gestation. Cesarean section was the mode of delivery for 53%, 20%, 71% and 50%, appropriate number of prenatal care was 73%, 40%, 86% and 80% for 34, 35, 36, and respectively 37 weeks of gestation. The associated neonatal morbidity and the resources use decrease with each week of gestation. **Conclusions:** Late preterm birth associated with maternal medical conditions increased the risk of neonatal morbidity during hospitalization in Neonatal Intensive Care Units.

Keywords: outcomes, preterm birth, maternal morbidity, neonatal morbidity

NUTRITION

INTAKE OF FIBER-RICH FOODS AMONG MEDICAL AND DIETETICS STUDENTS FROM UNIVERSITY OF MEDICINE AND PHARMACY, TÎRGU MUREŞ

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Background: Romania was found to be the country with the highest frequency of obesity in the EU, also cardiovascular diseases and cancer. Diet is an important associated factor for a number of complex chronic diseases. One of the cause of these is the low intake of fibers from diet. Our objective was to assess the total dietary fiber intake, consumption habits and the knowledge about food fibres among our medical students, also to identify the major sources of dietary fiber from menu. **Material and methods:** Our study was based on a cross-sectional evaluation using a questionnaire filled in by our students in 2015, regarding their food behavior, food intake and knowledge about fiber importance. The average participant s age was around 22 years old. Data analysis was performed using SPSS, version 19.0. **Results:** The mean dietary fiber intake were 18.7 g/day for medical students and 24.4 g/day for dietetics students, lower than the intake level recommended by the Romanian Dietary Guidelines (25 g per day for women and 38 g per day for men). Foods with the highest frequency of daily intake for medical students were white bread (at 91%), butter (64%), milk (84.5%), vegetables (77%), fruits (22%) and low-nutritious foods (62%). Only 7% of the dietetics students said they have fiber-rich foods daily in their menu. The level of nutrients intake didnt reflect major signs of concern in the proportion of protein (14.3%), carbohydrates (58.7%) or lipids (27%), being close to OMS recommendations. **Conclusions:** Food labels are generally known to have an important role in communicating product-related information to consumers and are considered to have the potential to influence food choice and dietary behaviour. However, is not enough, being necessary to sustain a proper community intervention in schools and universities to inform young people about the importance of fibers in the menu.

Keywords: dietary fiber, functional foods, obesity, chronic diseases, students

OCCUPATIONAL HEALTH

OCCUPATIONAL HEALTH - DANCE AS PROFESSION FOR ALL AGES

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Background: Dance is in the same time an art, sport and a profession. The classification and the rules of Dance Sport are elaborated by World Dance Council and World Dance Sport Federation. There are defined ten International style dances and nine American style dances. **Material and methods:** Bibliographical-descriptive, observational, and comparative-analytical. Also, surveys dancer s no.60 from four dance clubs of municipality Chisinau, on 2015 years. **Results:** Dance Sport involves people of different ages with various professional skills. Practicing Dance Sport at professional level provides many benefits but also implies certain risks for dancers health. Dancing improve the quality of life. Results of a study accomplished in 2008 by University of Hertfordshire reveals that the physical condition of the dancers is better than professional swimmers. Another Japanese study in 1994 established the link between dementia and dance. Among various activities, dancing was the only occupation associated with lower risk of dementia. Memorizing dance steps gives a possibility to keep brain healthy, reducing organic and physical stress, which accelerate degenerative processes. American Heart Association recommends dances to reduce risk of heart disease. An Italian study shows that patients with heart failure who practice dances improve breathing and heart condition. **Conclusions:** Practicing dance reduce the risk of developing hypertension, lowers total cholesterol, triglycerides and increases HDL cholesterol, also helps prevent diabetes and reduce insulin requirements in people suffering from diabetes, also dance lowers weight. Practicing dances can prevent osteoporosis. According to a study published in the International Journal of Neuroscience, dance contributes to regular secretion of serotonin and dopamine - neurotransmitters in combating depression. Disadvantages of dances as profession are occupational health risks linked to occurrence of specific diseases or trauma.

Keywords: risks, dancers, dance sport, benefits

ASSESSMENT OF SPECIFIC ERGONOMIC METHODS THROUGH ANALYSIS SWOT

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Background: Ergonomic methods applied for screening and monitoring the cause of non-transmissible occupational diseases are elementary instruments, so doctors/ researchers could: 1) easily understand and efficiently manipulate them; 2) use in different situations and adapt them to distinct work conditions; 3) knowing advantages and disadvantages of the used methods program efficient actions to improve work conditions. **Material and methods:** The comparative analytical research systematized and quantified official results offered by the IOH in Finland. Also, SWOT analysis of RULA method completed by 48 specialists that starts to work with RULA for more than 1 year. They used RULA method in determination of the musculoskeletal disorders risk at office and factory workers. **Results:** RULA is simple to use and does not need an expensive soft. RULA has a strong focus on posture, but a weak focus on force, repetition and duration. It is a valuable assessment tool, but only when applied in specific ways. Like most ergonomics analysis techniques, RULA's results are not absolute. The RULA method evaluates the ergonomics risk factor by observation the posture of employees. The goal of this work is to determine strengths, weaknesses, opportunities and threats of the method. 58% the office employees and 47% from industry obtained a RULA score ≥ 5 , which mean a high risk of developing musculoskeletal disorders. 17 specialists from 18 declare that RULA method is easy to use and is useful to determinate risk of musculoskeletal disorders. 16 specialists consider that weakness of the method is difficulties at the interpretation of asymmetric postures. 14 of them think that RULA give opportunities to compare different work activities. **Conclusions:** The practical application of ergonomic methods for strengthening working conditions, irradiation physical and neuropsychological factors of employees is the key to performance in occupational health.

Keywords: ergonomics, method RULA, OCRA, OWAS, REBA, musculoskeletal disorders

PARTICULARITIES IN THE DEVELOPMENT OF BASIC OCCUPATIONAL HEALTH SERVICES

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Background: The organization and carrying out of occupational health services has become a difficult task following the decentralization of the national economic structure, drawing up short-term employment contracts, implementation of new technologies and working methods, and high mobility of human resources. **Material and methods:** ILO & NCPH logistic studies during 18 years. Also, bibliographical-descriptive, observational, comparative-analytical study of International Labour Organization-Chisinau. **Results:** Basic occupational health services are essential for human health protection: at work, promoting health, well-being and work ability and to prevent health problems and accidents at work. According to the WHO, about 10-15% of global workers have access to occupational health services. Ratification of the Convention by Moldova no. 161 will facilitate the development of occupational health services within the institutions and enterprises, both public and private as in all branches of economic activity. Implementation of ILO Convention no. 161 concerning occupational health services is intended to ensure the participation of employees in addressing health and safety protection. Political aspect - Ratification of Convention. 161, will help promote Moldova's image as a democratic state that guarantees all persons unemployed access to quality occupational health. Normative aspect - The provisions of ILO Convention no. 161 concerning occupational health services are compatible with international legal instruments and not contrary to national law. Organizational aspect - Responsible for implementation of ILO Convention no. 161 concerning occupational health services are the Ministry of Health and Ministry of Labour, Social Protection and Family. **Conclusions:** The Service of State Supervisors of Public Health & National Center of Public Health, under the Ministry of Health, will identify, assess and monitor risk factors in occupational environment, propose measures for occupational illnesses prevention and will supervise the health status of persons subject to action occupational risk factors.

Keywords: basic occupational health services, working conditions, human resources

OPHTHALMOLOGY

ORTHOKERATOLOGY FOR MYOPIA CORRECTION

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Background: Orthokeratology is a method of optical correction which uses rigid gas permeable contact lenses (RGP) applied on patient's cornea during night. In the first 7-14 days night-time wearing of these contact lenses the effect of optical correction will persist throughout the day (about 12 hours), because of the reversible remodeling of the corneal surface. Our goal was to evaluate the correction of myopia through orthokeratology in case of two teenager patients. **Material and methods:** We present the case of two adolescents: the first patient is a 13 years old female patient and a second 14 years old male patient. Both were diagnosed with myopia and myopic astigmatism and were using glasses for optical correction. The male patient previously tried soft contact lenses occasionally, during sport activities such as ski or football. The motivation of the patients for night lenses was the desire of not using eye glasses or daily contact lenses. This desire of the teenagers was supported by their parents. Adaptation of the lenses was done following the protocol and using the Menicon Easyfit program. **Results:** The patients had no difficulties with handling (fitting and removal) and care of the contact lenses. Until the last inspection, no complications caused by the night use of the contact lenses were present. Both patients and their parents were satisfied with this method of optical correction. **Conclusions:** Orthokeratology is an efficient method for correcting myopia and myopic astigmatism, and is a modern alternative for optical correction with eye glasses or daily wear contact lenses.

Keywords: orthokeratology, myopia, astigmatism

FLOPPY IRIS MANAGEMENT DURING CATARACT PHACOEMULSIFICATION

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Background: Intraoperative floppy iris syndrome (IFIS) was described as a complication that can occur during phacoemulsification procedure, especially in patients who were using alpha blocker therapy. This syndrome consists of: floppy iris, iris prolapse through even very small corneal wound and a progressive miosis of the pupil. The aim of this study was to present our experience in the management of IFIS during cataract surgery. **Material and methods:** We performed a 1 year non-randomized, observational, prospective study, in which 438 eyes of 438 patients undergoing cataract surgery by the same surgeon were enrolled. The use or non-use of alpha-blockers (especially tamsulosin for benign prostatic hyperplasia), duration of the treatment, presence or absence of floppy iris (IFIS), management of IFIS and intraoperative complications were recorded. **Results:** 13 patients (2.96%) used alpha(1)-antagonists treatment and all of them developed IFIS. There were no statistically significant differences between patients who were using tamsulosin, in terms of age or duration of tamsulosin use ($p > 0,05$). Management: in the cases with insufficiently dilated pupils we used diluted epinephrine intracameral as well as in the irrigating fluid. We used Discovisc as an ovd in the capsulorhexis stage; we reduced the phaco parameters and quick chop method was performed; in 1 case iris hooks were needed. There were no intraoperative or postoperative complications. **Conclusions:** The incidence of IFIS was low (2.96%), close to the dates of the specialty literature. However, these cases have a higher degree of difficulty. Ophthalmologist surgeon should be informed preoperatively of the existence of alpha 1 blocker treatment. The stability of the anterior chamber enhances the surgery on the eyes with IFIS. In our cases, IFIS management consisted of the use of simple available means, such as epinephrine diluted in BSS or injected into the anterior chamber, viscodilation, low parameters, quick chop.

Keywords: alpha-blocker, cataract surgery, iris billowing, phacoemulsification

OCULAR SURFACE CHANGES AND TEAR FILM ASPECTS IN PATIENTS DIAGNOSED WITH RHEUMATOID DISEASES

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Background: Aim: To study the ocular surface manifestations and tear film characteristics in patients diagnosed with autoimmune diseases. **Material and methods:** We examined the patients diagnosed with rheumatoid diseases for a period of 2 years. The diagnosis of dry eye followed an examination protocol including: the patient history, Ocular Surface Disease Index, rigorous ocular examination, slit-lamp biomicroscopy, clinical diagnostic tests for tear film stability assessment, tear secretion assessment, tear film and epithelial integrity assessment and tests to demonstrate the physical characteristics of the tear film. **Results:** Rheumatoid arthritis was the most common disease (63.1%) associated with ocular sicca symptoms, followed by 15.3% mixed connective tissue disease, 9.9% disseminated lupus erythematosus, 7.2% dermatomyozitis, 2.7% primary Sjogren's syndrome, 1.8% systemic sclerosis. Women were more affected than men, mean age 55.87, Std Deviation 10.87. Ocular sicca syndrome in the studied cases is accompanied by pathological changes of the conjunctival and corneal cells, aspects revealed by vital dye staining. We found statistically significant associations between quantitative tests for tear film and ocular damage severity ($P < 0.05$). **Conclusions:** Dry eye is a condition produced by inadequate inter-relation between lacrimal film and ocular surface epithelium. If the clinician takes a good patient history, does a complete physical and slit-lamp examination of the eyes correlated with specific diagnostic tests, the diagnosis and management of this very common, but often neglected condition may be significantly improved.

Keywords: dry eye, tear film, rheumatoid disease

IMPORTANCE OF OPHTHALMOLOGICAL SCREENING FOR THE DIAGNOSIS OF OCULAR TOXOPLASMOZIS

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Background: We report the case of a 30 years old female who presented to ophthalmological consult for eye-glass prescription. **Material and methods:** The patient didn't have any pathological ocular history. Visual acuity of both eyes and slit-lamp biomicroscopy examination revealed normal aspect. At eye fundus exam we recorded toxoplasmosis scar at the posterior pole of her right eye. **Results:** Paraclinical tests revealed Atc. anti Toxoplasma gondii IgG positive value, IgM negativ. Infectious disease specialist advise was mandatory for proper therapy. **Conclusions:** Ocular toxoplasmosis is an invalidant eye disease, unfortunately later diagnosed. Ophthalmologic examination is very important not only for eye disease detection but also to determine systemic pathologies, frequently not known by the patient.

Keywords: eye fundus disease, toxoplasma gondii, ocular screening

ORTHOPEDICS

UNDISPLACED DISTAL RADIUS FRACTURES - REQUIRE A CAST IMMOBILIZATION ?

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Background: The distal fracture of the radius are one of the most common fractures. For treatment of this fracture conservative and surgical procedure are accepted but for undisplaced fracture exist a controversy regarding the type of immobilization. The aim of the study is to find out if the undisplaced distal radius fractures require immobilisation in a antebrachial-palmar plaster. **Material and methods:** In this study, made between 2012-2014 all the patients with undisplaced distal radius fractures are divided in two groups according to the immobilization procedure: 1. Cast immobilization group - 46 patients 2. second group - Removable volar splint - 42 patients. Exclusion criteria were: open fracture, associated with other fracture and previous distal radius fracture. Mean age were 47 years and the female: male ratio were 4:1. All the patients receive the same duration of immobilization, and same medication and rehabilitation programme. Follow up was at six weeks, three months and six months. Patients were assessed by clinical examination, grip strength, radiological assessment and VAS scale for pain. **Results:** At 3 months, no difference was found between the two groups, in clinical evaluation, radiological assessment, functional outcome, grip strength and VAS scale for pain. **Conclusions:** We conclude that undisplaced distal radius fracture can be treated with a wrist orthosis and is not necessary to use all the time plaster immobilization.

Keywords: distal radius, undisplaced, wrist orthosis

THE IMPACT OF HIP PROSTHESIS HEAD DIAMETER ON THE RAPID REHABILITATION

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Background: The osteoarthritis of the hip is a very common illness, and, due to the increase in the average age of the population, the number of patients is constantly growing. The basis of treating degenerative joint disease is total hip arthroplasty, which increases the strength and flexibility of the hip joint, significantly reducing the intensity of pain. This study analyzes how prosthesis head diameter influences early rehabilitation after surgery. **Material and methods:** The first Orthopedics and Traumatology Department from Tîrgu Mureș conducted a research with randomly selected patients undergoing hip arthroplasty between 2011 and 2013. The subjects were split in two groups of 20 persons. In order to exclude any possible differences in postoperative rehabilitation, only patients with the same design (DePuy, Corail, Pinnacle) prosthesis were included in the study. The first group was formed by patients with whom the 28 mm head size prosthesis was used, the second group gathering the patients with the 36 mm prosthesis head. The average age of the patients was between 40 and 45 years old. The patients were assessed 3-6-12-18 months postoperative: subjectively (Visual Analog Scale); objectively (Harris Hip Score); radiologically. **Results:** Comparing the 12 months postoperative assessment results, the patients with 36 mm condylar size showed the following average difference to those with 28-mm head: -5 degrees flexion, extension at -3 degrees, -11 degrees of external rotation, abduction -8 degrees. Later, at the 12 and 18 month check-up differences were observed exclusively in case of external rotation, without statistical importance. The HHS was also different in patients with 36 mm prosthesis head, but the difference was not statistically significant. **Conclusions:** The short term result shows that patients with wider prosthesis head show a larger amplitude of motion (although the difference was not statistically significant), thus the patients returned to the normal lifestyle in the shortest time possible.

Keywords: prosthesis head, head diameter, arthroplasty

QUALITY OF LIFE IN CEMENTLESS TOTAL HIP REPLACEMENT IN PATIENTS OLDER THAN 60 YEARS OLD

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Background: Total hip replacement is nowadays a standard surgical method in treating final stages of hip osteoarthritis. In patients over 60 years of age there is a "grey" area in choosing implants: cemented or cementless, with consistent arguments on both sides. Our objective was to assess medium-term life-quality in cementless total hip replacement in patients which were older than 60 years in the moment of surgery. **Material and methods:** This study includes 67 cases of cementless total hip replacements (various models), performed between 01.01.2013 and 01.01.2014, in patients older than 60 years of age at the time of the arthroplasty. Quality of life evaluation was made by telephone after an average of 18 months postoperatively (range 12-24) using Harris Hip Score (HHS) and comparing the postoperative values with the preoperative ones. **Results:** The preoperative average HHS was 44.2 points (range 20-61), with an average postoperative score of 78.2 points (range 61-91), therefore an average growth of 34 points. **Conclusions:** The results show a significant improvement in hip function, therefore an improvement in quality of life. However, for a better assessment, further long-term studies are mandatory.

Keywords: quality of life, uncemented hip arthroplasty, old patients

FAST TRACK RECOVERY AFTER JOINT ARTHROPLASTY - A NEW CONCEPT. CAN IT BE IMPLEMENTED IN OUR COUNTRY?

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Background: In recent years numerous measures have been taken to facilitate rapid postoperative recovery. In this respect, significant improvements were made in orthopedics, especially regarding optimization of perioperative pain, rapid mobilization and in other organizational, administrative matters. **Material and methods:** The concept of fast track recovery is an evidence based protocol that reduces the period of convalescence, improves clinical outcomes, and reduces morbidity and mortality. It was first described in digestive system surgery (gastrointestinal surgery), later taken over and developed in total joint arthroplasty surgery. Key elements of the concept are: anesthesia, rebalancing electrolyte, pain relief and early postoperative mobilization. **Results:** The authors present this new concept and discuss the possibilities in our country, taking into account the differences in the health system, the financing (and other issues) of patients, knowing that in Scandinavian countries the implementation of this program has increased the number of surgical interventions without increasing the rate of revisions surgeries: patients were more satisfied and the hospitalization costs were drastically reduced. **Conclusions:** The authors consider that the concept is conducive to fast track a feasible method both for hip and knee replacements, even though its implementation is very difficult due to the specifications of the local health system.

Keywords: fast track, rehabilitation, arthroplasty

OPEN VERSUS CLOSED KINETIC CHAIN EXERCISE IN REHABILITATION AFTER ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION

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Background: Successful anterior cruciate ligament reconstruction requires physical rehabilitation to help patients to return to an active lifestyle. There is still no consensus regarding the optimal rehabilitation program except for early motion. The purpose of this paper is to compare the effectiveness of exercises performed in closed kinetic chain and open kinetic chain in the early stages of

recovery after anterior cruciate ligament reconstruction. **Material and methods:** We performed a comparative study on the effectiveness of exercises performed in closed kinetic chain and open kinetic chain in the early stages of recovery after anterior cruciate ligament reconstruction. The study included 20 patients divided into two groups of 10. Patients in group I, in the early stages of recovery, performed closed and open kinetic chain exercises, weight bearing on the operated member on the first postoperative day, in the limit of its tolerance. Patients in group II performed open kinetic chain exercises exclusively, weight bearing on the operated member only two weeks postoperative. We performed KT-1000 arthrometer testing to assess ligament laxity and used international test scores to assess functional status. The follow-up period was 6 months. **Results:** From the point of view of functionality and anterior knee laxity, between the two groups there were significant differences at no significant differences 6 month after surgery, but significantly higher number of patients in group I than in group II returned to sports at the same level as before the injury after 6 months post-surgery. **Conclusions:** We conclude that a combination of closed kinetic chain and open kinetic chain exercises are better than strengthening the quadriceps with only open kinetic chain exercises in the first phase of rehabilitation after anterior cruciate reconstruction. Combination of open and closed kinetic chain exercises ensure earlier return to the sport activities without compromising knee joint stability.

Keywords: open kinetic chain, closed kinetic chain, ACL reconstruction

CURRENT CONCEPTS IN INTRAARTICULAR KNEE INJECTIONS

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Background: Knee arthritis is a complex joint disease in which besides cartilage involvement (degeneration), synovitis, degradation and remodeling of subchondral bone, degeneration of menisci and ligaments, a special place in pathogenesis is taken by the inflammatory mediators. Joint pain, joint swelling, stiffness, decreased range of motion are the main symptoms of this disease, which affects almost 4% of the population. **Material and methods:** A cornerstone in treatment of knee arthritis is pain management (exercise, weight control, NSAIDs, painkillers); if pain affects life of the patient, a knee replacement may help. Between those non-surgical and surgical options, intraarticular (IA) injections have their special place as a last nonoperative treatment of knee arthritis. IA corticosteroid injections offer a short-term pain reduction, and can be used as complementary treatment for pain decreasing in knee arthritis. Already used on a large scale (although there is more and more evidence that the effects are not as good as expected) blood-derived products may be promising for pain relief. **Results:** Hyaluronic acid might be effective and might offer significant pain decrease, even on a medium- and long-term follow-up. Recent improvement in new molecules (elasticity, molecule memory) could offer an even longer period of time than the average 6 months of pain reduction. Greater viscosity, greater elasticity seem to be the keys in enhancing results in this interesting area of treatment. Cost-effectiveness remains an important aspect that patients should be informed about, but early results (in terms of knee function, pain decrease, quality of life) seem to be promising. **Conclusions:** We have to keep in mind that even there is no data regarding regression of osteophytes or menisci, ligaments, cartilage regeneration with this treatments, studies are necessary to prove on which extent should we practice this type of treatment and which are the limits of this non-operative treatment, respecting the well-being of the patient.

Keywords: intraarticular knee injections, knee arthritis, hyaluronic acid

ANATOMICAL DOUBLE BUNDLE MPFL RECONSTRUCTION IN RECURRENT PATELLAR DISLOCATION

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Background: Medial patellofemoral ligament (MPFL) is the most important patellar stabilizer in first 10-30° of flexion, providing between 53% and 60% of total medial restraining force. Therefore, even though the large number (>100) of different type of surgeries in patellar instability, it appears (from 1992) that reconstruction of this structure is one of key points in patellar instability. Our goal was a retrospective short-term clinical assessment of one type of mini-open MPFL reconstruction, using autologous gracilis tendon, with same anchoring method. **Material and methods:** This study includes 15 cases of MPFL reconstruction, performed between May 2012 and June 2014, for >3 patellar dislocations, in cases without patella alta and grade I trochlear dysplasia. There were 11 female and 4 male patients, with ages between 16 to 34 years old. The MPFL reconstruction was performed with a mini-open double-bundle anatomical technique, using an autologous gracilis autograft with two anchors on patellar side and a biocomposite screw on the femoral side. Evaluation was made with Tegner-Lysholm Knee Scoring Scale. **Results:**

All 15 cases had more than 3 patellar dislocations (4-7) before the surgical procedure. Even though the short follow-up, with a mean of 18 months, (range 12-36), there were no postoperative redislocations and all patients regained full mobility after 6 weeks of physical therapy. The mean value of Tegner-Lysholm score improved to 91.0 (range 83 - 96) from a preoperative mean value of 64.0 (range 54 - 73). **Conclusions:** Anatomical double-bundle MPFL reconstruction seems to be an effective method in preventing patellar instability, in well selected cases (no patella alta, maximum grade I trochlear dysplasia). Longer term studies are needed for stating the long-term benefits of this procedure.

Keywords: MPFL reconstruction, patellar dislocation, patellar instability

EARLY OUTCOMES AFTER PRIMARY TOTAL KNEE ARTHROPLASTY WITH MEDIAL PARAPATELLAR AND QUADRICEPS-SPARING SUBVASTUS APPROACHES

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Background: The quadriceps-sparing subvastus and medial parapatellar techniques are among the most common approaches for the primary total knee arthroplasty (TKA). The purpose of this study was to compare the early clinical outcomes after medial parapatellar arthrotomy (MPPA) of total knee arthroplasty compared with quadriceps-sparing (QS) subvastus technique and to determine which surgical technique led to better patient-reported function. **Material and methods:** In this prospective study, 60 patients underwent TKA were randomized to the MPPA or the QS group after skin incision. All surgical procedures were performed by the same surgical team, utilized the same surgery principles and standardized anesthesia, implants, analgesia, and rehabilitation. Clinical outcome was assessed and compared with use of the Knee Society score (KSS) and Oxford Knee score (OKS) obtained at baseline, at one and three months after surgery. We also established a weekly telephone interviews were used to collect patient-reported outcomes and opioid utilization. **Results:** Comparisons of postoperative KSS between both approaches at the time of the three months follow-up did not yield a significant difference in outcome. No differences between groups were seen in opioid utilization, immediately after surgery or in the first six weeks after that. Compared with baseline, both groups showed significant improvements in the KSS at first month (MPPA, $p = 0.0269$; QS, $p = 0.0022$) and three months ($p < 0.0001$ for each) as well as week-to-week gains in walking independence through six weeks after operation. Also no significant difference was found according to total blood loss and no clinically relevant difference in operative times between the two approaches. **Conclusions:** The MPPA and QS approaches for TKA were both associated with excellent short-term clinical results. Using the same surgery principles and postoperative rehabilitation programs, the QS technique yielded no significant early functional advantages or differences in opioid utilization compared with the MPPA technique.

Keywords: knee arthroplasty, approach, subvastus, medial parapatellar

AMOUNT OF REMODELLING IN SLIPPED CAPITAL FEMORAL EPIPHYSIS AFTER FIXATION IN SITU

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Background: Slipped capital femoral epiphysis (SCFE) represents the posterior and inferior displacement of the proximal femoral epiphysis relative to the femoral neck. There is no golden standard for treatment. Nevertheless in acute and acute-on-chronic (both unstable) SCFE with moderate (between 30-60°) and severe (>60°) slippage exists the temptation of reduction and fixation with K-wires, approved by many authors. Sometimes reduction can lead to some severe complication such as necrosis and chondrolysis. The fixation puts a question mark on the functional becoming of the hip fixed in a non-anatomical position leading to femoro-acetabular impingement or premature osteoarthritis. However in young patients the hip can reach sufficient remodelling for normal function. We proposed to estimate the amount of remodelling with a mean follow-up of 7 years. **Material and methods:** In this single-center, retrospective study we assessed the radiographic outcomes of 37 hips with mild and moderate SCFE after *in situ* fixation without reduction using the Southwick angle. Radiological evaluation included an initial standard AP pelvic and a false profile view of Lauenstein resp. on the 6-th, 12-th weeks, after 6 and 12 months, then every year until the end of growth. **Results:** The average preoperative slip was 34° (10-55°). 16 hips presented a displacement of stage 1, and 21 of stage 2. We excluded from our study cohort the cases with stage 3 slippage. At final follow-up we recorded a reduction of the Southwick angle to a mean value of 18° ($p < 0.0001$). The remodelling process was especially significant during the first year after surgery. **Conclusions:**

We propose isolated ISF in SCFE $< 45^\circ$ without any attempt to reduce the slip (particularly in mild slips) if there is enough time to remodelling. Higher grade unstable SCFE may benefit from direct reduction. In chronic slips corrective osteotomies are indicated.

Keywords: SCFE, remodelling, fixation

CLINICAL FINDINGS WITH PATELLAR EVERSION VERSUS RETRACTION DURING TOTAL KNEE REPLACEMENT

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Background: Patellar eversion versus patellar retraction during total knee replacement (TKR) is a current controversial issue in the literature regarding recovery of quadriceps function, postoperative pain, complications, component position and differences in outcomes. Our purpose is to investigate this in patients undergoing knee arthroplasty through a standard medial parapatellar approach. **Material and methods:** We enrolled in our prospective study, 74 patients undergoing total knee arthroplasty through a standard medial parapatellar approach were assigned to either eversion or retraction of the patella. An independent observer evaluated each patient postoperatively, at three months, six months and at one year after surgery, collecting information about the knee range of motion, alignment and patellar height as measured on radiographs using the Insall-Salvati ratio. We also monitored Oxford Knee Score and Visual Analog Scale pain score. **Results:** The three-month follow-up showed no significant difference between patellar eversion and subluxation in flexion ($100^\circ \pm 4.56^\circ$ versus $102^\circ \pm 5.03^\circ$), Oxford knee scores ($24 \pm 3 / 26 \pm 3.02$), or visual analog scale pain scores ($1.7 \pm 0.62 / 1.1 \pm 0.51$). There was no significant difference in any of the outcomes at one year. There was no significant difference in alignment between the two groups ($177.82^\circ \pm 0.76^\circ / 178.02^\circ \pm 0.81^\circ$). There was a significant difference in implant malpositioning between the eversion group and the subluxation group, but this did not correlate with functional outcome. At the last follow up, there was no difference between the two groups in Insall-Salvati ratio (1.16 ± 0.04 versus 1.11 ± 0.05). **Conclusions:** The results showed that retracting rather than everting the patella during TKR resulted in no significant clinical benefit in the medium term. We observed no increase in patellar tendon shortening as result of eversion rather than subluxation. There may be an increased risk of damage to the patellar tendon in the subluxation group.

Keywords: knee arthroplasty, patellar eversion, patellar subluxation

EFFECT OF POSTOPERATIVE ANEMIA ON FUNCTIONAL OUTCOME AFTER TOTAL HIP REPLACEMENT.

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Background: Hip joint replacement surgery provides a considerable improvement in quality of life, but is associated with preoperative blood loss and with anemia in the early postoperative period. The impact of anemia on the outcome after a hip replacement surgery is controversial, but anemia can potentially decrease the physical performance and thereby impede postoperative rehabilitation. The purpose of this study is to evaluate the possible association between postoperative anemia and functional outcomes after primary total hip arthroplasty. We hypothesized that patients with a higher degree of postoperative anemia have impaired postoperative rehabilitation as measured by standardized functional outcome tests. **Material and methods:** We have performed a prospective observational study on 30 patients undergoing total hip arthroplasty, who have not received transfusions after surgery. We have investigated the possible relationship between the postoperative hemoglobin concentration, short and long term functional recovery. Patients were categorized according to their hemoglobin level on the first postoperative day (8-10, 10-12, 12-14, < 14 g/dl). Evaluation of patients were performed preoperatively, 5 and 10 days, 3 and 12 months postoperatively. Major outcome variables were distance walked in 6 minutes (six minute walk test). **Results:** A significant linear association between the ability to walk independently, requiring human assistance or not being able to walk at all and hemoglobin < 10 g/l was present on the first three days postoperative. There was no difference between hemoglobin groups in the decrease of the distance walked preoperatively versus postoperatively. **Conclusions:** Our findings show that mild and moderate postoperative anemia does not appear to impair short or long-term functional recovery after total hip replacement.

Keywords: postoperative anemia, hip replacement, transfusion

THE ROLE OF MECHANORECEPTORS IN JOINT POSITIONING SENSE IN THE NORMAL AND POSTTRAUMATIC KNEE

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Background: The therapeutic management of anterior cruciate ligament ligaments means that the defected ruptures need surgical reconstruction, followed by a complex rehabilitation programme. Even if the reconstruction is successful in many trauma centers, authors have reported a weak correlation between clinical improvements in the postoperative period, the patient's satisfaction and functional results. The purpose of this study was to identify factors responsible for the discrepancy between clinical and functional results obtained in patients with a clinically satisfactory repair and good ligament tension. **Material and methods:** We performed a literature review to identify relevant articles published after 2005 based on information from evidence-based rehabilitation to fully understanding the factors that may influence the rehabilitation process after anterior cruciate ligament reconstruction. **Results:** Numerous studies draw attention to the importance of preserving mechanoreceptors from the proprioception category (responsible for the following senses: position - somesthetic sensitivity and motion in space - kinesthetic sensitivity) at the anterior cruciate ligament surgery, especially in the tibial insertion point. Classically during surgical reconstruction of the ligament, the outstanding stump is removed with the help of a shaver, so the proprioceptors are being removed and / or destroyed. This makes the complete recovery of proprioception impossible and thus it increases the risk of injury or an other (new) accident. Although the exact role of the outstanding stump in the recovery of proprioception is not yet determined, the conservation methods of ligament arrears have shown better results both in terms of patient satisfaction and functional outcome compared with the results obtained by surgeries where the outstanding stump is removed. **Conclusions:** Factors that may play a role in postop rehabilitation could be proprioceptive elements. Minimizing the anterior cruciate ligament remnant shaving during the reconstruction could ensure a better functional outcome in the reconstructed knee.

Keywords: ACL reconstruction, proprioception, mechanoreceptors

THE EFFECTIVENESS OF FEMORAL HEAD CORE DECOMPRESSION IN EARLY STAGES OF AVASCULAR NECROSIS OF THE FEMORAL HEAD

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Background: The avascular necrosis of the femur head affects commonly the young population. There are many etiological factors that may cause the interruption of blood supply to the bone and there is a high chance of bilateral presentation. The osteonecrosis of the femoral head implies significant disability partly due to pain and if it is not managed timely it leads to the collapse of the femoral head and finally to hip arthrosis that requires total hip arthroplasty. In this study we assessed the clinical and radiological results of core decompression in the early stage of avascular femoral head necrosis. **Material and methods:** We performed percutaneous core decompression using multiple small drillings from below the greater trochanter to the necrotic portion of the femoral head in case of 27 hips with Steinberg I, II stage necrosis. There were 23 male and 4 female patents with an average of 43 years. The mean follow-up was 25 month (23-26). For clinical evaluation we used the Harris Hip Score (HHS). **Results:** In case of 16 hip joint stage I necrosis, 12 showed no progression on MRI, 1 hip had deteriorated to stage II and 3 hips to stage III and IV at the last radiological evaluation and a mean HHS of 94. In case of stage II necrosis of 11 hips, in 2 cases we performed total hip arthroplasty (at stage V), and 3 hips become III and IV stage necrosis and a mean HHS of 75. There was no intraoperative or postoperative complications. **Conclusions:** Core decompression is a safe and effective procedure for the treatment of early (precollapse) stages of femoral head osteonecrosis or in delaying the need for total hip arthroplasty in young patients.

Keywords: avascular necrosis, femoral head, drilling, core decompression, precollapse

OUR SHORT TERM EXPERIENCE REGARDING PERCUTANEOUS REPAIR OF THE RUPTURED ACHILLES TENDON

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Background: There is no concordance regarding the best option for the treatment of acute Achilles tendon rupture. Percutaneous surgical repair offer a low rate of failure, rare wound complications, but there is a higher risk of rerupture and sural nerve injuries. However the open repair has a lower rate of rerupture but a higher rate of wound complications. In this study we want to share our short term experience regarding the percutaneous repair of acute Achilles tendon rupture. **Material and methods:** We performed percutaneous Achilles tendon repair in case of 9 male patients with acute rupture. We used the technique described by Carmont and Mafulli modified by us in sense of we had used two pair of longitudinal incision on either side of the tendon distal to the palpable defect. After the surgery we performed an immobilization in full plantar flexion for 4 weeks and there after one week in neutral position. **Results:** At 6 weeks all patients had returned to work and recovered the full range of movement at two month after surgery. There were no reruptures and injuries to the sural nerve. **Conclusions:** Percutaneous Achilles repair offers less wound complications, a good outcome following surgery, with short hospital stay and early return to work. There is however a risk of iatrogenic sural nerve injury.

Keywords: achilles tendon, tendon rupture, percutaneous repair, surgical repair

MODIFIED CHEVRON OSTEOTOMY FOR THE TREATMENT OF HALLUX VALGUS

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Background: Many operations have been described for the treatment of hallux valgus. The aim of this study was to evaluate the clinical and radiographic results of modified Chevron osteotomy with soft-tissue realignment at the first metatarsophalangeal (MTP) joint (adductor tendon and lateral capsular release) for the treatment of hallux valgus. **Material and methods:** We performed the surgical treatment of 14 female patients with moderate to sever hallux valgus using the above mentioned technique. The mean age were 52 years at the time of surgery. The mean follow-up time was 18 months. For the clinical evaluation we used the American Orthopaedic Foot and Ankle Society (AOFAS) score. **Results:** The mean AOFAS score improved from 51,3 points pre-operatively to 88,6 at follow-up. The clinical results, based on the AOFAS hallux score showed an improvement in all cases. The intermetatarsal and hallux valgus angles improved from the mean pre-operative values of 15° and 33° to 9° and 13°, respectively. The mobility of the first MTP joint improved in 9 cases and did not changed in 5 cases. We achieved the reposition of the sesamoid in 8 cases. We did not find any postoperative complication. **Conclusions:** We conclude that the modified Chevron osteotomy with soft-tissue realignment is safe and effective for the treatment of hallux valgus and provides an optimal correction of the deformities.

Keywords: modified Chevron, osteotomy, hallux valgus, AOFAS, surgical treatment

PATHOLOGY

ROSAI-DORFMAN DISEASE

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Background: Rosai-Dorfman disease also called sinus histiocytosis with massive lymphadenopathy is a rare benign idiopathic proliferative disease of phagocytic histiocytes. Is characterized by extensive cervical lymphadenopathy associated with fever and leukocytosis with neutrophilia. In some cases, abnormal accumulation of histiocytes may occur in other areas of the body besides the lymph nodes. The disorder predominantly affects children, adolescents or young adults. **Material and methods:** We present a case of a 66 year man, who presented with epigastric pain, vomiting and weight loss symptoms. Clinical and endoscopic examination revealed esophageal stenosis. During surgery total gastrectomy and celiac trunk lymph node neck dissection was performed for the histopathological exam. The pieces were fixed and processed for microscopic evaluation. **Results:** Macroscopic and microscopic examination of the stomach revealed normal histological structure. Microscopic exam of the lymph node revealed a pronounced dilation of the lymph sinuses and resulting a partial architectural effacement. These sinuses were occupied by numerous histiocytic cells with a large vesicular nucleus and abundant lightly eosinophilic cytoplasm. Immunohistochemistry (IHC) was done to ascertain the origin of these cells: these express CD68 and they are focal positive for S100, and are negative at CD1a, CD10, CD138, CD20, CD3, CTK, bcl-2, bcl-6. Ki67 proliferative index on histiocytic cells was under 1%. **Conclusions:** Based on morphologic characteristics and the IHC findings our final diagnosis was of Rosai Dorfman disease. The site of involvement was not characteristic in these case.

Keywords: antigen markers, Rosai-Dorfman, sinus histiocytosis

FIBROUS HAMARTOMA OF INFANCY- A DIAGNOSTIC CHALLENGE

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Background: Fibrous hamartoma (FH) of infancy is an uncommon fibroproliferative lesion that occurs only in infancy and childhood with local infiltration, that occur like a subcutaneous painless mass, more frequently on the back or neck, the upper arms and buttocks. As in the case we report, they may also occur in other unusual sites such as groin, testis and perianal region. **Material and methods:** A three month old male infant was admitted to department of pediatric surgery diagnosed with a rapidly growing painless mass in the perianal region. Excised tumor has been sent for histopathological examination. The nodular, pediculate elastic, 40 mm size tumor mass covered by skin, presented smooth and dirty-white cut surface. In microscopic examination the disorganized mature tumor tissue showed triphasic pattern: islands of mature fat and uniform primitive spindle cells without mitotic figures delimited by fibrocollagen stroma. **Results:** Based on the clinical data, macroscopic and microscopic findings, the tumor was considered a fibrous hamartoma of infancy. **Conclusions:** Treatment is local excision. In order to avoid the misdiagnosis of malignancy and unnecessary radical therapy, both surgeon and pathologist must be familiar with this entity.

Keywords: fibrous hamartoma, differential diagnosis, infant

VALUE OF THE COX-2 EXPRESSION IN ESTIMATING THE DEGREE OF THE ENDOMETRIAL CARCINOMA MALIGNANCY

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Background: Cyclooxygenase (COX) is a catalytic enzyme, that interferes in multiple physiological and pathological processes including the immune surveillance processes and tumorigenesis. We studied this marker's expression in various histologic types of the endometrial carcinoma, with conditions the prognosis among other parameters. **Material and methods:** We studied 44 cases of endometrial carcinoma diagnosed in uterine curettage, with various histologic subtypes: endometrioid carcinoma (28 cases), serous

carcinoma (8 cases), serous carcinoma (7 cases) and secretory carcinoma (1 case). In this selected cases we watched and quantified the reaction with COX-2 By immunohistochemistry. **Results:** The COX-2 expression is located in the cytoplasm of the tumor cells, being constantly present in the studied cases, but with varying intensity depending on the histological subtype. **Conclusions:** COX-2 is an immunohistochemical marker less used in diagnostic practice, but considered for therapeutic purposes as its inhibitors block the growth of cancer cells.

Keywords: COX-2, endometrial carcinoma, degree of malignancy

CLINICOPATHOLOGICAL AND IMMUNOHISTOCHEMICAL FEATURES OF MERKEL CELL CARCINOMA

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Background: Merkel cell carcinoma (MCC) is a rare, cutaneous neuroendocrine tumor that was firstly described by Toker Cyril in 1972 as trabecular carcinoma of sweat glands. It is mainly located on the sun exposed skin and the immunoprofile delineates the diagnosis. **Material and methods:** In this paper we present a representative case of MCC. A 67-year-old male was hospitalized with a slowly growing 17x17x8 mm nodular ulcerated tumor located on the frontal region that was surgically removed, with free resection margins. **Results:** Microscopically, the tumor consisted of nests of small round cells with scanty cytoplasm and round-oval nuclei with finely dispersed chromatin and well defined nucleoli. The tumor cells infiltrated the whole dermis and subcutaneous adipose tissue, and the maximum thickness was of 8 mm. The tumor cells showed immunohistochemical positivity for AE1/AE3 keratin, keratin 20, EMA, chromogranin, synaptophysin, NSE, CD56, CD99, and bcl-2. These cells were negative for Vimentin, Keratin 7, S-100 protein, desmin, CEA, CD20, CD3, DOG-1, HMB45, E-cadherin, CD10, and TTF-1. Based on the tumor size, histological aspect, immunoprofile, and absence of lymph node metastases, the final diagnosis was pT1N0-stage MCC. **Conclusions:** In nowadays MCC is still a diagnosis challenge, but using equally the classical methods of histopathological diagnosis and the new immunohistochemical markers, besides a complete diagnosis, useful information can be obtained regarding the pathogenesis of this rare and aggressive skin tumor.

Keywords: skin, Merkel cell carcinoma, neuroendocrine

MICROCYSTIC UROTHELIAL CARCINOMA: A RARE, CHALLENGING ENTITY

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Background: Microcystic urothelial carcinoma is a rare variant of urothelial carcinoma, which may pose a significant challenge in differential diagnosis, particularly if it is the predominant or exclusive pattern in a limited biopsy sample. **Material and methods:** We report the case of a 76-year-old man who presented with haematuria. A transurethral resection was performed and the specimen was examined in the Pathology Department, in both standard and immunohistochemical stains. **Results:** The pathological examination revealed an infiltrative urothelial carcinoma with a reduced exophytic papillary component. The infiltrative part of the tumour was represented by areas of conventional urothelial carcinoma with scattered atypical urothelial nests, with a tendency of becoming cystic. The cysts were lined by flattened epithelium with bland cytology. However, despite the bland appearance of cystic structures, they showed a deeply infiltrative growth pattern, which extended into the muscle layer (pT2). The tumour cells stained positive for p63, 34betaE12, CK7, and negative for AMACR. The microscopic appearance and the immunohistochemical profile led to the final diagnosis of microcystic urothelial carcinoma. In the differential diagnosis, benign entities like cystitis cystica and nephrogenic adenoma must be considered, both with more superficial location and no destructive invasion. **Conclusions:** Microcystic urothelial carcinoma is a variant of bladder cancer that should be recognised and distinguished from its benign mimics. Histological features, along with clinical history and appropriate immunohistochemical studies are all important in setting a correct diagnosis.

Keywords: microcystic, urothelial carcinoma, infiltrative, differential diagnosis

PITUITARY-SPECIFIC TRANSCRIPTION FACTOR 1 (PIT-1) EXPRESSION IN SILENT GH PITUITARY TUMORS

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Background: Silent GH pituitary tumors or GH tumors without acromegaly are defined as nonfunctioning tumors without clinical and biological signs of hypersecretion, but with GH immunoreactive cells. Pit-1 is the signature transcription factor for the differentiation of somatotroph cells and also for prolactin and thyrotroph cells. Our study compares Pit-1 expression in GH tumors with and without acromegaly trying to understand if there are some abnormalities in the GH cell development for silent tumors. **Material and methods:** 59 GH tumors presenting with acromegaly and 25 without were obtained from the Centre of Pathologie Est, Hospices Civils de Lyon. For all tumors, the final diagnosis was performed using immunohistochemical reactions with hormone antibodies against GH, PRL, beta-TSH and antibodies against CgA, CK and Pit-1. **Results:** All GH tumors were positive for Pit-1, although in some cases of GH tumors without acromegaly the staining intensity was lower. **Conclusions:** The positivity of silent GH tumors for Pit-1 suggest that the pathological mechanism doesn't seem to be related to the process of cytodifferentiation, but instead it could be related to an intercellular process.

Keywords: Pit-1, GH pituitary tumor, silent

AN EFFICIENT, RELIABLE PROTOCOL FOR DNA ISOLATION FROM FORMALIN-FIXED, PARAFFIN-EMBEDDED TISSUES

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Background: Formalin-fixed, paraffin-embedded (FFPE) tissues represent a valuable, yet underexploited resource for retrospective, molecular genetic studies. However, obtaining an adequate genomic DNA from FFPE samples is challenging. In this work we present an efficient, reliable protocol for extraction of genomic DNA from FFPE tissues that can be applied in downstream molecular studies. **Material and methods:** Four control cases and 25 papillary thyroid microcarcinoma (PTMC) cases were selected from the Department of Pathology, Tîrgu-Mureş Emergency County Hospital archive. The DNA extraction protocol was based on a precipitation method (MasterPure™ DNA purification kit, Epicentre), according to the manufacturer instructions and optimized in our laboratory. A spectrophotometer was used to determine the yield (A260) and purity (A260/A280 ratio) of the isolated DNA for each case. To assess the DNA quality, all PTMC cases were subject to real time PCR amplification for a housekeeping gene (GAPDH - glyceraldehyde-3-phosphate dehydrogenase) and for BRAF gene, respectively. **Results:** We successfully isolated good quantity and purity DNA from all our PTMCs (mean concentration: 147.4±77.8 ng/µl; mean A260/A280 ratio: 1.63±0.1). Moreover, the GAPDH and BRAF targets could be specifically amplified from the isolated DNA samples in 25/25 (100%) and in 24/25 (96%) PTMC cases, respectively (mean CtGAPDH: 32.3±1.2, mean CtBRAF: 33.6±1.13). The storage period of the tumor blocks did not influence the DNA quantity (p=0.38), purity (p=0.5) or the PCR amplification for GAPDH (p=0.14) and BRAF (p=0.3) genes, respectively. **Conclusions:** Our technique offered a good range of DNA quality, concentration and purity, allowing reliable applications for further molecular analysis.

Keywords: DNA extraction, formalin-fixed, paraffin-embedded tissues, GAPDH gene, BRAF gene

PATHOPHYSIOLOGY

RISK FACTORS INVOLVED IN ETHIOPATHOGENESIS OF TYPE 2 DIABETUS MELLITUS MICROVASCULAR COMPLICATIONS

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Background: Type 2 Diabetes Mellitus (T2DM) represents a worldwide significant health issue. Two types of complications appear due to alteration of carbohydrate, lipid and protein metabolism: microvascular (diabetic neuropathy, nephropathy and retinopathy) and macrovascular, related to atherosclerosis. **Material and methods:** We conducted a case control study in which we included 84 patients with T2DM assessed by the existence of diabetic peripheral neuropathy (DPN) and microalbuminuria. Diagnosis of DPN was established by clinical neurological examination and nerve conduction studies. We determined spontaneous microalbuminuria from a 12 hour overnight urine sample and was graded as absent (0-20 mg/L), mild (20-50 mg/L), moderate (50-100 mg/L) or severe (over 100 mg/L). Furthermore, the patients were assessed according to age, sex, length of disease, serum lipid profile, glycated hemoglobin (HbA1C), serum urea and creatinine levels, blood pressure, body mass index (BMI). **Results:** The presence of DPN is associated with older age ($p=0.0001$), a higher length of the disease ($p=0.0006$), a high BMI ($p=0.05$), high creatinine level ($p=0.04$) and a high microalbuminuria level ($p=0.006$). Mild microalbuminuria is higher in older patients ($p=0.01$) and in patients with a late onset T2DM compared with the group of absent microalbuminuria. HDL-cholesterol levels are higher in absent microalbuminuria group compared to the group of severe microalbuminuria ($p=0.02$). We found no significant statistical evidence between HbA1c levels and the presence of DPN or microalbuminuria levels. **Conclusions:** We found a statistical significance by comparing older age, length of the disease and BMI with the presence of microvascular complication in T2DM. High HDL-cholesterol levels seems to have a protective role regarding the presence of microalbuminuria. We found no statistical evidence between HbA1C levels and the microvascular complications, which might suggest the implication of other possible mechanisms in their etiopathogeny, apart from glycemic imbalance, such as oxidative stress. **Acknowledgments:** This paper was published through a project funded by internal research grants of the University of Medicine and Pharmacy Tîrgu Mureș, Romania, contract no. 10/23.12.2014

Keywords: diabetes Mellitus, microvascular, microalbuminuria, HDL-cholesterol, diabetic peripheral neuropathy

PEDIATRICS

INTOXICATION IN CHILDREN - ETIOLOGICAL, CLINICAL AND DEVELOPMENTAL ASPECTS

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Background: Acute intoxications encountered in children represent a major problem for the pediatrician's practice, due to both, the incidence and severity, being one of the great medical emergencies in child. The aim of the study is to evaluate the cases regarding the clinical, paraclinical and therapeutic aspects, and to underline the risk factors involved in their etiology. **Material and methods:** The present study is a prospective one, realized between 2013-2014 including 73 patients admitted in the Pediatrics Clinic I, for drug ingestions and intoxications. We evaluated and divided the patients depending on: the age, the gender, the environment where they came from, the symptomatology, the treatment, the length of hospitalization, the involved drugs. In case of voluntary intoxications, we investigated the familial environment, the number of attempts from the history, if the patient received psychological/psychiatric evaluation in the past and if it implied a diagnosis of behavioral disorder. **Results:** From the total of 2791 admissions, 2.61% were cases of acute ingestions/intoxications. There was a significant statistical correlation regarding the distributions on age groups, genders and the type of intoxication depending on the circumstance: accidental intoxications predominated under the age of 5 years, especially in boys, and the voluntary ones in the age group 11-18 years, the girls being more frequently involved. In the majority of the situations, only one drug was involved, the most frequent incriminated being the nonsteroidal anti-inflammatory drugs. Among the voluntary intoxications, there were cases at the second or even the third suicidal attempt, the main determining factor of these being the problems between the family members. **Conclusions:** The most important risk factors incriminated are: the small age, the male gender (under 5 years age, due to increased curiosity) and female gender (during the adolescence, because of the more expressed emotional lability), the inappropriate family environment and the parents' neglect.

Keywords: child, intoxication, risk factor

THE ROLE OF TNF ALPHA 308 G/A GENE POLYMORPHISMS IN THE CHILD'S NUTRITIONAL STATUS – CORRELATIONS WITH THE BIRTH'S WEIGHT

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Background: Nutritional disorders are disorders with multiple etiologic factors, such as: genetic, environmental and endocrine factors. The aim of the study is to evaluate the manner in which TNF alpha 308 G/A gene polymorphisms correlate with birth, the birth weight of the infants and the implications of these ones in the development of the afterwards nutritional disorders in children. **Material and methods:** We performed a prospective study on 214 children admitted in the Pediatrics Clinic I Tg. Mureș. We evaluated the children at the age of 2 years regarding the anthropometric (weight, BMI) and laboratory parameters, but also the TNF alpha 308 gene polymorphism and we corroborated the data with the birth weight of these children. The patients were divided depending on the BMI in three groups: control group 81 children with normal nutritional status, malnourished group 73 children, obese group 60 children. **Results:** The birth weight was 2830 ± 235.50 gr in normal weight children, 1930 ± 460.10 in malnourished children and 3890 ± 561 gr in the obese ones. In the malnourished group predominated the GG genotype of the TNF alpha 308 G/A polymorphism (43.3%), the birth weight influencing the serum protein level ($p = 0.05$), followed by GA genotype (33.5%) in which we obtained correlations between the actual weight and the serum protein and albumin levels ($p = 0.0131/p = 0.002$). In the obese group, we obtained correlation only for the GG genotype of the TNF alpha 308 G/A polymorphism, situation in which the birth weight influenced the actual weight and the serum protein level ($p = 0.03/0.05$). **Conclusions:** The GA and GG genotypes of the TNF alpha 308 gene and the small birth weight are risk factors for the development of malnutrition in child, while the GG genotype of TNF alpha 308 and the high weight at birth are associated with obesity.

Keywords: child, TNF alpha 308 gene polymorphism, nutritional disorders

THE ASSESSMENT OF MUSCULOSKELETAL PAIN IN PEDIATRIC PATIENTS WITH CANCER

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Background: Musculoskeletal complaints are among the most common pain of children and most episodes are self-limiting. However, in some cases could be the first sign of a serious disease like a malignancy. **Objective:** To assess the frequency and the characteristics of musculoskeletal complaints as the initial presenting symptoms of newly diagnosed malignancy patients in the past 15 years in our clinic. **Material and methods:** We performed a retrospective study and included 231 children with various malignancies who were diagnosed and treated in the Pediatric Clinic I Tg-Mures- Hematooncology Department between 2000-2015. The medical records of patients with musculoskeletal complaints and final diagnosis of malignant disease were reviewed. The data collected were: age when symptoms initially presented, age at diagnosis, clinical features presented, laboratory findings, and the initial and final diagnoses. **Results:** Twenty-three percent of the pediatric patients with cancer (54 patients) had musculoskeletal symptoms at first presentation. The mean time between disease onset and final diagnosis was 60 days. The most common features presented were arthralgia (50%) involving the large joints. Juvenile rheumatoid arthritis was the most frequent initial diagnosis, in 7 out of 54 patients (13%). Anemia was the most frequent initial hematological change. All patients had an increased erythrocyte sedimentation rate and lactate dehydrogenase. The malignancies found included acute lymphoblastic leukemia, acute myeloid leukemia, lymphoma and solid tumors. **Conclusions:** Early diagnosis of cancer in children and proper treatment are essential for improving prognosis and can be done by including the malignant disease in the differential diagnosis of rheumatic diseases in children with musculoskeletal complaints.

Keywords: musculoskeletal pain, children, cancer

CLINICAL AND PARACLINICAL FEATURES OF ABDOMINAL MASSES IN CHILDREN

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Background: Abdominal tumors are rare in children, yet very important due to their high mortality rate, being the second cause of death after accidents. Their management is a complex teamwork involving pediatric oncologist, surgeon, radiotherapist, pathologist, social worker, nutritionist, psychologist. **Material and methods:** We studied the clinical laboratory, imagistic and histology features of patients aged 0-18 years, diagnosed and treated at the Department of Pediatrics II between January 2012-October 2015 with abdominal masses. **Results:** Fourteen patients were diagnosed with abdominal tumors: four benign and 10 malignant tumors. The benign tumors were: angiomyolipoma of the kidney, two ovarian teratomas, and one hydatid cyst of the liver. The most frequently seen malignant tumor was the Wilms tumor (5), followed by neuroblastoma (2) and some rare tumors as desmoplastic small round cell tumor, hepatoblastoma, and adenocarcinoma of the descendent colon. Seven patients with malignant abdominal tumors presented abdominal pain, 5 had fevers, failure to thrive and palpable tumor. Routine laboratory tests (Hgb, Htc, LDH, ESR, Neu) were totally inadequate for prognosis. Tumor markers were sensitive for selective tumor types: vanilmandelic acid from 24h urine sample was positive in both neuroblastoma cases as well as was serum chromogranin; alfa-fetoprotein in serum was elevated in the hepatoblastoma case, and Echinococcus serology was positive in the patient with liver hydatid cyst. Every patient underwent imagistic investigations (MRI, CT, ultrasound, RTG), some of them had PET/CT, bone scintigraphy and MIBG (meta-iodobenzylguanidine) tests. Treatment included specific tumor-directed protocols with chemotherapy, surgery, radiotherapy and palliative care. Survival up to now is 80%. **Conclusions:** Most patients are diagnosed in advanced stages (stage 3 and 4 in 89% of patients), which has an adverse effect on survival. Tumor markers and imagistic tools are helpful in the investigation of an abdominal mass; definitive diagnosis is made by histology of the biopsy specimen.

Keywords: abdominal tumor, child, oncology

CORRELATIONS BETWEEN INFECTIONS AND TYPE I DIABETES MELLITUS IN CHILDREN

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Background: Diabetes mellitus in children is a very important issue, because of increasing number of cases diagnosed every year, cost of treatment and long term complications. The aim of study is to investigate if there is an increased risk of common infections in children with newly diagnosed diabetes comparing to known diabetes and/or uncontrolled type 1 diabetes. **Material and methods:** We found 46 patients who met the enrolment criteria and special designed questionnaire were used in order to collect the relevant informations from discharge letter. 8 cases were newly diagnosed diabetics while 38 were known diabetes. All patients were identified from entry registry and computer system, the inclusions criteria were: Discharge diagnosis (Diabetes type 1), admission to Compartment of Diabetes and Nutritional disease, a division of Paediatric Department of Mureş County Hospital, admission for more than 2 days (out patients were not included in this study) **Results:** 9 cases had an infection during admission (20 %). 26% of cases had a normal value for HbA1c level. The correlation between high level of HbA1c and incidence of infection showed that patients who had high level of HbA1c did not present with infection, even if one patient who had HbA1c of 20. He found viral mild infections in patients who had HbA1c between 8 and 10. **Conclusions:** Statistically there is no difference in increased risk for infection between newly diagnosed and known diabetes patients. Further investigations are required to expand the investigations about correlation between diabetes and increased risk for infections, as well as about correlation between some specific infections and the risk of developing diabetes.

Keywords: type I diabetes mellitus, children, infections

URINARY TRACT INFECTIONS WITH MULTI-DRUG-RESISTANT PATHOGENS IN CHILDREN BETWEEN 1-5 YEARS OF AGE

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Background: The changing pattern of antibiotic resistance in the causative microorganisms of urinary tract infection (UTI) in childhood is a growing problem worldwide. The current situation of antimicrobial resistance differs from region to region, as well as according to age groups. Therefore, the aims of this study were to assess in the 1-5 years age population the most frequently isolated uropathogens and their antibiotic resistance patterns, to evaluate the options for empirical treatment of UTI. **Material and methods:** A retrospective study was carried out, including patients between 1-5 years of age, diagnosed with UTI, caused by a pathogen resistant at least against one antibiotic. A total of 79 urine culture were analysed from 69 children. **Results:** The most common multidrug resistant uropathogen was Escherichia Coli (64.5%), followed by Proteus mirabilis (8.8%) and other species from the Proteus and Klebsiella genus. Results of the overall local resistance rates are as follows: Trimetoprim-Sulfametoxazol, 59.5%; Ampicillin, 57%; Amoxicillin-Clavulanate, 29.1%; Cefalotin, 25.3%; Cefuroxim, 21.5%; Amoxicillin, 20.3%. Resistance among Escherichia Coli was highest for Trimetoprim-Sulfametoxazol (68.6%) and Ampicillin (56.6%), however showed a resistance rate >20% for Amoxicillin-Clavulanate, Amoxicillin and Cefalotin. Proteus mirabilis was highly resistant to Ampicillin, Colistin, Gentamicin and Trimetoprim-Sulfametoxazol. Strains from the Klebsiella genus had higher levels of resistance to Ampicillin, Amoxicillin-Clavulanate and Trimetoprim-Sulfametoxazol. **Conclusions:** E. Coli remains the predominant multidrug resistant uropathogen, with high resistance to Trimetoprim-Sulfametoxazol and Ampicillin, reason why these agents are no longer recommended for empiric treatment.

Keywords: urinary tract infection, E.coli, children

SUPPORTIVE TREATMENT IN PEDIATRIC ONCOLOGY

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Background: Despite of all significant progresses in diagnosis and treatment in pediatric malignant diseases, cancer still remains a major psycho-social and health problem. The treatment protocols are complex, efficient and specific for every cancer type. While cytostatic treatment patients become extremely vulnerable for infections, so it is necessary completing the treatment with blood substitution, antiinfectious medication, growth factor and other adjuvant products. **Material and methods:** We studied the importance of the wide palet of adjuvant therapy near the intensive chemotherapy in the period of March 2014- November 2015 at the hemato-oncology compartment in Pediatrics Clinic 2 Tg Mures. **Results:** In this period we treated 20 children (9 female, 11 male) aged between 9 months and 18 years. We had 15 cases of hemopaties (13 acute leukemia and 2 limphoma), and 5 solid tumors. Packed red blood cells, platelets and fresh frozen plasma is given to patients with a deficiency in the ability to produce normal blood cells which is temporarily worsened by chemotherapy. A patient benefits in average of a total of 70ml/kg packed red blood cells, 50 U platelets. Antibiotics and antifungal medication are given to all febrile and neutropenic patients. We use wide spectrum antibiotic association for prevent sepsis. Growth factors are stimulating bone marrow to increase leukocyte number. Since introducing immunostimulating additional medication we observed a significant decrease of infection in the aplastic period. **Conclusions:** However oncology protocols use "only" 3-5 cytostatic drugs, for maintaining the patient in life during the treatment it is necessary using a large spectrum of supportive medication.

Keywords: hemato-oncology, protocol, child, supportive treatment, chemotherapy

A RARE CAUSE OF NEPHROLITHIASIS IN CHILDREN

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Background: Calculi composed of cystine are among the rarer stones found in the kidney. Cystinuria is a condition present from birth and it is characterized by excretion in the urine of large quantities of cystine and other amino acid such as lysine, arginine, ornithine and by the tendency to form calculi in the urinary tract composed usually almost entirely of cystine. We would like to draw attention to the importance of precise ethiological diagnosis of pediatric lithiasis in order to find an adequate treatment. **Material and methods:** We report the case of a 10-year-old boy who is known from the age of 9-months-old with recurrent urinary tract infections associated with multiple renourinary calculus. Initially because of his significant heredo-collateral antecedents, he was diagnosed as renal calculus caused by hyperuricemia and recommended dietary and drug treatment. The patient is asymptomatic until the 6-years-old followed by recidivant urinary tract infections with multiple reno-urinary stones. Until the present he has had 3 classical surgeries and 4 sessions of extracorporeal shock wave lithotripsy needed for the treatment of lithiasis. At the age of 8 by determining the chemical composition of the urinary calculi, their cystein composition is discovered. **Results:** The proper recommended treatment is: diet, hygiene, urinary alkalization and increased fluid intake in order to avoid the formation of new stones. **Conclusions:** Cystine stones is a rare cause of nephrolithiasis in children. An early accurate diagnosis is important considering the treatment options.

Keywords: lithiasis, cystinuria, chemical composition of calculi

STUDY ON NUTRITIONAL STATUS ASSESSMENT BY ANTHROPOMETRIC METHOD COMPARED TO BIOIMPEDANCE METHOD IN CHILDREN

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Background: A complete nutritional evaluation include: personal history, with detailed assessment of the diet, physical examination with anthropometric measurements, laboratory tests, imagistic findings and assessment of body composition by

various methods. **Aim:** assessment of nutritional status in a group of children by anthropometric measurements versus bioimpedance analysis. **Material and methods:** We conducted a prospective, descriptive, correlational study, between March-July 2015, including 53 pediatric patients (3-18 years), with no signs of acute illness or chronic disease which may alter nutritional status. Anthropometric measurements were performed (calculating Weight-for-age/WFA, Height-for-age/ HFA, Body mass index/BMI, Weight-for-height/WFH, Mid upper-arm circumference/MUAC, Tricipital skin-fold/TSF, Weist circumference/WC, Hipp circumference/HC) as well as the evaluation of body composition using a Tanita Body Composition Analyzer BC-420 MA (who appreciates fat percent/Fat%, Fat-mass, Free Fat-mass/FFM, Muscle, Total Body-Water/TBW, Total Body-Water percent/TBW% and bioimpedance value/BIA); statistical analysis searched for correlations between parameters obtained by the two methods. **Results:** There were 4 children with acute malnutrition, 4 overweight and 19 obese, the rest of 26 children having normal nutritional status. The correlations were positive, strong, between all anthropometric indexes (except HFA) and Fat%, Fat-mass ($p=0.0$), positive and moderate/good among all indices (less HFA) and FFM, Muscle, TBW and respectively negative, strong between all anthropometric indices (without HFA) and TBW% as well as BIA value. **Conclusions:** All anthropometric indices correlated with all bioimpedance parameters, except for the height. Good correlation obtained in the present study between bioimpedance parameters and anthropometric measurements make us recommend both of them as good methods for assessing nutritional status in children.

Keywords: anthropometry, bioimpedance, child, nutritional status

THE EVALUATION OF MALNUTRITION RISK IN CHILDREN USING PYMS AND STAMP SCORES

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Background: Application of nutritional risk scores at admission allows the identification of children with risk of developing malnutrition. The objective of this study is to evaluate the effectiveness of PYMS (Paediatric Yorkhill Malnutrition Score) and STAMP (Screening Tool for the Assessment of Malnutrition in Paediatrics) scores in relation to anthropometric measurements and their role in assessing the risk of malnutrition for children admitted to hospital. **Material and methods:** The prospective study was conducted between January -June 2014, on a group of 520 children aged 1-16 years. For each patient, BMI (body mass index), WFA (weight for age), HFA (height for age), WFH (weight for height) were evaluated, with subsequent application of nutritional PYMS and STAMP scores. **Results:** PYMS score identified 18.8% patients with high risk of developing malnutrition, while the STAMP score identified 16.5%. The relationship between BMI and nutritional scores showed a statistically significant association, 78.2% of patients with BMI $<-2SD$ having a high risk of malnutrition as evaluated by PYMS and 43.6% as evaluated by STAMP. PYMS score presented a sensitivity of 83.64% and a specificity of 66.82% regarding the risk of developing malnutrition if appreciated by BMI. STAMP score shows higher sensitivity if appreciated by WFA (77.42%). **Conclusions:** The risk of developing malnutrition as assessed by BMI is better predicted by the PYMS score, as it identified the most cases with an increased risk of developing malnutrition. The PYMS score presented the highest sensitivity for BMI and WFH, respectively the STAMP score for WFA and HFA.

Keywords: nutritional risk score, hospital malnutrition, children, anthropometric measurements

PHARMACY

CHIRAL DISCRIMINATION OF FLUOXETINE ENANTIOMERS BY CAPILLARY ELECTROPHORESIS USING CYCLODEXTRINS AS CHIRAL SELECTORS

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Background: Fluoxetine is an selective serotonin reuptake inhibitor antidepressant drug. It includes in its structure a chiral center and is used in therapy as racemic mixture; as in vitro (*R*)-fluoxetine and (*S*)-fluoxetine are similarly effective at blocking serotonin reuptake. However in vivo, the enantiomers have different therapeutic potencies and metabolism rates. **Material and methods:** Capillary electrophoresis due to its rapid method development, short analysis time, low consumption of analytes, solvent and chiral selectors and large versatility in choosing and changing chiral selectors, offers an interesting and useful alternative in the chiral separation of pharmaceutical substances. A systematic screening approach using different neutral and ionized cyclodextrins was applied in order to find the suitable chiral selector. **Results:** The best results were obtained when using a 50 mM phosphate buffer (pH - 5.0), containing 10 mM heptakis(2,3,6-tri-*O*-methyl)- β -CD as chiral selector, at a temperature of 15 °C and a voltage of + 20 kV, UV detection at 230 nm. Using the optimized separation conditions we succeeded in the separation of fluoxetine enantiomers in less than 5 minutes with a chiral resolution of 1.88 and a separation factor of 1.05. The analytical performances of the method were verified regarding precision, accuracy and linearity, and the limits of detection and quantification were determined. **Conclusions:** The applicability of the developed method was verified by quantifying the fluoxetine enantiomers from original and generic pharmaceutical preparations. Capillary zone electrophoresis proved to be a suitable method for the enantioseparation of fluoxetine and can be used successfully in its preliminary chiral analysis.

Keywords: chiral separation, fluoxetine, cyclodextrins, method optimization

SIMULTANEOUS DETERMINATION OF HMG-COA REDUCTASE INHIBITORS BY CAPILLARY ELECTROPHORESIS

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Background: Statins are nowadays among the most frequently prescribed agents for reducing morbidity and mortality related to cardiovascular diseases; their major therapeutic action being related to the reduction of circulating atherogenic lipoproteins as a result of the inhibition of 3-hydroxy-3-methylglutaryl coenzyme A (HMG-CoA) reductase. Taking into consideration their great prevalence in modern therapy the analysis of these drugs is a current problem. **Material and methods:** Capillary electrophoresis offers an alternative as a separation technique to the more frequently used chromatographic techniques being a useful tool in pharmaceutical analysis due to its ability to deliver high separation efficiencies in short analysis times. In this study capillary zone electrophoresis (CZE) and micellar electrokinetic capillary chromatography (MEKC) methods were applied for the simultaneous separation of several statins (atorvastatin, fluvastatin, lovastatin, rosuvastatin, simvastatin). **Results:** Efforts were focused on the optimization of the electrophoretic conditions; influence of the buffer composition and pH, buffer additives, applied voltage, system temperature and injection parameters were established in order to obtain short analysis time and increase resolution. The result obtained with CZE and MEKC respectively were compared and the advantages and the drawbacks of the two methods were highlighted. After development, experiments were carried out to evaluate the analytical performances of the method and to verify its applicability on samples prepared from pharmaceutical formulations. **Conclusions:** This study highlights the benefits of using universal methods for rapid quantitation of statins without the need for development of separate and distinct methods for each statin. Our work was supported with a project funded through Internal Research Grants by the University of Medicine and Pharmacy of Tîrgu Mureş, Romania (grant contract for execution of research projects nr. 6/23.12.2014).

Keywords: statins, capillary electrophoresis, simultaneous determination

SYNTHESIS AND CHARACTERIZATION OF SOME SILVER COMPLEXES OF NORFLOXACIN

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Background: Silver metal complexes of fluoroquinolones have the potential advantage of combining antibacterial and antifungal activity of silver ion with the antibacterial activity of the ligand. The purpose of this paper was to synthesize and determine the physico-chemical properties and biological activity of silver complexes with norfloxacin (NOR). **Material and methods:** New methods were developed for obtaining silver complex of NOR. The characterization of silver complexes was carried out by elemental analysis (C, H, N), determination of metal content by flame atomic absorption spectrometry, FT-IR, ¹H-NMR, and UV-VIS spectroscopy, differential scanning calorimetry, and molar conductivity measurement. The antibacterial activity against Gram negative and Gram positive bacteria and antifungal activity of the compounds by determination of minimum inhibitory concentration (MIC). **Results:** We obtained two different complexes as demonstrated by all experimental data. IR and ¹H-NMR spectra suggests a particular coordination of the NOR to the formation of the silver complexes as monodentate ligand through N4-piperazine nitrogen. The antibacterial activity screening of the compounds show lower or similar MIC values than NOR against *S. aureus* (including MRSA), *E. coli*, *E. faecalis*, *K. pneumoniae* and *P. aeruginosa*. The two compounds presented moderate antifungal activity against four *Candida species*: *albicans*, *krusei*, *guilliermondii* and *parapsilosis*. **Conclusions:** The hypothetical chemical formula for one of the two compounds correspond to a dimer structure [(NOR)₂Ag₂](NO₃)₂ and NOR act as monodentate ligand. In the case of the other compound more analysis are needed in order to elucidate an accurate chemical structure. Silver is coordinated through the N4' piperazine atom for both compounds. Although there is an excellent potential regarding the antibacterial and antifungal activity the obtained silver complexes presented moderate activity against Gram positive and Gram negative bacteria, as well as against *Candida spp.*

Keywords: fluoroquinolones, norfloxacin, silver complex, antibacterial activity, antifungal activity

MODIFIABLE CARDIOVASCULAR RISK FACTORS THROUGH DIET IN ATHLETES

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Background: Sudden cardiac death risk (SCD) in athletes is low (1: 50000-1: 100000 annually) but is 2-4 times more common than in the general population of the same age. Among cardiovascular risk (CVR) factors modifiable through diet are: LDL/HDL ratios, triglycerides, hyperhomocysteinemia (HHCY), omega-3 index. **Material and methods:** Analyzing the responses of 147 athletes to a questionnaire on eating habits for defining muscle mass (low carb vs. low fat), 89 of the respondents (60.54%) used low carb diets (below 60 g carbohydrate/day) or very low carb (below 30 g carbohydrate/day). The remaining 58 athletes (though not consistently a diet) reduced calorie intake derived from saturated fat. Results of routine tests of plasma lipoprotein levels were analyzed. **Results:** On one hand, calorie restrictive diets (low carb, low fat) reduce CVR (by lowering TG (12.20%, *p* < 0.05) and serum cholesterol (8.62%, NS)) but on the other hand, literature data suggest that the intake of essential nutrients is also decreased - decreased consumption of polyunsaturated fatty acids, omega-3 index, vitamin B12 deficiency resulting in HHCY and analysis of blood samples from the two diet groups show that the omega-3 index in low carb group was 1.97 ± 0.41 versus 2.45 ± 0.68 in low fat group (*p* < 0.05). Restrictive diets used by athletes to lose weight without losing strength/power (in sports where weight control is often necessary) - ketogenic diet (Standard, Targeted or Cyclical Ketogenic Diet) increases the risk of ketosis and ketoacidosis but prevents oxidative stress. **Conclusions:** Low carb diet influence on CVR is due to an increase of lipoprotein fraction but involve disadvantages that may be important in long term use including SCD risk. The risk of SCD can be modified in athletes by choosing a diet that takes into account the nutritional needs during competition, between competitions or by alternating with periods of normal nutrients intake.

Keywords: biochemistry, nutrition, sudden cardiac death, cardiovascular risk, low fat diet, low carb diet

COLD WATER EXTRACTION CAN BE APPLIED TO CODEINE CONTAINING OTC ANALGESICS SOLD IN ROMANIA

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Background: Extraction of codeine from OTC drugs (Cold Water Extraction, CWE) is a well-known technique to obtain morphine-like drugs among drug users. The method is based on the good water-solubility properties of codeine and on the poor water-solubility of acetaminophen; because in all of the OTC drugs, usable for recreational purposes, the codeine is associated with acetaminophen or other non-steroidal anti-inflammatory drugs. The aim of this study was to extract codeine from 7 OTC drugs and to evaluate if codeine can be separated from other active ingredients, using the CWE-method. **Material and methods:** An HPLC method was developed to quantify the active ingredients (codeine, acetaminophen, ibuprofen, caffeine, acetylsalicylic acid) in the studied OTC drugs. Ten tablets - from each OTC combination - were grinded to a fine powder in a mortar then suspended in 100 ml water; then the CWE method was applied. After filtration and an adequate dilution the solutions were analysed using the HPLC method. **Results:** The results show that the recovery of codeine ranged between 19-89%. In the filtrates, recovery of acetaminophen, ibuprofen, caffeine and acetylsalicylic acid were: 17.1-45.1%, 3.7-4.2%, 30.2-90.1%, and 9.8-13.5% respectively. **Conclusions:** Our results show that the tested OTCs can be used recreationally, if the hepatotoxic acetaminophen is separated using the CWE method. We suggest the reformulation of these OTC drugs, using higher solubility acetaminophen complexes (e.g. with cyclodextrins) or changes in regulations regarding the expedition of the codeine content dugs (e.g. based on identity card). The research was supported by the University of Medicine and Pharmacy of Tîrgu Mureş, internal grant number 3/23.12.2014.

Keywords: codeine, acetaminophen, cold water extraction

A MULTI-ANALYTICAL APPROACH FOR INVESTIGATING THE STEREOSELECTIVE INTERACTIONS OF POMALIDOMIDE ENANTIOMERS WITH DIFFERENT CYCLODEXTRINS

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Background: Enantiomers of pomalidomide (POM), a prominent member of the class of immunomodulatory drugs (IMiDs), mediate different antiproliferative activities and show stereospecificity in binding to the newly identified protein target, cereblon. However, the rapid in vitro and in vivo interconversion of the enantiomers has hindered the development of an enantiopure formulation. Recently, it has been shown that a proton-deuterium exchange at the labile chiral center of IMiDs stabilizes individual enantiomers and can pave the way to the development of improved, enantiopure IMiD analogs. Determination of enantiomeric purity and adequate characterization of the biological activity of individual enantiomers are fundamental criteria while developing new drug candidates. Thus, our aims were the chiral separation of POM enantiomers using cyclodextrins (CDs) as chiral selectors and characterization of the POM-CD inclusion complexes by using a set of different approaches. **Material and methods:** Seven different CD derivatives were used as chiral selectors in capillary electrophoresis and four CD-bonded chiral stationary phases were screened in liquid chromatography for their enantioselective properties towards POM. Inclusion complexes were characterized by different techniques such as NMR spectroscopy, mass spectrometry and molecular modeling. **Results:** Chiral separation of POM enantiomers was achieved both by CE using CM-b-CD as chiral selector, and by LC, using b-CD-bonded CSP. Both methods were optimized using a simple chemometric approach and subsequently validated. Molecular modeling and NMR results were in concordance regarding the structure of the inclusion complexes: b-CD:POM complexes showed a 1:1 stoichiometry with the amino-substituted aromatic ring inside the CD cavity. **Conclusions:** Two different complementary analytical techniques were developed, optimized and validated for the enantioseparation of POM. Inclusion complexes were adequately characterized by a multi-analytical approach, shedding light not only the mechanism of enantioselective recognition, but also providing useful data for a future CD-based formulation.

Keywords: thalidomide, chiral separation, capillary electrophoresis, liquid chromatography, NMR spectroscopy

STUDY ON CORRELATION BETWEEN THE SERUM AND SALIVA MALONDIALDEHYDE LEVEL

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Background: Several analytical methods are used to evaluate the oxidative status by assessing oxidative stress markers from different biological samples. Lipid peroxidation is the most widely studied process in the tissue injuries induced by reactive oxygen species. Malondialdehyde (MDA) concentration is the most frequently used biomarker to detect oxidative changes. This study aimed to evaluate and compare salivary and serum levels of MDA. **Material and methods:** Blood and saliva samples were collected from 25 volunteers (10 men and 15 women, aged from 20 to 75 years). After collection and centrifugation of the whole blood, serum was stored at -20 °C. Saliva samples were also centrifuged, after removing the supernatant, it was stored at -20 °C. The amount of MDA was measured with a HPLC-UV/VIS method, after derivatization with 2-thiobarbituric acid (TBA). The protein precipitation was made with acetonitrile (1 volume serum:3 volume ACN). After addition of TBA to the samples, they were heated for 30 minutes in water bath at 100 °C. The MDA-(TBA)₂ complex formed at this temperature has the maximum absorbance at 532 nm. Statistical analysis of the data was performed using Microsoft Excel and OriginLab softwares. **Results:** The validation of the method was made from serum and saliva. The calibration curve was linear in the concentration range: 1.31- 262 ng MDA/ml in water, serum and saliva. A moderate positive correlation could be observed between MDA concentrations in human serum and saliva (Pearson correlation $R^2=0.2561$, $p=0.014$). **Conclusions:** We succeeded to process a rapid and high sensitive analytical method which allows the analysis of MDA from biological samples such as serum and saliva. The moderate positive correlation between serum and saliva MDA concentration can be a starting point to use the non-invasive salivary MDA method instead of serum MDA dosage to demonstrate the occurrence of lipid peroxidation in biological systems.

Keywords: HPLC-UV/VIS, serum, saliva, oxidative stress, malondialdehyde

INTERSPECIES VARIATIONS OF CARBAMAZEPINE PHARMACOKINETICS. CONSIDERATIONS ON THE ISSUES RELATED TO GENERATING AN EXPERIMENTAL MODEL WITH PREDICTABILITY IN HUMANS.

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Background: Carbamazepine is a tricyclic lipophilic compound that has been among the most widely used medicines in the treatment of epilepsy during the last decades, either alone or combined with other antiepileptic drugs. It has proven its usefulness in the treatment of simple and complex partial seizures, and generalized tonic-clonic seizures. Apart from epilepsy, carbamazepine is used for the treatment of some neurological syndromes, such as trigeminal neuralgia or peripheral diabetic neuropathy, but also for treating the bipolar disorder in psychiatry. **Material and methods:** 100 mg/kgbw of carbamazepine was administered by oral gavage to one group of rats and one group of rabbits, respectively. Then, the main pharmacokinetic parameters characterizing this substance were determined for the two species. **Results:** Interspecies variations were observed regarding the pharmacokinetic parameters that characterize the elimination of carbamazepine from the body, with notable differences between various laboratory used rodent species and also between the former ones and humans. **Conclusions:** Generating an experimental pharmacokinetic model for steady state carbamazepine plasma concentration is difficult and rises questions on the validity of the extrapolation from results of animal studies to the human species.

Keywords: carbamazepine, rat, rabbit, steady state concentration

PSYCHIATRY

CHARACTERISTICS OF EPILEPSY IN CHILDREN WITH CEREBRAL PALSY

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Background: Objectives: to study the occurrence of epilepsy in children with cerebral palsy and examine the associated factors, prognosis and nature of seizures. **Material and methods:** Methods: 177 patients with cerebral palsy have been selected in to a retrospective study from Pediatric Neurology Clinic, divided in two groups: 86 patients with CP and 91 children with CP and epilepsy. Also, a group with 126 children only with epilepsy were selected for control. **Results:** Results: commonest type of CP associated with epilepsy was quadriplegia (35.2%), whereas spastic diplegia and dyskinetic forms were the commonest type of CP in non-epileptic group. In tetraparesis group, the most common were partial seizures (30.9%), followed by generalized tonic clonic (19%) and infantile spasms (9.5%). The electroencephalograms showed focal epileptic discharge with or without secondary generalization in 45.7%. Children with tetraplegia had a higher incidence of neonatal seizures. They also develop a drug-resistant form of epilepsy with more than two antiepileptic drugs (62.5% from entire epileptic group). Epileptic encephalopathy were more frequent in quadriplegic group than in the other. Early onset of epilepsy constitutes a sign of severity of epileptic forms (OR:4.09, 95% CI:1.287-9.061, p=0.01). Brain imaging was available for 88.5% patients and showed abnormal pathology in most affected children. **Conclusions:** Conclusions: The observed relationship between epilepsy and associated impairments was expected. A higher incidence of seizures is associated with cerebral palsy and majority onset in the first year of life. The frequent association of cerebral changes in patients with epilepsy, especially of cerebral atrophy and the onset of epilepsy under the age of one year, points to it as a factor aggravating prognosis.

Keywords: cerebral palsy, children, epilepsy

NUTRITIONAL HABITS IN PATIENT WITH MAJOR DEPRESSIVE DISORDER

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Background: Overconsumption or severe restriction of macronutrients like as carbohydrates and fats can be a trigger to produce imbalances that contribute to mood swings, irritability and urge to consume food/craving. Almost all the expanding modern pathology (Diabetes, Obesity, Metabolic syndrome and Atherosclerotic disease and not least a depression) is related to modern life style. The association between diet and mood is circular: food choices influence our mood and our mood influences food choices and behaviors. This research was conducted to identify dietary habits in patients with a first episode of depression and trying to adjust the diet where was necessary, to obtain a dispositional stability. **Material and methods:** This study was conducted, from January- April 2015, on a number of 38 patients, with first episode moderate/severe Major Depressive Disorder at the Mental Health Centre, Tîrgu Mureş. All of them have received HAMD 17 items questionnaire and dietary habits questionnaire. Version containing 17 items and it is a self-report measure. The collected data was analysed using the SPSS and Student t test for paired data. **Results:** After statistical processing of data above, it results in an average of around 37.66 years of age. Most patients were women (73.68%) from urban area (81.58%). Most were slightly overweight with a BMI between 26-29 kg/m², average 26.43 kg/m². For most of them intensity of depression were, moderate with an average of 22.58 points on the scale HAMD. Scores were found to be significantly positively correlated (p<0.01) with unhealthy eating habits. Student t test for paired data, p <0.05, shows that there is a significant difference between IMC and HAMD 17 before and after nutritional counseling. **Conclusions:** Understanding the relationship between diet and the development of major depressive disorder leads to better manage depressive symptoms. Nutritional status, eating habits or food itself are important to consider when evaluating a patient with depression.

Keywords: depression, nutritional status, eating habits

PUBLIC HEALTH

STUDY OF MORBIDITY WITH TEMPORARY WORK INCAPACITY IN ROMANIA BETWEEN 1995 AND 2013

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Background: Evaluation of morbidity with temporary work incapacity is one of the analysis methods of population's health status. **Material and methods:** Data regarding temporary work incapacity (TWI) were extracted from the Ministry of Health's annual statistics reports. We analyzed gravity index during the period 1995-2013, the main causes of morbidity with temporary work incapacity in Romania and the paid sick leave-days. **Results:** Gravity index decreased from 1020% in 1995 to 680% in 2013. First three morbidity causes with temporary incapacity in 1995 were: respiratory tract disorders, accidents, digestive tract diseases. In 2013 the main causes were: osteoarticular disorders, accidents and respiratory tract diseases. **Conclusions:** Decrease of morbidity indicators between 1995-2013 are due to restrictive and coercive measures in paid leave policy, certificate issue and not due to a real morbidity decrease.

Keywords: TWI, causes of morbidity with TWI, gravity index

CORRELATION BETWEEN SCHOOL PERFORMANCE AND SMOKING PREVALENCE

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Background: Various factors influence when and how teenagers start smoking. Thus, smoking prevalence among teens needs to be assessed in relationship with context and other characteristics. We aimed to assess the association between teens' smoking prevalence and school performance. **Material and methods:** We collected our data from 1313 7th and 8th grade students in 36 schools from 3 counties, using a multistage stratified cluster sampling procedure. Students completed a self-administered questionnaire with 61 questions and 210 variables. We created a five stage smoking scale, derived from student responses to tobacco use survey items. Multivariable regression analysis was used. **Results:** Students with very low school performance were more likely to be regular smokers (12,9%) than students with rather low (6,2%) or high (2,7) academic results (p value< 0,001). Teens try out tobacco products regardless school characteristics, however being a student in lower standard-schools doubles the risk of smoking compared to the higher ones (20% vs 10%). **Conclusions:** The strong association between smoking prevalence and poor school performance surpasses that of the any other links observed among the variables. We cannot, however, evaluate this association without considering the broader context (social status, settlements' economic level, parents' education).

Keywords: school performance, smoking prevalence, regular smokers, teens

STRAINS ON THE FAMILY BUDGET AS A CONSEQUENCE OF RISKY BEHAVIOUR DURING PREGNANCY, ON A LOT OF WOMEN IN THE DISTRICT OF MUREŞ

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Background: Smoking with pregnant women represents a major risk factor which threatens equally the future mother and the baby's health. To this risk factor is added the social-economical aspect implied by tobacco use. **Material and methods:** In our cross-

section study accomplished by applying a questionnaire on a lot of 1278 women, in the 24 hours immediately following childbirth, we have observed behavioural characteristics regarding tobacco, coffee and alcohol use during pregnancy, as well as the impact of these expenses on the family budget. **Results:** A percentage of 29,8% of the respondent women declared that they had smoked during pregnancy. Out of these, 37% declared a monthly income per family member smaller than 500 RON. The cost of tobacco expense alone was calculated between the range of 52 and 323 RON/month, depending on the number of smoked cigarettes. **Conclusions:** The interventional measures undertaken with the purpose of reducing life style behavioural risk factors must also address, alongside informations concerning the major health benefits, the financial benefits by a redistribution of the family expenses towards the improvement of the conditions of life.

Keywords: smoking, pregnancy, risk factors, smoking cessation

AIR POLLUTION ACCORDING TO PM_{2.5} MEASUREMENTS CAUSED BY TOBACCO SMOKING IN UMPH, TÎRGU MUREŞ

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Background: Air quality is influenced very much by the presence of PM 2.5 particles, which increase especially in correlation with smoking and vehicle exhaust emissions. The aim of the study was to evaluate air quality in some buildings of the university campus by measuring PM 2.5 concentration. **Material and methods:** We determined air pollution in the central building of the UMPH Tîrgu Mureş and in four student hostels of the university campus using the Aerosol Monitor Side Pak AM 510 between 21st January -4th November 2015. The green areas around the buildings are efficient buffers to eliminate the interference caused by the road dust on our results. During this period 94 measurements were made on the third floor of the central building and 109 measurements on the top floor of students hostels. The results were compared to the scale of North Carolina Air Quality Standard. **Results:** Air quality presented moderate to unhealthy pollution in the central building of the university (PM 2.5 between 24-66 µg/m³) showing the highest values in winter and early spring. In the students hostels for boys and girls unhealthy and hazardous pollution was detected (PM 2.5 between 55-1139 µg/m³), the lowest values have been measured during holidays, the highest in the winter session period. In the students hostel for families the air quality was significantly better ($p < 0.0001$) compared to the other hostels (PM 2.5 between 18-185 µg/m³), the highest peaks were detected during the winter and spring holidays. **Conclusions:** Very high particle pollution can be detected especially in the students hostels during winter period, air quality in the central building presents moderate or unhealthy pollution. Applying strict legislation and promoting smoke cessation programs for the students could improve air quality in the university campus and reduce the exposure to second-hand smoking.

Keywords: air quality, PM 2.5 particles, smoking, pollution, university campus

ASPECTS OF ONE DAY HOSPITALIZATION IN EMERGENCY CLINICAL COUNTY HOSPITAL TIRGU MURES

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Background: Hospital medical services for patients are continuous and one day hospitalization. Medical services provided by one day hospitalization have a duration of maximum 12 hours / visit (day). Each sanitary units with beds (private or public) must regularly analyze these services in order to improve effectiveness, quality, safety and efficiency of health services. **Material and methods:** We analyzed the data reported monthly and quarterly by Emergency Clinical County Hospital Tîrgu Mures to the The National School of Public Health, Management and Professional Development Bucharest from 01.01.2015 to 30.09.2015. **Results:** In Emergency Clinical County Hospital Tîrgu Mures were treated in one day hospitalization 17430 patients. 12217(70.10 %) patients received specific care as well as medical and surgical cases solved and 5213 (29.90 %) patients as services. Patients who received day care services in the analyzed period were from Mures County in 69% of cases (12032 patients) and the remainder from other counties. 31.15 % of patients were employees , 44.52 % patients were retired, 9.10 % patients were students , and the rest had no occupation, were self-employed , unemployed or farmers. **Conclusions:** In the Emergency Clinical County Hospital

Tirgu Mures addresses a large number of patients across the all country for one day hospitalization , patients with diverse pathology. Patients receive care specific to each case.

Keywords: day, hospitalization, services, medical, patient

RADIOLOGY

CT FINDINGS IN A 6 DAYS OLD FEMALE PATIENT WITH PROGRESSIVE RESPIRATORY DISTRESS-CASE REPORT

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Background: We present the case of a 6 days old girl with progressive respiratory distress from birth who was referred in our department of radiology and imaging for investigations. **Material and methods:** The chest X-ray revealed an asymmetry of the lungs, with a large volume left lung with hyperlucency. For further details a CT scan of the thorax was made. The test was performed in the Department of Radiology and Imaging from Emergency Clinical County Hospital Tg.Mures with a 64 slice single source CT scanner SOMATOM. The parameters we used were 80 kV and 74 mA with 16x1.5 mm slice collimation, with 1.5 mm increment for reconstruction. **Results:** The CT scan revealed a diffuse hyperlucency of the left upper lobe which had increased volume. The vascular pattern was normal, the bronchi showed no abnormality. The right lung was hypoventilated due to mediastinal shift. We interpreted the case as a congenital lobar overinflation of the left upper lobe. **Conclusions:** Congenital lobar overinflation is one of the main causes of respiratory distress syndrome in the neonates and infants.

Keywords: congenital lobar overinflation, hyperlucent lung, respiratory distress syndrome

COMPUTED TOMOGRAPHY IMAGING FINDINGS IN BILATERAL PSOAS ABSCESS

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Background: Psoas muscle abscess is a rare condition which develops from a distant site of infection via hematogeneous spread or from a nearby septic focus. The urinary tract is the less frequent origin and few cases of psoas muscle abscess associated with history of urinary bacterial infection were reported. We will report the case of a patient who developed bilateral psoas abscess after he was treated successfully for urinary infection with Klebsiella. **Material and methods:** A 82-year-old male patient, who presented with back pain and fever was admitted in the Department of Internal Medicine. Clinical examination and laboratory tests performed revealed increase of inflammatory parameters. Ultrasound performed was unremarkable and lead to the indication of computed tomography evaluation. We performed a thoracic, abdominal and pelvic MDCT examination using a 64-slices device at parameters of 120kV, 400 mA and 64x0.6 mm slice collimation. First, unenhanced sequences were acquired, followed by intravenous contrast administration with the bolus tracking technique and acquisitions in arterial and porto-venous phases. **Results:** Computed tomography examination revealed bilateral renal cysts (the largest with diameter of 32mm in the left kidney) in association with grade II hydronephrosis and ureteral dilatation. This examination also showed bilateral thickening of the psoas muscles containing low attenuation collections with a peripheral rim enhancement. Imaging findings lead to the diagnosis of bilateral psoas abscess. **Conclusions:** Management of psoas abscess involves antibiotic treatment and percutaneous or surgical drainage. MDCT plays an important role in early psoas abscess diagnosis, minimizing invasive procedures in the therapeutic decision.

Keywords: psoas abscess, case report, CT

RADIOIMAGING EVALUATION OF CEREBRAL MENINGIOMA

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Background: Cerebral meningiomas are the most common type of extraaxial tumor that originates in the central nervous system. Evaluation of cerebral meningiomas remains nowadays a challenging topic in radioimaging. The purpose of our study was to evaluate meningiomas based on the CT and MRI findings and to find the correlations with the histopathological aspects. **Material and methods:**

In a retrospective study we evaluated 310 patients with cerebral meningiomas, admitted in the Neurosurgery Department from the Emergency Clinical County Hospital of Tirgu Mures in a period of 5 years (2009-2014). We performed conventional radiographies, computed tomography and magnetic resonance preoperative evaluation and we analyzed the most important imaging features correlated with the histopathological diagnosis. **Results:** Patients, mean age was 63 years, with female population predominance (55.7%). The most common imaging findings were shift of midline structures, perifocal edema (grade II) and strong enhancement after contrast agent administration. Most of the lesions were classified as WHO grade I tumors, followed by grade II and grade III. **Conclusions:** Radioimaging studies including conventional radiography, CT and MRI are useful methods in the positive and differential diagnosis of cerebral meningiomas. They provide information necessary in the preoperative evaluation of cerebral meningiomas and helpful for a better outcome and prognosis.

Keywords: meningioma, CT, MRI

ASPIRATION THROMBECTOMY IN ACUTE ISCHEMIC STROKE

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Background: Acute ischemic stroke is the number one cause of neurological death and disability in developed countries, having a great socioeconomic impact. Current treatment involves the use of intravenous thrombolytic agents and/or endovascular clot retrieval. Recent advances in device technology have permitted the development of very soft, trackable, large bore aspiration catheters which can safely be navigated in the cerebral vasculature and achieve outstanding revascularization rates. **Material and methods:** Between February and October, 2015 we treated, in the Compartment of Interventional Radiology, 9 patients with acute ischemic stroke were diagnosed based on neurological examination followed by a CT angiography. 7 of the patients had occlusions in the anterior cerebral circulation and were within the therapeutic time window, 2 of which had tandem occlusions (at the level of carotid bifurcation and middle cerebral artery) and in 2 patients CT showed occlusion of the basilar artery. Using the Penumbra Aspiration System, composed of 5 F, 3 F aspiration catheters and an aspiration pump, we navigated with the devices at the level of the occlusion and performed one, two or three 10 minutes aspiration sequences until partial or complete recanalization occurred. **Results:** Complete recanalization was obtained in 8 of the cases; in 1 patient the primary occlusion site was opened but distal embolization occurred which did not respond to aspiration. In the patients with tandem pathology we performed, at the level of carotid occlusion, balloon angioplasty with stent placement. The patients with posterior circulation stroke due to basilar artery occlusion had an unfavorable outcome due to the fact that the time window was exceeded (14h and 18h after symptom onset) despite complete recanalization. In 4 of the patients hemorrhagic transformation occurred in the first 24h after intervention and had a poor outcome. 3 patients had a favorable outcome with complete recovery of speech and motor functions within the first week. The only intraprocedural complication was distal embolization in the same vascular territory which occurred in 2 patients. **Conclusions:** Aspiration thrombectomy is a safe and effective treatment in ischemic stroke if the patient presents within the therapeutic time window, achieving high recanalization rates and rare intraprocedural complications. Unfortunately there is an increased risk of hemorrhagic transformation following recanalization in the first 24h.

Keywords: thrombectomy, recanalization, CT

ENDOVASCULAR TREATMENT OF GIANT INTRACRANIAL ANEURYSMS USING FLOW-DIVERTER STENTS

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Background: Giant intracranial aneurysms (GIA) represent a challenge for the neurosurgeon and the interventional neuroradiologist. Flow-diverters are stents (employed in the treatment of GIA) with high metal coverage which help altering hemodynamics at the aneurysm/parent vessel interface, resulting in gradual thrombosis of the aneurysm occurring over time. The aneurysm shrinks in time and eventually disappears in the majority of cases. **Material and methods:** Using FRED (Flow Redirection Endoluminal Device) flow-diverters we treated a number of patients with GIA located in the cavernous segment of the internal carotid artery. By means of a 6 F Chaperon guiding catheter inserted through the right femoral artery and advanced in the common carotid artery, we navigated with a Headway 27 microcatheter at the level of the aneurysm neck and deployed the flow-diverter, being sure to cover the entire neck of the aneurysm and that the device did properly open. **Results:** Immediately after the flow-diverter expanded and covered the aneurysm neck, there was evidence of intraaneurysmal stasis of contrast medium, meaning

that already there is a reduction of blood flow into the aneurysm sac. All patients were put on a regimen of dual antiplatelet therapy for the prevention of in-stent thrombosis and were controlled angiographically at 3 and 6 months after the procedure. In the large majority of patients there was evidence of complete occlusion of the aneurysm sac at 6 months. **Conclusions:** Flow-diverters are safe and efficient devices used in the treatment of giant intracranial aneurysms. As with other intravascular stents dual antiplatelet therapy is mandatory increasing the risk of intracranial hemorrhage. Follow-up imaging is crucial for the detection of aneurysm recanalization, catheter angiography being the gold-standard.

Keywords: giant intracranial aneurysms, FRED (Flow Redirection Endoluminal Device), CT

SOCIAL SCIENCES

THE IMPLICATION OF PERSONAL INTERVENTION PLAN (PIP) IN OPTIMIZING THE STANDARD QUALITIES OF LIFE OF PEOPLE WITH DISABILITIES (CHILDREN AND YOUTHS)

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Background: This study aims to implement the personal intervention plan (PIP) in optimizing the standard qualities of life of people with disabilities (children and youths) at the level of day care Association "Ray of sunshine" Iernut, Mures, during 2013-2015. **Material and methods:** In supporting of demarche and the recovery process, were used as psychological investigation methos: talk, conversation, observation and biographical method. **Results:** During research, 2013-2015, the results obtained in day care Association "Ray of sunshine" Iernut, Mures, certifies the fact that 80% of the beneficiaries, representing a number of 75 children and youths were those whose personal intervention plan (PIP) implementation improved and in some cases optimized the standard qualities of their lives, they being persons with disabilities (children and youths). **Conclusions:** The initiated demarche has achieved its purpose, thus it was demonstrated the fact that PIP represents the base element in recovery, reinstatement and/or socialization of disabilities persons, also being the symbol of the existent multidisciplinary team and operating with great succes in such problem situations.

Keywords: PIP, disabilities, beneficary, team, succes

SURGERY

LAPAROSCOPIC TOTAL RADICAL HYSTERECTOMY PLUS PELVIC LYMPHADENECTOMY FOR EARLY STAGES CERVICAL CANCER

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Background: Actually, there are no doubts about the feasibility of laparoscopic total radical hysterectomy plus pelvic lymphadenectomy. But the surgical procedure is demanding and has a long learning curve. **Material and methods:** Four cervical cancer patients submitted to this procedure in our clinic between November 2014 and September 2015 were studied. One woman was staged as IA2 after a cone biopsy and three were clinically in stage IB1. **Results:** The procedures lasted between 230 and 320 minutes. Estimated blood loss ranged from 100 to 250 ml. There were no intra- or postoperative complications. All 4 patients were discharged on the 8th postoperative day. The final specimen histology demonstrated free margins in all cases. The removed lymph nodes count ranged between 31 and 62 and they were negative in all patients. One patient was referred for adjuvant radiotherapy for a deep stromal invasion. All women are alive and free of disease, but the follow-up period is short. **Conclusions:** Laparoscopic total radical hysterectomy plus pelvic lymphadenectomy could be a surgical option for early stages cervical cancer patients (IA2 and small IB1 - less than 2 cm). For larger tumors, new studies are needed in respect to its oncological safety.

Keywords: laparoscopy, radical hysterectomy, cervical cancer

RIGHT HEPATECTOMY IN THE TREATMENT OF GIANT HEPATIC HEMANGIOMA

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Background: Hemangiomas are the most common benign tumors of the liver. They are considered giant when they exceed 5-10 cm in diameter. Most liver hemangiomas are asymptomatic, being discovered by chance and occurring more frequently at women. **Material and methods:** We present the case of a patient suffering from uterine cancer, where the physical examination revealed a giant abdominal tumor formation and the computer tomography with contrast confirmed giant cavernous hemangioma in the right hepatic lobe. Right hepatectomy was performed and total hysterectomy with bilateral anexectomy. **Results:** The histopathological examination confirmed the diagnosis of giant cavernous hepatic hemangioma. **Conclusions:** Liver hemangiomas are benign tumors. Hepatic resection is indicated in the selected cases. In women they are more frequent. The association with uterine neoplasm is rare.

Keywords: giant hepatic hemangioma, right hepatectomy, benign tumor

SURGICAL TREATMENT OF GIANT MEDIAN INCIZIONAL HERNIA WITH PROLEN MESH PLACED RETROMUSCULAR AND HERNIAL SAC

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Background: The most frequent complication of the laparotomy is the incisional hernia. The development of the incisional hernia in the postoperative cicatricial tissue is most frequent postoperative complication, even using the optimal surgical methods. Using the prolen mesh for the reconstruction of the abdominal wall with tension free methods, the results are outstanding. **Material and methods:** In our Clinic, between 2010-2015, 60 abdominal wall reconstruction was performed, using the prolen mesh in retromuscular position and the sac of the incisional hernia. **Results:** After the operations one complication was found, a haematoma in the sheath of the plain abdominal muscle by harming one of the branch of the inferior epigastrical artery. We managed this complication with Redon-drainage. We didn't found postoperative respiratory problems; all we noticed was a minimal abdominal pain. The mobilization of the patients it happened soon after the operation. **Conclusions:** The abdominal wall reconstruction in

the giant median incisional hernia with prolen mesh in a retromuscular position and with the hernial sac is an alternative procedure for preventing the postoperative complications.

Keywords: incisional abdominal hernia, prolen mesh, retromuscular position

EBSTEIN DISEASE: FETAL DIAGNOSIS AND EVOLUTION, CONSIDERATIONS REGARDING A PRENATAL DIAGNOSED CASE

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Background: Ebstein disease consists of the abnormal lower insertion of the posterior and septal valve of the tricuspid valve. The incidence of the disease has an approximate percentage of about 0,5 % from the total of congenital heart diseases in newborns.

Material and methods: We present the case of a fetus which was diagnosed with a cardiomegaly at 36 weeks and sent to our center. Ebstein disease was suspected in utero, with the help of the elements described in the ultrasound and the diagnosis was confirmed after birth. The case is unique among the 188 structural fetal cardiac anomalies, diagnosed in utero in the Tîrgu Mureş centre, in the periode 28 02 2007 - 10 04 2015. **Results:** Due to the cardiac insufficiency and the arousal of the hydrops, the fetus was delivered through a cesarian section at 37 weeks. Unfortunately, he deceased in the third day of life due to the cardiac and respiratory insufficiency. **Conclusions:** Ebstein disease has a similar incidence with the literature data on our series of cardiac fetal anomalies. The unfortunate prognosis of this anomaly was confirmed in this case as well, as it was in the data published by other authors.

Keywords: fetal diagnosis, Ebstein disease, tricuspid valve

PELVIC EXENTERATION – OUR INITIAL EXPERIENCE ON 30 CASES

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Background: The pelvic exenteration became an ultimate, salvage therapy for patients with advanced or recurrent pelvic cancers. It is considered an extremely difficult and demanding procedure for both surgeon and anaesthesiologist, with an intra- and perioperative mortality between 0 and 9%. Our aim is to analyse the initial experience of pelvic exenteration for gynaecological malignancies in a tertiary referral center. **Material and methods:** Between 2011 and 2015, 30 patients underwent a pelvic exenteration for gynaecological malignancies. The indication was stage IVa or recurrent cervical (21 patients), stage IVa vaginal (2 patients), stage IVa endometrial (1 patient) and stage IV or recurrent ovarian cancer (in 6 patients). **Results:** Out of the 30 exenterations, 14 were total, 10 anterior and 6 posterior. In respect to levator ani muscle, 20 pelvic exenterations were suprlevatorian, 4 infralevatorian and 6 infralevatorian with vulvectomy. A Bricker non-continent ileal urinary conduit was performed in all 24 anterior and total exenterations. In-hospital complications occurred in 13 patients (43,3%) of whom two perioperative deaths (6,6%). Among the 30 patients, at this moment, 16 are alive and free of disease; 13 are dead because of the disease, and one is lost to follow-up. **Conclusions:** Pelvic exenteration for recurrent or advanced pelvic malignancies can be associated with long-term survival and even cure without high perioperative mortality in properly selected patients. However, postoperative complications are common and can be lethal.

Keywords: complications, indications, pelvic exenteration

SURGICAL TREATMENT OF IATROGENIC STRICTURES OF BILIARY DUCT

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Background: The aim of our study was to sensitize surgeons and gastroenterologists to the Contemporary principles of surgical treatment of iatrogenic biliary strictures of the main biliary duct. **Material and methods:** During the last 20 years, there were

hospitalized 203 patients with iatrogenic biliary strictures in Clinic Chair of Surgery no. 2 of SMPhU „Nicolae Testemițanu”. **Results:** Clinical evaluation included several consecutive steps: 1) setting the ethiopatogenic diagnosis; 2) pre-operative decompression of the biliary tree; 3) reconstructive surgical act. The principles of evaluation of the ethiopatogenic diagnosis allowed us to establish the following distribution of the localization of the strictures according to Bismuth: type I- 6 (3.12%) cases, type II- 92 (45.31%) cases, type III- 90 (44.32%) cases, type IV-15 (7.41%) cases. In case of biliary strictures, following the cut of jaundice and biliary infection, bilio-digestive derivations have performed according to the level of the obstacle, preferring the bilio-jejunal on isolated loop in Y la Roux. In the post-operative period were appreciated the complications in 14 (6.92%) cases. 10 (4.93%) patients with post-operative suppurations which were solved through surgical sanitation: 4(1.97%) cases of partial anastomotic dehiscence, conservatively solved. The post-operative lethality was of 6(2.96%) cases. **Conclusions:** The iatrogenic biliary strictures of the biliary ducts have a complicated evolution, with many surgical interventions and hospital confinements. In the first stage decompression of the biliary tree is performed and following the cut of the inflammatory process, bilio-digestive reconstruction is done.

Keywords: biliary duct, biliary strictures, jaundice

INITIAL EXPERIENCE WITH LAPAROSCOPIC ABDOMINOPERINEAL AMPUTATION FOR LOW RECTAL CANCER AT THE 2ND SURGERY DEPARTMENT OF MURES COUNTY UNIVERSITY HOSPITAL

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Background: Abdominoperineal amputation of the rectum is a standard surgical method of low rectal and anorectal cancer treatment. The classical technique of rectal amputation was described by Miles in 1908. This type of surgery can be performed using minimally invasive methods. The aim of this paper is to describe our initial experience with laparoscopic abdominoperineal amputation (LAPA) for low rectal cancer. **Material and methods:** At the 2nd Surgery Department of Târgu-Mures County Hospital, in a five year periode (October 2010 and October 2015), a total of 172 patients underwent surgery for colorectal cancer. In 78 cases was performed classical abdominoperineal amputation. Laparoscopic abdominoperineal amputation of the rectum was performed in 5 cases. The criteria for choosing LAPA was the stage of the tumor not to be locally advanced, based on the computed-tomography image. There were 4 men and 1 woman, the median age of the patients was 65 years (55-79 years). For LAPA 4 or 5 trocars were used. Haemostasis was carried out with Ligasure and ultrasonic dissector. Staplers were not used neither pelvic peritonization was performed. **Results:** All laparoscopic procedures were performed in 2015. The length of the LAPA varied from 190 to 225 minutes. Blood loss ranged between 200 and 650 ml. Important intraoperative complications and conversion to classical procedure were not recorded. The mobilization was carried out in the first postoperative day. The duration of postoperative hospitalization was 6 to 9 days (median 7 days). **Conclusions:** The laparoscopic abdominoperineal amputation of the rectum is a safe surgical procedure. The patients benefit of the advantages of minimally invasive surgery.

Keywords: abdominoperineal rectum amputation, laparoscopy, rectal cancer

LEARNING BASIC GENERAL SURGERY PROCEDURES FROM YOUTUBE

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Background: Youtube is now a valuable source of information. The aim of this paper is to evaluate the usefulness of the youtube channel (www.youtube.com) as a learning resource for young general surgeons. **Material and methods:** We have performed a youtube search using the following 3 key-words corresponding to the most frequently performed general surgery procedures: "inguinal hernia repair", "appendectomy" and "cholecystectomy". The first 20 videos from the initial list were watched and analysed. **Results:** Our analysis showed a great heterogeneity in terms of both technical and educational quality. Both open and laparoscopic approaches are presented, with an obvious preference for the laparoscopic one in the case of cholecystectomy. An interesting aspect is the almost complete lack of informations about the real duration of the procedures, technical difficulties and possible complications. **Conclusions:** Youtube is a useful source of information for the young surgeons who want to learn basic

general surgery procedures, although it cannot completely replace the traditional learning methods. The shortened duration of the videos and the lack of informations about the possible complications may represent a problem.

Keywords: e-learning, youtube, surgery

THE MANAGEMENT OF YOUNG PATIENTS WITH MALIGNANT TUMORS

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Background: The data presented in the literature of the last five years reveals a worrying increase of the number of malignant tumors found in people aged under 30 years **Material and methods:** We conducted a double study -one retrospective-descriptive and one prospective (follow-up- analyzing the quality and length of life postoperative) by analyzing the sheets of patients hospitalized in the Surgical Clinic 1 in the period of 2010-2015 aged 18-35 **Results:** In the period 2010-2015 there were 164 patients diagnosed with malignant tumors with different localizations (thyroid, pancreas, stomach, colon, liver, retroperitoneal tumors, renal). All patients were undergoing surgery being performed 97 surgeries curative and 67 palliative . **Conclusions:** Malignant cancers in young people aged under 35 years have a lower incidence, but increasing, their resectability being given especially by the precocious addressability of the patients

Keywords: young patients, malignant, curative surgery

AORTO-BIFEMURAL BY-PASS: CLINICAL FEATURES

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Background: We present the technique of minilaparotomy (with an incision about 5-6 cm) in aortobifemural-by pass with aortic clamping by contraincision. **Material and methods:** We performed the technique on 10 patients admitted in our Clinic (Surgery I- Department of Vascular Surgery) in the last year. **Results:** The mean aortic clamping was 4-8 minutes, the average length of surgery was between 50 and 85 minutes. The hospitalization time was about 4 days. The recovery was fast, the alimentation of patients being made in the first postoperative day. **Conclusions:** The main advantages of this technique is the early recovery by reducing postoperative pain and decreasing the average length of hospitalization.

Keywords: aorto-bifemural, by pass, minilaparotomy

TABACCOLOGY

EDUCATION TO QUIT SMOKING AMONG STUDENTS IN UNIVERSITY OF MEDICINE AND PHARMACY, TÎRGU MUREȘ, ROMÂNIA

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Background: Introduction: Medicine is a complex domain of activity, moreover has enlarged its content in last decades by numerous areas, among smoking cessation. **The objective** was to stop smoking among students. The leading board of the University decided to create the first non-smoking university in Romania. The program was implemented in UMPH during the academic year 2014/2015 based on a project „Building capacity for tobacco research in Romania. A partnership among Romanian, American and Hungarian scientists" and by posting "Smoke-free Medical University" placards. **Material and methods:** In 2014 new medical curricula was introduced in order to quit smoking in our university. The program contains 7 lectures, 14 hours per year as optional course for general medicine, dental medicine and nurse students. Students are learning theoretical, practical and behavioral skills to approach health effects of tobacco use and treatments. **Results:** Nobody should smoke inside the building of the university. Students who smoke have to use an arranged place for smokers outside the building. Without nicotine replacement therapy (NRT) students in nutrition & dietetics have to learn to quit smoking by 5 nutrition tips, because the tabaccology course has not been introduced, but it is necessary for them. The 5 nutrition tips to quit smoking and maintain a healthy weight are eating a variety of healthy food; enjoying vegetables & fruits; increasing fiber intake; drinking lots of fluids and being active every day. **Conclusions:** Considering real life situation in our university, for actual generations of students we suggest training in three modules: a basic one to cover lack of elementary knowledge of their health and their lives by quitting smoking; strategies to help end students dependence on tobacco and the evaluation of questionnaire has goal to take control cessation rates and to see what other kinds of long-term benefits the program may have had.

Keywords: tabaccology course, smoke-free Medical University, quit smoking, nutrition tips, optional course

UROLOGY

BACTERIAL CULTURE AND DRUG SENSITIVITY ANALYSIS OF URINARY TRACT INFECTION CAUSED BY GRAM-NEGATIVE STRAINS

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Background: Urinary tract infections produced by Gram-negative uropathogens, is a major global concern. The prevalence of Enterobacteriaceae that produce extended-spectrum beta-lactamase (ESBL) enzymes continues to increase at alarming rates. **Material and methods:** The study is a retrospective one, performed over a period of 12 months (01.11.2013-31.10.2014). We evaluated 474 cases, analyzing them from bacteriological point of view and drug sensitivity. **Results:** Gram-negative bacteria infected the most common of urinary tract, accounting 80.59%, and ESBL 22.51%, among which *Escherichia coli* were the predominant ones (56.28% in Gram-negative infections, and 50% in ESBL infections), followed by *Klebsiella* spp., *Pseudomonas aeruginosa*, *Enterobacter* spp., and *Proteus mirabilis*. The drug sensitivity rate to cephalosporin fluoroquinolones, aminoglycosides, trimethoprim were more than 50- 60%. For the ESBL strains the resistance to cephalosporines and fluoroquinolones was 100%, but for polymyxine, carbapenem, aminoglycosides, nitrofurantoin the sensitivity was over 60-70%. **Conclusions:** Gram-negative uropathogens present a similar sensitivity to antibiotics recommended by European Guidelines of Urology. The ESBL uropathogens present an increasing rate of urinary infections with a high sensitivity for a reduced types of antibiotics.

Keywords: gram-negative, urinary tract infections, ESBL, Enterobacteriaceae, antibiotic treatment

EMERGING BIOMARKERS AND INTEGRATIVE MODELS FOR RISK STRATIFICATION IN UPPER TRACT UROTHELIAL CARCINOMA

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Background: In the last 5 years the management of upper tract urothelial carcinoma (UTUC) has significantly improved, but accurate risk stratification still remains a challenge. The development and validation of reliable prospective preoperative prognostic models are mandatory to identify patients that are more likely to benefit from preoperative chemotherapy or radical treatments. **Material and methods:** A non-systematic Medline/PubMed literature search was performed using the combinations of the following terms: "preoperative models", "biomarkers", "risk stratification", together with "upper tract urothelial carcinoma". Articles from January 2003 to June 2015 were included. Alternative additional references were collected by cross referencing the bibliography of the selected articles. **Results:** Biomarkers in UTUC represents an important field of research that is trying to capture tumor behaviour for better understanding the disease. Recently several studies identify new biomarkers associated with invasive disease or with poor outcomes after RNU. Further validation of these markers in larger cohorts will help integrating and combining biomarkers with pre and postoperative available models. So far only C-reactive protein (CRP) and neutrophil-to-lymphocytes ratio (NLR) and Ki67 were externally validated in large cohorts and regarding predictive models only few were external validated. Margulis et al. developed in a cohort of 659 patients a predictive model that included readily available clinicopathological features such as: grade, architecture and location of the tumor. Hurel et al. showed that are independent preoperative prognostic factors: impaired renal function, locally advanced stage and multifocal tumors. Brien et al. proposed a predictive model with accuracy of 89 % that included preoperative evaluation for hydronephrosis, ureteroscopy grade and cytology. **Conclusions:** To date, few reliable biomarkers have been identified in UTUC and none is used in daily practice. Several models based on clinical and imaging parameters have been proposed to predict high risk disease and outcomes. The integration of easily available preoperative biomarkers may enhance their use and performance.

Keywords: preoperative models, biomarkers, upper tract, carcinoma

THE PLACE OF SWL IN THE MANAGEMENT OF CHILDREN'S URINARY STONES

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Background: Extracorporeal lithotripsy performed in children with renouretal stones gives multiple benefits. The aim was to present the benefits of SWL for urinary stones in children. **Material and methods:** The retrospective study includes a total of 264 children aged between 1 and 18 years, admitted from 1991 to 2014, in which was practiced ESWL. Indication of ESWL was established following a complete preoperative investigation protocol and considering the same criteria as for adults: size, number, location, chemical composition, possible birth defects associated diseases, etc.. In most cases the stones were located in the kidney (60.14%), 39.53% were ureteral calculi and one patient experienced a bladder stone (0.33%). In 96.21% of the cases ESWL was performed alone, in other cases (3.79%), ESWL was used as an associated method for fragmenting the restant stones after Nephrolithotomy or PNL performed for coraliformi calculi. **Results:** In most cases (77.52%), the stones were disintegrated with a single session. In 14.98% of cases there were required two sessions, while in other cases (7.5%) 3 or 4 sessions of ESWL. Lithotripsy went without intraoperative incidents and were easily supported by children. The outcome after SWL was favorable, children easily removing fragments of calculi without pain or significant autonomic phenomena associated. In 11 cases there was Steinstrasse in the pelvic ureteral segment: one necessitated ureteral meatotomy, 2 cases required a second SWL session for the bulky pilot fragment, while the other patients had eliminated the remaining fragments under medical treatment. Stone-free rate at one month was 97.35%. **Conclusions:** All the data presented above allow us to conclude that SWL is the method of choice for the treatment of children with urinary stones, given its minimal complications, effectiveness and important benefits when its indication is correct.

Keywords: SWL, children, urinary stone

PROSTATE CANCER - RISK FACTORS

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Background: Worldwide, prostate cancer is the second most diagnosed parenchymal tumor in men, affecting primarily men over 50 years. The literature describes many contributing factors which appear to have an increasingly importance in prostate cancer development. **Material and methods:** This is a prospective study conducted on a total of 102 (100%) patients with suspicion of prostate cancer, hospitalized and treated at the Clinic for Urology Tîrgu Mureş, between 2013 December- May 2015. We tried to identify different contributing factors, and establish some correlations between these and the occurrence of prostate cancer. Among the predisposing factors studied by us we could mention: age, race, genetic history, smoking, obesity, elevated PSA. **Results:** The patient's age, mentioned in the literature as the main risk factor that cannot be influenced in any way. Our questioned patients ranged between 39- 85 years (average 70 years). We did not find any kind of statistical significant difference between the diagnosis of prostate cancer and the patients age. In 44 (43.13%) cases we could confirm prostate cancer, 17 of them had a positive family history for prostate cancer or other malignoma. According to our study 10 patients (9.8%) of the 102 questioned were obese BMI>30 kg /m², 9 (90%) of them were diagnosed with prostate cancer. PSA value displayed great variation (0.12- 100 ng/ml). Statistical analysis of the data showed that the use of PSA in the screening of prostate cancer plays a decisive role. **Conclusions:** We concluded that the prevention, identifying the risk factors (such as BMI, DZ, and hereditary factors), early diagnosis may facilitate the treatment and the outcome in prostate cancer.

Keywords: prostate, prostate cancer, risk factors, prostate biopsy, prospective study

THE PLACE OF URODYNAMIC INVESTIGATIONS IN THE MANAGEMENT OF WOMEN'S VOIDING SYMPTOMS

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Background: The aim of this study is to establish the principal causes of urinary retention in women and highlight the value of

urodynamic investigations in the management of these condition. **Material and methods:** This is a retrospective study over a period of 2 years (Jan. 2013-Jan. 2015) performed in the Clinic of Urology, Mures County Hospital. The inclusion criteria were: women presenting lower urinary tract symptoms (voiding symptoms), urinary retention and the existence of urodynamic procedures. **Results:** Our study included 47 women aged 20-78 years 51.97 ± 16.07 . Based on the clinical examination, imagistic and urodynamic findings we established the following diagnosis : underactive detrusor in 17 cases, acontractile detrusor, 8 cases, detrusor sphincter dyssynergia, 14 cases, urethral stenosis, 4 cases, genital prolapse gr III/IV, 2 cases and urinary retention caused by TVT insertion in 2 cases. Patients were divided in 2 groups: Gr. A40 years old, 36 patients. Chi-square test showed a significant relation between Gr. A and detrusor sphincter dyssynergia ($p=0.01$) and between Gr B and impaired detrsor contractility ($p=0.02$). Mann-Whitney test demonstrated a significant relation between the bladder capacity and the volume of post-void residual urine (PVR), $p=0.0006$ and between the neurogenic bladder and PVR ($p=0.02$). Also, we observed that there is a correlation between peak flow-rate (Q_{max}) and volume of PVR ($r = -0.32$), p value was also significant, $p=0.02$. The relation between Q_{max} and neurogenic bladder was insignificant , $p=0.95$. **Conclusions:** Urinary retention is a condition that can affect women. Also, there are several conditions, ex. UTI, genital prolapse, which require a complete urological examination and urodynamical status, also. In order to manage properly urinary retention in women, urodynamics have an essential role, especially pressure-flow studies (to differentiate a low Q_{max} caused by an obstruction and a low Q_{max} due to a detrusor contractility dysfunction).

Keywords: urinary retention, pressure-flow study, urodynamics, post-void residual urine, Q_{max}

PREDICTIVE ROLE OF PREOPERATIVE NEUTROPHIL-TO-LYMPHOCYTE RATIO IN PATIENTS WITH UPPER TRACT UROTHELIAL CARCINOMA: A MULTI-INSTITUTIONAL STUDY

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Background: Several retrospective studies with small cohorts reported neutrophil-to-lymphocyte ratio (NLR) as a prognostic marker in Upper Tract Urothelial Carcinoma (UTUC) following Radical NephroUreterectomy (RNU). We aimed to validate the predictive and prognostic role of NLR in a large multi-institutional cohort. **Material and methods:** Preoperative NLR was retrospectively assessed in a multi-institutional cohort of 2477 patients with UTUC treated with RNU. Altered NLR was defined by a ratio > 2.7 . Logistic regression analyses were performed to assess the association between NLR and lymph node metastasis, muscle invasive and non-organ-confined disease. The association of altered NLR with Recurrence Free Survival (RFS) and Cancer Specific Survival (CSS) was evaluated using Cox proportional hazards regression models. **Results:** Altered NLR was observed in 1428 (62.8%) patients and associated with more advanced pathological tumor stage, lymph node metastasis, lymphovascular invasion, tumor necrosis and sessile tumor architecture. In a preoperative model that included location and architecture, NLR was an independent predictive factor for the presence of lymph node metastasis, muscle invasive and non-organ-confined disease ($p<0.001$). Within a median follow-up of 40 months (IQR 20-76 months), 548 (24.1%) patients experienced disease recurrence and 453 patients (19.9%) died from their cancer. Compared to patients with normal NLR, those with altered NLR had worse RFS (0.003) and CSS ($p=0.002$). In multivariable analyses that adjusted for the effects of standard clinic and pathological features altered NLR did not retain an independent prognostic value. In the subgroup of patients treated with lymphadenectomy in addition to RNU, NLR was independently associated with CSS ($p=0.03$). **Conclusions:** In UTUC, preoperative NLR is associated with adverse clinicopathologic features and independently predicts the presence of lymph node metastasis, muscle invasive or nonorgan confined status. However, when adjusting for the effects of established prognostic factors, NLR is not an independent predictor of survival outcome.

Keywords: upper tract, urothelial carcinoma, predictive factors, neutrophil-to-lymphocyte ratio

DEPTH OF LAMINA PROPRIA INVASION IS NOT ASSOCIATED WITH WORSE CLINICO-PATHOLOGICAL FEATURES IN T1 NON-MUSCLE INVASIVE BLADDER CANCER

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Background: The management of non-muscle invasive bladder cancer (NMIBC) in the past years has significantly improved, still the outcomes of these tumors are hard to predict. Numerous predicting factors are described in literature. The aim of our study was to determine the association between predicting factors and depth of lamina propria invasion in T1 NMIBC tumors. **Material and methods:** We retrospectively reviewed the charts of patients that undergone TUR-B between January 2011 to December 2013 in Urology Department. Inclusion criteria were T1 tumors, 29 patients were T1 and 23 patients were T1a according the depth of lamina propria invasion. A re-TUR-B was performed within 6 weeks according to guidelines. Neutrophil-to-lymphocytes cut-off was set at 2.7 as described before. Statistical analysis was performed using STATA 11.0. **Results:** The median age was 73 years (IQR 39-90 years), 43/52 (82.69 %) were male. Statistical analysis was performed to assess the association of lamina propria invasion with clinico-pathological features. In terms of gender: 4/23 female patients with T1a (17.4%) and 5/29 with T1a (17.3%), $p=0.98$; CIS was detected in 10/52 cases (19.23%), 2/23 (8.7 %) in T1a and 8/29 (27.6 %) in T1 patients, $p=0.08$; lymphovascular invasion was noticed in 13/52 (25%), 7/13 (53.84%) with T1a, $p=0.42$; necrosis in 3/52 (5.76%) of cases, 3/3 with T1, $p=0.11$; high-grade tumors in 44/52 (84.61%), 20/44 (45.45%) with T1a, $p=0.67$; tumor size higher than 3 cm in 25/52 (48.07%), 13/25 (52%) with T1a, $p=0.27$; more than 1 tumor in 27/52 (51.92%) ,12/27 (44.44%) with T1a, $p=0.76$; and NLR higher than 2.7 in 26/52 (50%), 12/26 (46.1 %) with T1a, $p=0.78$. **Conclusions:** Higher percentage of patients with T1 had associated carcinoma in situ than in T1a patients, necrosis was associated only with T1 tumors, but depth of lamina propria invasion was not associated with worse clinico-pathological features of the tumors.

Keywords: lamina propria, invasion, neutrophil-to-lymphocytes, lymphovascular invasion, carcinoma

POSTERS

PECULIARITIES OF COOKING MEALS CONDITIONS IN SOME HOUSEHOLDS IN THE REPUBLIC OF MOLDOVA

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Background: About 4,3 million people a year die prematurely from illnesses attributable to the household air pollution caused by the inefficient use of solid fuels (2012 data). Among these deaths: 12% are due to pneumonia, 34% from stroke, 26% from ischemic heart disease, 22% from chronic obstructive pulmonary disease, and 6% from lung cancer. **Material and methods:** The research has been based on the determination of some physical and chemical factors of the environment during cooking meals. With the help of the machine Air Quality Monitor 500 there have been measured the temperature and the relative humidity of the air, and from the chemical factors - the carbon dioxide and the carbon oxide, before cooking meals, in an hour after the beginning, at the end of the cooking and an hour after the end of preparing dishes during summertime. **Results:** The population cooks dishes in the kitchen (31%), in the living room (21%), in summer kitchens (specially arranged rooms or garages) (32%) and outdoors (16%). Not all the rooms have windows (in 17% of the rooms the windows are missing). The dishes are cooked more often on the peasant stove (47,0%) and/or on a cooker (44,7%), the electric hob being rarely used (8,3%). Out of the total number of the used cookers, 30% present defects, out of the electric hobs - 27% are defective, and the most flaws have peasant stoves (59%). As fuel sources serve: wood (55%), coal (36%), biomass (23%), crop residues (49%). The population which cooks in rooms that do not correspond to hygienic norms, which are not ventilated, use defected cooking installations, suffer from pneumonias, bronchitis, obstructive bronchitis, ischemic heart diseases. A supplementary factor is also smoking. **Conclusions:** A reduced number of the population has rooms for cooking the meals corresponding the hygienic norms. Better conditions are in areas provided with natural gas pipelines.

Keywords: conditions of cooking meals, physical factors, chemical factors

ASSESSMENT AIR QUALITY DURING COOKING MEALS IN RURAL HOUSEHOLDS OF THE REPUBLIC OF MOLDOVA

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Background: Many constituents in stove emissions are known to be hazardous to human health and impact climate, but in practice emissions measurements largely focus on a subset of these; those that are important markers for health endpoints (carbon monoxide, SO₂), and those that are important to estimate climate impacts (CO₂, CO, N₂O). Objectives Assessment air quality during cooking dishes in rural households of the Republic of Moldova. **Material and methods:** All the measurements have been performed before cooking meals, in an hour after the beginning, at the end of the cooking and an hour after the end of preparing dishes during summertime, in rural areas of Republic of Moldova. With the help of the machine Air Quality Monitor 5000 (SUA) there have been measured the temperature and the relative humidity of the air, and from the chemical factors - the carbon dioxide and the carbon oxide. **Results:** The concentration of carbon dioxide averaged in the kitchen - 0,18mg/l in the living rooms and summer kitchens - 0,17mg/l cases of preparing of meals in outdoors - 0,16mg/l. Maximum concentration of carbon dioxide in the kitchen was - 0,21mg/l. The average value of the temperature in an hour after the start of preparation of the meals grew up with 2,10C (from 26,40C till 28,50C, p <0.001), and at the end of the preparation of meals - with 4,50C (from 26,40C till 31,00C, p <0.01). Changing of the values relative humidity of the air is similar to dynamic changes of the air temperature. **Conclusions:** The population of all three researched rural areas of Moldova are subjected to adverse conditions during the preparation of meals thanks to lack of air purification installations. As a result the population has a major risk of doing respiratory diseases, cancer and cardiovascular diseases.

Keywords: conditions of cooking meals, physical factors, rural households

DETERMINATION OF AMLODIPINE AND TELMISARTAN FROM FIXED DOSE COMBINATIONS BY CAPILLARY ELECTROPHORESIS

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Background: Lowering high blood pressure levels by monotherapy can be a challenging task in modern therapy, especially for the patients who are also suffering from other diseases, as it is demonstrated that a majority of hypertensive patients need two or more antihypertensive drugs to lower their blood pressure effectively. Consequently, the use of fixed-dose combinations which combine several active agents in single pharmaceutical formulations appears to be a novel and underlying trend in the treatment of cardiovascular diseases. One such combination is the one between the angiotensin II receptor blocker - telmisartan and the calcium channel blocker - amlodipine, combination that demonstrated significantly greater blood pressure reductions compared with each monotherapy component. **Material and methods:** The large majority of methods described in literature for the simultaneous determination of antihypertensive drugs from fixed combinations use high performance liquid chromatography; but capillary electrophoresis, due to its advantages related to short-analysis time, rapid method development and low consumption of analytes and reagents, emerged in recent years as an alternative and also a complementary method to the more frequently used chromatographic procedures. **Results:** The best results for the simultaneous determination of amlodipine and telmisartan were obtained when using 50 mM phosphate buffer at pH 4.50, + 25 kV applied voltage, 25 °C system temperature, injection pressure 50 mbar, injection time 2 seconds, UV detection at 210 nm. The two analytes migrated in less than 3 minutes, the order of migration was amlodipine followed by telmisartan; the resolution of the separation was 4.90 with a selectivity factor of 1.09. The analytical performance of the method was verified with regard to linearity, precision, robustness and the limit of detection and quantification were calculated. **Conclusions:** The proposed method was successfully applied for the determination of the analytes in their co-formulated tablets and can therefore be used as quality control protocols in pharmaceutical industries.

Keywords: fixed-dose combinations, amlodipine, telmisartan, capillary electrophoresis

THE STUDY ON EXPRESSION OF FATIGUE AMONG STUDENTS OF THE UNIVERSITY OF MEDICINE AND PHARMACY "NICOLAE TESTEMITANU"

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Background: Fatigue problem becomes now a social problem - is called the disease of the century. Fatigue is reflected in an intellectual work, primarily on the activity of visual analyzer manifested by weakening of clear-sightedness stability, the rate of distinction, contrast sensitivity and auditory analyzer by intense hearing request. It is manifested by the weakening of attention, reduced perception, decrease of the reactions to external stimulant, continued decline in labor productivity. Highlighting the relationship between attention and fatigue and identify the factors that influence the decreasing of attention and installation of fatigue. **Material and methods:** The study was realized on a group of students, from the University of Medicine and Pharmacy "Nicolae Testemitanu" Public Health faculty. As a lot of research have served 52 students of first to fifth year of study. Interviewing students was conducted using a questionnaire of opinion. Determination of psycho-physiological index was made at the beginning and the end of the working day and during semesters of study. **Results:** Tests showed that the value of attention is reduced at the end of the working day, while working capacity increases at the end of it. The females show a higher level of attention in the first half of the day compared to males. Better results of psycho-physiological index had registered at the students of the IV year of study, but the worst - at first year of study. Investigation reveals the highest level of fatigue at students is recorded on Friday evening at the end of the work week in May, December and June. **Conclusions:** The results attest an intense program of study, no period of adjustment to new requirements. All listed directly contribute to installation the chronic fatigue among students.

Keywords: fatigue, students, attention

COMMUNITY ACQUIRED URINARY TRACT INFECTION: ETIOLOGY AND ANTIBIOTIC RESISTANCE PATTERNS

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Background: Urinary tract infection (UTI) ranks one of most common medical disease encountered in medical practice with significant morbidity and health costs. Worldwide, about 150 million people are diagnosed with UTI each year, costing the global economy in excess of 6 billion US dollars. Although a broad range of pathogens can cause UTIs, *Escherichia coli* remain the most common; however, even this organism is becoming resistant to the agents that are normally prescribed. **Material and methods:** Consecutive clean-catch mid-stream urine samples were collected from 1216 adult patients. The urine samples were processed and microbial isolates were identified by conventional methods. Antimicrobial susceptibility testing was performed on all bacterial isolates by Kirby Bauer's disc diffusion method. **Results:** Out of the 1216 tested sample 238 (19,6%) samples showed growth of pathogens. Of the 134 significant isolates, gram-negative aerobic rods accounted for 87,6 % while gram-positive cocci accounted for the remaining 12,4 % of the total pathogens. Prevalence of uropathogenes revealed that *E. coli* (51,3%), *Pseudomonas aeruginosa* (10,5%), *Proteus spp.* (9,1%) and *Klebsiella spp.* (7,6%). Among the gram-negative enteric bacilli high prevalence of resistance was observed against ampicillin and ceftriaxone. Most of the isolates were resistant to 4 or more number of antibiotics. Amikacin and imipenem were the most active antimicrobial agents which showed low resistance rate of 6,7% and 7,4 respectively. **Conclusions:** Gram-negative agents are the most common cause of UTI. This study revealed that the predominant bacterial pathogen of community acquired UTIs was *E. coli*. Moreover, this study concludes that *E. coli* and other isolates were more sensitive to imipenem and amikacin, and therefore these may be the drugs of choice for the treatment of UTIs in our region. Alarming is that almost all of the isolates were found resistant to four or more antibiotics. Antibiotic resistance is becoming a big problem for the public health which threaten the lives of individuals and adding considerably to health care cost. That is why, it is important that our policy makers formulate a strict antibiotics prescription policy.

Keywords: urinary tract infection, antibiotic resistance, *Escherichia coli*

THE STUDY OF THE MORBIDITY OF THE POPULATION OF THE REPUBLIC OF MOLDOVA

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Background: The state of the health of the population from the Republic of Moldova needs a special attention, that is due to the influence of the environmental, of the habitat and professional factors. **Material and methods:** There has been effectuated a study based on the official statistical data, concentrated at the National Centre of the Management of Health from the Republic of Moldova, during 2012-2014 period. **Results:** In the northern area, the first place is given to the diseases of the circulatory system-654,1±54,90/000, on the second place are the diseases of the respiratory system-1197,5±47,70/000, then follow the diseases of the digestive system-53,7±18,20/000, the diseases of the genitourinary system and endocrine, nutritional and metabolic diseases, respectively-449,7±14,90/000 and 440,3±25,50/000. Mental and behavioral disorders and the diseases of the musculoskeletal system and connective tissue are placed on the sixth and seventh place-406,2±3,40/000 and 390,4±7,30/000, followed by the other classes of diseases. The same situation has been registered in the case of the frequency of the appearance of the events of the disease. Higher values of the prevalence in the central area have been attributed to the diseases of the circulatory system, of the respiratory system and of the digestive system - 1349,3±60,60/000, 1176,4±68,70/000 and 903,6±20,70/000 respectively. The same situation has been confirmed in the southern area. The other classes of diseases, that characterize the general morbidity of the population in the central area - endocrine, nutritional and metabolic diseases, those of the genitourinary system, mental and behavioral disorders, and the diseases of the musculoskeletal system and connective tissue, have been registered - 470,5±20,60/000, 427,4±9,40/000, 404,9±5,10/000 and 314,6±5,30/000. **Conclusions:** The incidence of the infectious and parasitic diseases, of the diseases of the respiratory system decreases along with the ageing, and vice-versa, the number of the cases of diseases of the circulatory system, of

the digestive system, of the musculoskeletal system and connective tissue increases.

Keywords: morbidity, prevalence, incidence

THYROID DAMAGE INDUCED BY TREATMENT WITH AMIODARONE

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Background: The increased frequency of thyroid disorders in our area requires proper monitoring of amiodarone . Amiodarone, known as supraventricular and ventricular antiarrhythmic is a compound rich in iodine, with a structural similarity to thyroxine (T4). Amiodarone may have direct cytotoxic effect on follicular cells leading to a destructive thyroiditis **Material and methods:** We studied 53 patients during chronic treatment with amiodarone (three with monomorphic ventricular tachycardia, 47 with atrial fibrillation and 3 with atrial flutter), who were admitted to the Medical Clinic I, Clinical Emergency County Targu Mures in the period July 2010 - July 2015. The diagnosis was based on clinical data correlated with hormonal dosage. The routine test of thyroid disfunctions induced by amiodarone is determination of TSH (thyroid-stimulating hormone). If it is modified, FT4, FT3 (free thyroid hormones, thyroxine and triiodothyronine), antithyroid antibodies (ATPO) dosing is required. All patients were in maintenance treatment dose 100-200 mg / day of amiodarone. Only 6 patients were properly monitored in terms of thyroid. In no patients were taken into account preexisting thyroid pathology. **Results:** The patients age was 59 years old, 45% men and 55% women; 23 patients suffered from thyroid disorders: 10 cases of hyperthyroidism, 13 cases of hypothyroidism . Hypothyroidism affected mostly women 65 years old with no history of thyroid pathology, 1-2 years after the initiation of treatment with amiodarone. Hyperthyroidism was more common in men under 60 years old, 35% of them having a previous thyroid pathology (nodular goiter), the diagnosis was established after 2 years of starting treatment with amiodarone. 11 patients had discontinued therapy because amiodarone symptoms induced thyroid dysfunction developed from this medication. **Conclusions:** Initial assessment of thyroid status and appropriate and regular monitoring of patients removes undesired effects of this potent antiarrhythmic therapies.

Keywords: antiarrhythmic, amiodarone, thyroid disorders

THE CULTURE MEDIUM FOR RAPID INDICATION OF STAPHYLOCOCCUS SPP

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Background: The staphylococci pathogens are the most frequent agents of infection among children, inflammatory processes among pregnant women and women after the post-abortive period, the septic-purulent processes among patients in surgical and urology wards etc. This paper work represents a scientific and practical research based on finding the technical procedures and new multi-test systems for a fast determination of pathogenic staphylococci in different samples. **Material and methods:** The researches have been made using the standard materials and reagents and original medical products. The strains of the microbial cultures have been reseeded daily on sets of reference culture media for restoring the cultural and biochemical characters. **Results:** The researches have been directed toward approaching the methodical and technical parameters of the nutritive development base and procedures of pathogenic staphylococci fast identification based on their cultural characters and biochemical tests. Thus, a new culture media has been created in a micro-filmic form for a fast identification of pathogenic staphylococci in micro-methodical conditions, being sensible and specific, selective-differential, of an essential economy and easy in application. **Conclusions:** It has been created a new procedure of fast, microbiological monitoring (MMM-St) of pathological staphylococci in various samples. MMM-St allows the cultivation, accumulation and staphylococci indication in initial concentrations of 10¹-10² c.m./ml in 8-9 hours, and in initial concentrations of 10⁹, after 4-5 hours of incubation at a temperature of 37°C. The recipient and the sink allow the creation of a cultural medium under a form of a dry film, assures the sterility and a prolonged storage (period of observation - 12 months) and at the same time it is a vessel used for pathogenic staphylococci indication.

Keywords: Staphylococcus spp., rapid indication, culture medium

INCIDENCE AND PREDICTIVE FACTORS FOR POSTOPERATIVE PAIN AFTER SINGLE VISIT ENDODONTIC TREATMENT

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Background: The aim of our prospective clinical study was to evaluate the incidence, severity and predictive factors for postoperative pain in single visit endodontic treatment. **Material and methods:** In 126 teeth with vital or necrotic dental pulp, cleaning and shaping procedures were carried out using rotary ProTaper system combined with Nickel-Titanium hand instruments. The root fillings were completed in one visit and the patients were given a visual analogue scale on which the presence and intensity of pain was recorded at 12, 24 and 48 hours after treatment. **Results:** Severe pain was present in 14% cases after 48 hours, compared to 19% and 18% after 12 and 24 hours respectively. The presence of preoperative pain, lateral mandibular teeth and age of the patient were associated frequently with postoperative pain. **Conclusions:** Single visit endodontic treatment is a reliable option for asymptomatic teeth and the vitality of the pulp tissue seems to have a little influence of postoperative pain.

Keywords: single visit endodontic treatment, postoperative pain, rotary endodontic systems

COMPARATIVE EVALUATION OF ROTARY VERSUS CONVENTIONAL ENDODONTIC TREATMENT PERFORMED BY POSTGRADUATE STUDENTS

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Background: The aim of the study was to compare the healing rates of apical periodontitis after endodontic treatments performed by postgraduate students and to evaluate the correlation between therapy outcome and clinical protocol which included the use of dental operating microscope and manual versus rotary Nickel-Titanium instruments. **Material and methods:** We used two groups: the first group with 161 teeth and the second group with 114 teeth, cleaned and shaped with Nickel-Titanium manual and rotary instruments, respectively. **Results:** The statistical analysis of the outcome showed better results when rotary devices were used, with a significant difference after 6 months, with $p=0.0151$ ($p<0.05$). At 18 months the results are more significant ($p=0.0078$). **Conclusions:** The treatment outcome was better when rotary systems were used, as they have the potential to reduce the technical difficulties and simplify the treatment techniques. Accompanied by a dental operating microscope, these instruments can be safely used even by less experienced practitioners.

Keywords: endodontic treatment, apical periodontitis, ProTaper rotary system

CONE-BEAM COMPUTED TOMOGRAPHY – A NEW IMAGING TECHNIQUE FOR DENTAL DIAGNOSIS

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Background: Due to the short-comings of current dental imaging methods, the researchers were looking for more efficient ways for dental evaluation. The Cone-beam computed tomography (CBCT) is now considered to be a next major achievement in dental imaging, at a lower cost and radiation dose compared to conventional computed tomography. The aim of our study is to evaluate the importance of CBCT scans in the assessment of endodontic pathology by comparison with the conventional radiography. **Material and methods:** We examined 35 root filled teeth with uncertain diagnosis or persistent clinical symptoms, in which the quality of the root filling, missed canals or persistence of apical periodontitis were recorded. **Results:** The results showed a higher percentage of healed periapical lesions when the evaluation was carried out by conventional radiographic examination compared to CBCT ($p < 0.05$). CBCT proved extremely efficient in endodontic therapy regarding the identification of anatomic variations ($p < 0.05$). **Conclusions:** CBCT examinations must be taken into consideration for cases in which the benefits of this investigation overcome the risks, offering additional information compared to conventional radiographic examination.

Keywords: CBCT, apical periodontitis, imaging techniques, periapical healing

SYNCOPE...AND MUCH MORE

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Background: We present the case of a 59 year old male, with no previous medical history, who was admitted in the emergency department for syncope (without sphincter relaxation or convulsions). Immediately after admission in our department, as well as on the 24h ECG monitoring, 2 episodes of non-sustainable ventricular tachycardia could be observed, indicating a probable arrhythmic etiology of the syncope (the EEG performed in the emergency department ruled out any neurological involvement).

Material and methods: Considering the ECG changes (1 mm ST segment depression in DII, DIII, aVF, V5, V6, along with negative T waves) we decided to perform echocardiography and coronarography. **Results:** Echocardiography revealed a dilated LV (80/70 mm), with severe segmental hypokinesia. Coronarography revealed multiple lesions: occluded LAD with recharging from collateral vessels, sub-occluded right posterior descending artery, 75-90% stenosis of the RCA segment III, 50-75% and more distally 75-90% stenosis of the circumflex artery segment II, occluded postero-lateral branch. Echocardiography stress test with dobutamine expresses viability criteria for the inferior and lateral territory, so we decided to perform PCI on the RPD, followed by BMS implantation, which was carried out successfully without any complications. The patient returned to our department after 3 months for ICD placement for secondary prevention of sudden cardiac death. The patient's evolution was favorable, with no angina or electric shocks to the present day. **Conclusions:** We should never approach lightly a syncope case, because, as in the case presented above, after thorough investigation we discovered a myriad of conditions in an otherwise asymptomatic patient. An apparently trivial case can hide an intricate pathology underneath.

Keywords: syncope, asymptomatic patient, 24h ECG monitoring, echocardiography, coronarography

PREVALENCE OF ANEMIA IN CHILDREN AGED 0-5 YEARS

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Background: Iron deficiency anemia is a major problem worldwide. Iron deficiency remains one of the biggest public health problems globally, affecting 47% of preschool children and 25% of school-age children. Ferritin is an important marker in setting iron deficiency anemia. **Material and methods:** The study was conducted at Sibiu Children's Hospital for a period of one year, using 285 data from the electronic archives of the laboratory. The samples were collected in vacutainers with K3EDTA anticoagulant for hemoglobin and were carried out on XS Sysmex 1000i analyser, while for ferritin, there have been used vacutainers without anticoagulant and the MiniVidas, Biomerieux analyser was used. Prevalence of anemia in the age group 0-5 years was established, aiming at hemoglobin and serum ferritin parameters. **Results:** Prevalence of anemia in children aged 0-5 years old was 45.6%, significantly higher compared to Europe (21.7%), but lower compared to Africa (67.6%), Southeast Asia (65.5 %), Eastern Mediterranean (46.7%), according to the WHO. Surveys in developing countries rely only on measurements of hemoglobin and are often limited to target groups or specific regions. **Conclusions:** To reduce iron deficiency and iron deficiency anemia, it is necessary to apply a strategy. To solve this problem, it is necessary to reduce poverty, promote feeding practices and better care, better access to diversified diet, administration of iron supplements in children from the age of 6 months.

Keywords: anemia, children, iron deficiency

THE KAWASAKI DISEASE – A DIAGNOSIS CHALLENGE

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Background: The Kawasaki syndrome is a feverish disease of the young child, with multi systemic affections, which has at its basis the modifications produced by the inflammation of blood vessels. The diagnosis of a case of Kawasaki disease at a child with fever, adenopathy and mucocutaneous syndrome, being a disease which is not frequently met by doctors, and especially by doctors specialized on infectious diseases. **Material and methods:** A 4 year old patient, is admitted to the Infectious Disease Clinic, on the 6th day of the illness, with fever, anorexia, and the apparition of a generalized micropapular exanthema. **Results:** At the objective examination at admittance, I observed conjunctivitis, angle mandibular and lateral cervical adenopathy, erythema, and edema on legs and hands, strawberry - like tongue, exanthema on torso and abdomen, an exanthema with hemorrhagic tinge at the level of inguinal and axillary folds. Initially, there was a suspicion of scarlet fever, starting a treatment with Penicillin and steroidal anti inflammatory. Later, on the second day of admittance, there appeared fissures of the lips, vesicular lesions of the tongue, and marked conjunctival hyperemia. The suspicion of Kawasaki disease appears. That is why an emergency cardiological examination is done, which describes a delicate blade of liquid in the VD anterior-inferior pericardium, but without any echocardiographic modifications. From the lab results suggestive for the diagnosis we mention: leukocytosis, thrombocytosis, elevated VSH, elevated PCR, hepatic cytolysis syndrome. Treatment with immunoglobulin and platelet antiagregants, was initiated with favorable evolution. **Conclusions:** The Kawasaki disease raises problems of differential diagnosis with eruptive feverish diseases and implies a multidisciplinary collaboration. Patients diagnosed with this disease must be monitored clinically and paraclinically for a long period of time.

Keywords: Kawasaki syndrome, eruption, infant

A MULTIPARAMETER MODEL FOR THE CORRELATION BETWEEN CT HOUNSFIELD UNITS AND BLOOD COMPONENTS

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Background: Based on technical principles there should be a correlation between blood Hounsfield Units values as measured by Computed Tomography and blood components with regards to hemoglobin oxygenated status, demographic data and acquisition parameters. **Material and methods:** A retrospective study included a convenience sample of 144 SCJU patients who underwent routine thoracic CT examinations (Siemens Somatom AS 64 or 128 MDCT) in 2014 and had laboratory examinations done in nearby time. A number of 16 measurements was performed on each acquisition using a 1 cm² circular ROI in Aorta, MPA, LPA and RPA. Variables included age, sex, mA, mV, aortic HU values, PA HU values, RBC, HTC, HGB, PLT, WBC blood sugar, PT and INR values and were recorded in an MS Excel CSV database. Statistical analysis was performed using R version 3.1.1 and MedCalc 12.5 with a statistical significance factor of 0.05. **Results:** The examined patients had an average age of 56.25, with a predominance of males (M:F=1.62). While there was a minor difference between HU values in Males vs Females (1.01 HU) it was proven as statistically significant (p=0.0051). No statistical significant difference between oxygenated/non-oxygenated blood (p=0.9636). Regression analysis found positive correlation between HU values and RGB, HGB and HCT with a significance level below 0.0001, the strongest being for the HGB level. Multiple regression analysis kept the previous positive correlations and found negative correlations for INR and PT, while the RBC and platelets had no influence. As expected, the glucose and white bodies had no influence on HU values. **Conclusions:** While HU values seem to carry multifactorial sources and the red blood cells being the most important an importance should be given to the fibrinoid plasma components which appear to bear negative impact. Partly financed by University of Medicine and Pharmacy of Tîrgu Mureş through Internal Research Grant 5/23.12.2014.

Keywords: computed tomography, hounsfield units, blood

COGNITIVE IMPAIRMENT AND DEPRESSION IN MULTIPLE SCLEROSIS PATIENTS- A BIDIRECTIONAL RELATIONSHIP

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Background: Cognitive impairment and depression have an increased prevalence in patients with multiple sclerosis (MS), and are important predictive factors of the quality of life of these patients. The aim of the study was to analyse the relationship between these two neuropsychiatric disorders in MS patients. **Material and methods:** In the study were included 32 patients with relapsing remitting MS (RRMS), without relapses and corticosteroid treatment in the last month, and 32 healthy controls (HC). To evaluate depression level, we used the Romanian version of Beck Depression Inventory-II (BDI-II). Paced Auditory Serial Addition Test 3 (PASAT 3), Symbol Digit Modalities Test (SDMT) and Brief Visuospatial Memory Test-Revised (BVM-T-R) were used to assess the cognitive performance. All tests were performed at the onset of the study and after 1 year. **Results:** RRMS patients had significantly lower results compared with HC for all cognitive tests (PASAT 3 $p=0.0001$, SDMT $p=0.001$, BVM-T-R 1 $p=0.002$, BVM-T-R 2 $p=0.0001$, BVM-T-R 3 $p=0.0001$, BVM-T-R 4 $p=0.0001$). After univariate statistical analysis, it was found that the level of depression were negatively correlated with cognitive performance both at the beginning and end of the study. Increased levels of depression at the beginning of the study were associated with poor results in cognitive tests at the end of the study (PASAT 3: $r=-0.578$, $p=0.021$; SDMT: $r=-0.516$, $p=0.003$; BVM-T-R 2: $r=-0.432$, $p=0.014$; BVM-T-R 3: $r=-0.374$, $p=0.035$). Also, low cognitive performance at the onset of the study were associated with elevated BDI-II scores after 1 year (SDMT: $r=-0.433$, $p=0.013$; BVM-T-R 3: $r=-0.388$, $p=0.028$). **Conclusions:** MS patients have lower cognitive performance compared to HC. The results of the study confirm the hypothesis of bidirectional relationship between depression and cognitive impairment in MS patients. **Acknowledgment:** This study was supported by the internal research Grant of The University of Medicine and Pharmacy Targu Mures, Grant Number 18/2015.

Keywords: multiple sclerosis, cognitive impairment, depression

NON HODGKIN'S LYMPHOMA IN YOUNG ADULTS: A CASE REPORT

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Background: Diffuse large B-cell lymphoma (DLBCL) is a common type of lymphoid tumor, representing up to 30-40% of all non Hodgkin's lymphoma. This group is defined pathologically by large neoplastic cells with B-cell derivation and clinically aggressive presentation. Typically, the cells express B cell markers, most importantly for the treatment CD20, which is the target for Rituximab. Although outcome is partly dependent on the extent of disease at presentation, treatment is usually with combined chemotherapy, regardless of clinical stage. **Material and methods:** Case report: 22-year-old caucasian female presented to our department with dyspnea, orthopnea, relentless cough, fatigue which gradually worsened over a month. She also experienced weight loss, fevers, night sweats and significant neck and upper trunk swelling with engorged vessels. The laboratory findings show a normal blood count and peripheral smear, elevated LDH level. Contrast enhanced CT revealed a large mediastinal mass in the anterior and middle compartment with complete encasement of the superior vena cava (SVC) and brachiocephalic veins, showing acute thrombosis, tracheal-bronchial compression, pericardial effusion, multiple retroperitoneal lymphadenopathies. She underwent biopsy sampling via thoracotomy in the surgical ward. **Results:** Pathologic examination showed sheets of large B cells with bcl-6 and CD20 expression, consistent with primary mediastinal DLBCL. The patient categorised for a stage III by the Ann-Arbor staging criteria. The current standard of treatment is 8 cycles of R-CHOP (rituximab, cyclophosphamide, doxorubicin, vincristine and prednisone). The treatment cycles were well tolerated without tumor lysis syndrome, hemodynamic compromise or other acute toxicities. Restaging with PET after the second cycle showed significant reductions of the mass, with complete resolution at the end of the treatment. **Conclusions:** The addition of rituximab to chemotherapy for the treatment of DLBCL is demonstrated to improve both progression-free and overall survival. This particular patient's case was interesting because of the young age, lack of viral coinfections, fast response to chemotherapy.

Keywords: diffuse large B-cell lymphoma, dyspnea, thrombosis, rituximab, chemotherapy

PERIODONTAL DISEASE IN TYPE 2 DIABETIC SUBJECTS: AN EPIDEMIOLOGICAL STUDY

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Background: Although diabetes mellitus has often been associated with periodontal breakdown, the exact role of this disease in the pathogenesis of periodontal disease is not completely understood. Several epidemiological studies had shown no difference in the periodontal status between diabetics and non-diabetics. Our objective was to study the prevalence and severity of periodontal disease in type 2 diabetes mellitus (2 DM) subjects in Mures county. **Material and methods:** 100 type 2 DM patients (study group) and 100 non-diabetic subjects (control group) aged 35-60 were included in the study. The study group was divided based on glycated haemoglobin levels into well, moderately and poorly controlled. Relevant information regarding age, oral hygiene habits and personal habits were obtained from patients; diabetic status and the type of anti-diabetic therapy were obtained from the hospital records with patient's consent. Community periodontal index (CPI) was used to assess the periodontal status. **Results:** The mean CPI score and the number of missing teeth was higher in diabetics compared with non-diabetics, and was statistically significant ($p < 0.05$), indicating that prevalence and extent of periodontal disease was more frequent and more severe in diabetic patients. The risk factors like glycated haemoglobin, duration of diabetes, fasting blood sugar, personal habits and oral hygiene habits showed a positive correlation with periodontal destruction, whereas anti-diabetic therapy type showed a negative correlation. **Conclusions:** Type 2DM patients manifested relatively higher prevalence and severity of periodontal disease as compared to non-diabetics. **Acknowledgement:** internal research grant no.1064/26.01.2015 University of Medicine and Pharmacy Tg.Mures, financed by SC COSAMEXT SRL.

Keywords: diabetes mellitus, periodontal disease, epidemiology

COMPLICATIONS IN ULCERATIVE COLITIS. RETROSPECTIVE STUDY ON 5 YEARS.

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Background: Ulcerative colitis is an inflammatory disease of the intestine which causes persistent inflammation of the colon. Being a chronic disease, it could be a debilitating affection causing serious complications and symptoms which develop gradually with time. The aim of the study was to evaluate the presence of the intestinal and extraintestinal complications in patients with ulcerative colitis from a tertiary center of gastroenterology. **Material and methods:** We performed a prospective observational study on a group of patients which were in our clinics dispensation between January 2010 - December 2014. The study group contains 160 patients. The diagnosis of the illness was established by clinical exam, endoscopy and histopathology. Informations regarding demographic data, patients symptoms, and results of endoscopical exam were collected. The evolution of these was followed throughout the above mentioned period. **Results:** Following the presence of intestinal complications among the study group patients, we obtained the following results: the most frequent complication was lower digestive hemorrhage (34,4% of patients), followed by intestinal stenosis and intestinal perforation in 5% of the cases, and by the presence of the colorectal cancer (detected in 1,9% of cases). Intestinal complications had an approximately equal incidence on genders with the maximum frequency in the age group 6th decade. Depending on the extension of the UC most cases of intestinal complications were among patients with left extended ulcerative colitis. Depending on disease severity most cases were mild forms of the disease. The incidence of extraintestinal complications was in 8,75% of the patients. **Conclusions:** The correct approach of patients with UC should include clinical dispensation with regular clinical visits, an intensive control of the disease activity by medical treatment, in combination with endoscopic surveillance with biopsy sampling. The purpose of the colonoscopic surveillance consists in assessing the extent of lesions and detection of the preneoplastic lesions before malignant transformation.

Keywords: ulcerative colitis, extraintestinal complications, intestinal complications, colorectal cancer

ASSOCIATION BETWEEN ENDOSCOPIC AND HISTOLOGICAL FINDINGS IN MALIGNANT AND PREMALIGNANT GASTRIC LESIONS – A FIVE YEAR RETROSPECTIVE EPIDEMIOLOGICAL STUDY.

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Background: Gastric cancer (GC) is the fourth cause of cancer related mortality in Europe. Intestinal type GC is the result of a cascade of histological lesions like chronic atrophic gastritis (CAG) intestinal metaplasia (IM) and dysplasia. Our retrospective study evaluates the epidemiology of premalignant and malignant conditions of the stomach in a regional emergency hospital.

Material and methods: Between 2010 and 2014 we assessed data from 5418 consecutive patients who underwent upper gastrointestinal (GI) endoscopy with gastric biopsy in our Digestive Endoscopy Unit. **Results:** The mean age of our patients was 61 years (SD: 13), 51% of which males. Of all upper GI endoscopies performed biopsies were taken in just under 37% of cases in a targeted manner, mostly from erythematous or eroded mucosa (>65%), ulcers (15.4%), gastric polyps (9.1%), operated stomach (4.6%). The mean incidence of H. pylori infection over the years was 31.4% with a considerable decrease to 25.9% in 2014. Atrophy defined as loss of appropriate glands with or without IM was found in 21.5% of patients with a slow decrease down to 19.5% in 2014. The incidence of all premalignant lesions showed an increased incidence in the age groups above 55 years. Low grade dysplasia was found in 4.1%, high grade dysplasia was almost exclusively associated with GC, which was discovered in advanced stages and showed increased incidence (41) in 2014. The mean age of patients affected by GC was 66.8 (SD: 11.3) with a male/female ratio of 2.2/1. **Conclusions:** In our opinion the topography (mostly antral) and number of biopsies taken accounts for the relatively low incidence of premalignant lesion discovered by us. We urge the adoption of OLGA/OLGMI standards for biopsy sampling and histological classification for the screening of premalignant lesions of the stomach in patients over the age of 55 especially since GC is still frequent.

Keywords: gastric cancer, premalignant lesions, intestinal metaplasia, atrophy

EVALUATION OF THE CONCENTRATION OF TOXIC METALS IN COSMETICS

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Background: The European Union developed a list of more than 1000 compounds that are banned for use in cosmetics manufacturing. Cosmetic products are regulated for health and safety. There are concerns regarding the presence of harmful chemicals, including heavy metals, in these products. The skin of eyelid and lip is most susceptible to eczemas, irritant and allergic contact dermatitis. **Material and methods:** In this work a quantification of Cr, Cd, Pb, As, Hg, Ni, Co, Cu, Zn, Mn and Sb from eye shadows, lipsticks, nails polished, skin creams was performed by using inductively coupled plasma mass-spectrometry (ICP-MS Varian 820). The analyses were preceded by microwave -assisted acid digestion of a variety of commercially eye shadows, lipsticks, nails polished and skin creams were purchased and prepared in duplicate. **Results:** The lipsticks covered a range of colors, from dark brown to pink, red and purple. The results for the measured elements varied quite a bit between the various brands and colors. Another cosmetics with a different kind of matrix were nail polishes. Small amounts of metals were present in most of the polishes. Three types of cream samples (Romanian producer) were digested and measured for the elements of interest. **Conclusions:** Toxic metals such as Pb and Cr were discovered in the composition of all lipsticks (especially in Lipstick 10 - France producer) and of most of the nail polishes. Other research studies revealed a high level of mercury in the skin cream. But according to the measurements performed in our application, the presence of mercury was not confirmed for the skin creams for the three types of cream samples produced in Romania.

Keywords: toxic metals, cosmetics, mercury

CARDIOVASCULAR AUTONOMIC NEUROPATHY IN TYPE 2 DIABETES

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Background: Cardiovascular autonomic neuropathy (CAN), known as the "silent killer", is a serious and common complication of diabetes, among the least recognized and understood complications of diabetes, despite its significant negative impact on survival of these patients. **Material and methods:** 161 type 2 diabetes mellitus (T2DM) patients were included in this prospective study. All patients were evaluated for detection of CAN with standardized cardiovascular reflex tests, diabetes-related microvascular complications (peripheral polyneuropathy by clinical and electrophysiological evaluation, retinopathy), common carotid artery intima-media thickness (IMT) and ankle-brachial index (ABI) as indicators of macroangiopathy. **Results:** The prevalence of CAN was 39.1% in T2DM. Univariate logistic regression analysis demonstrated that in T2DM the odds [OR (95% confidence intervals)] of CAN increased with diabetes duration [1.67(1.42-1.92)], HbA1c [1.74(1.34-2.27)], cholesterol [1.01(1.00-1.01)], triglycerides [1.01(0.99-1.00)], smoking [2.35(1.23-4.49)], systolic blood pressure [1.01(1.00-1.03)], BMI [1.16(1.08-1.24)], glomerular filtration rate [0.91(0.88-0.93)], peripheral neuropathy [25.94(11.04-44.25)], retinopathy [13.13(3.03-84.73)] and IMT [10.12 (7.21-15.32)]. **Conclusions:** The development of CAN in T2DM is influenced by disease duration, long term poor glycemic control. Apart from glycemic control, the existence of CAN is associated with potentially modifiable cardiovascular risk in T2DM patients. The presence of other micro- and macrovascular complications increases the probability of having CAN in T2DM. **Acknowledgments** This study was supported by the internal research grant of The University of Medicine and Pharmacy, Grant Number 18/2015.

Keywords: microvascular and macrovascular complications, type 2 diabetes, cardiac autonomic neuropathy

IMPACT OF PERSONALITY DIMENSION ON THE QUALITY OF LIFE OF PATIENTS WITH FIBROMYALGIA

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Background: Specialized literature shows an increase in the preoccupation for quality of life issues in patients with various afflictions, be they somatic, psychological or psychosomatic. Despite the high prevalence of fibromyalgia, there is little information on the impact of the disease on the patients daily functioning and quality of life, from the point of view of their personality dimensions. Human personality has individual and specific thought patterns, in which emotions and behaviours have the purpose of defining a person's behaviour, but also the person's type of interaction to the physical and social environment. **Material and methods:** The research took place between July and December 2014 in the Mental Health Centre, Tîrgu Mureș. The psychometric tests used in this research are calibrated, standardised and validated on the Romanian population, in the case of DECAS personality inventory. In order to assess quality of life, we used Euro QoL Instrument 5 Domains. At screening subjects must meet the 1990 American College of Rheumatology criteria for fibromyalgia. **Results:** The social-demographic data of the sample is that regarding sex, age and level of education. 20 patients were included in this study, all of them were female, Mean = 41.80 years old. The results obtained for each personality dimension reveal the existence of a positive association between a low level of the dimension of Emotional Stability and a low level of the quality of life in patients suffering from leg ulcers. The factorial combination of the dimensions of personality corresponds to and is correlated with a low quality of life, which is seen from the correlation between low Emotional Stability and a low quality of life level $r = .43$, $N=20$, $p < 0.01$. **Conclusions:** Understanding the impact of the symptoms on the patient's life and functionality is extremely important in prioritising goals and personalising intervention methods.

Keywords: fibromyalgia, personality dimensions, quality of life

SILS TECHNIQUE - THE „ GOLD-STANDARD” OF ABDOMINAL SURGERY

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Background: Assuming a relatively new surgical technique that brings beneficial results for the patient and ensures a much lower postoperative recovery period. The surgical technique involves abdominal surgery through a single incision - about 2 cm, which is performed at the navel level. This procedure involves a much improved aesthetic appearance. Addressing such surgical techniques for certain types of abdominal diseases can be considered the " gold standard " of today and can ensure a transition to other technical approaches such as robotic surgery for surgical teams. **Material and methods:** As a search method I used databases to which I had access, namely: Ovid medline (from 1960 until 2014), Embase (from 1980 until 2015), PsychINFO (from 1980 until 2015), Springerlink (from 1985 until 2015), Sciencedirect (from 1990 until 2015), Oxfordjournals (from 1990 until 2015), Journals. Cambridge (from 1990 until 2015). Search keywords used are: single incision, abdominal surgery, unique trocar . **Results:** Largely, the advantages of minimally invasive surgery through SILS technique apart from other surgical approaches are: lower postoperative pain, faster recovery, reduced blood loss during surgery, respiratory movements greatly improved after surgery, less risk of postoperative seroma or hematoma, much better aesthetic appearance, faster socio - professional integration, lower costs. All this facts recommend and require treatment through minimally invasive approach in as many cases as possible of abdominal pathology. **Conclusions:** Certainly more than now, in the future focus will be to strengthen the character of minimal invasive surgical procedures and, as surgeons, we are obliged to continually supervise the procedure performed in order to produce a low as possible discomfort for the patient, and to have a short recovery period.

Keywords: single incision, abdominal surgery, unique trocar

URIC ACID AND LIPID PROFILE IN A COHORT OF 166 OVERWEIGHT AND OBESE PATIENTS WITH TYPE II DIABETES MELLITUS

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Background: Although traditionally linked to hyperinsulinemia in metabolic syndrome, recent data suggest that hyperuricemia might be an independent risk factor for developing cardiovascular disease, metabolic syndrome and type II diabetes mellitus. In this study we evaluated uric acid values, renal microlithiasis and lipid profiles in a cohort of both overweight and obese patients that were diagnosed with type II diabetes mellitus, in order to identify specific patterns of disease association. **Material and methods:** A series of 166 patients treated for type II diabetes in an outpatient clinic were included in the study cohort. Retrospective data (laboratory findings, anthropometric measurements, information about medication) were collected from the patient records and ultrasonography was performed to identify renal microlithiasis. **Results:** The cohort included patients aged 30 to 90 years, with the majority being in the age group of 50 to 80 years (83.7%), and a female: male ratio of 1.27 : 1. Patients were following treatment with either oral antidiabetic agents (47.0%), insulin (4.8%), or a combination thereof (12.6%), while the rest were on diet (35.5%). Based on BMI calculations, the majority of patients were classified as grade I obese (46.4%) or overweight (35.0%), with only 15% being included in grade II obesity and 3.6% in grade III. Over half of the patients had hypertension, and 94 (56.6%) had blood glucose levels exceeding 110 mg/dL. Renal microlithiasis was detected in 45 patients (27.1%), with urine crystal sediments in 14 patients (8.4%) and serum uric acid >7mg/dL in 13 cases (7.8%). Lipid profile analysis showed increased cholesterol in 45 patients, while triglycerides were >150 mg/dL in 36 cases, and HDL cholesterol was reduced in only 6.6% of cases. **Conclusions:** Our results once again highlight the importance of the association between type II diabetes mellitus, obesity, and the changes in protein and lipid metabolism.

Keywords: hyperuricemia, type II diabetes mellitus, renal microlithiasis, lipid profile

SIMULATING TRANSMISSION OF OCCLUSAL FORCES ON BONE AUGMENTATIONS WITH THE FEA METHOD

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Background: Repeated and moderate occlusal forces exerted on the alveolar ridge through RPDs can stimulate and help to conserve the ridge and not necessarily lead to the bone resorption. Excessive force causes residual ridge resorption by causing instability and impaired tissue prosthesis support. Loss absorption of alveolar ridge on the lateral side is complex, which is suitable for bone reconstruction by various techniques. The purpose of this study is to evaluate in vitro by using FEA, the action of the occlusal force which is transmitted by conventional RPDs on the substrate bone of the mandibular side after bone augmentation, compared with the numerical model of the ideal mandible. **Material and methods:** 10 patients were evaluated, men and women, minimum age 25 years, which shows termino-terminal mandibular edentation, a minimum four millimeters dehiscence and that is why were framed in the inclusion criteria. The treatment is based on surgery with bone augmentation and compliance with guided bone healing helped by a titanium membrane. After four months were applied conventional RPDs and then after one year has been evaluated masticatory force in IM, reported to the maximum force which has been described in the literature. Measurements were performed by two independent investigators. **Results:** Expected results were similar to those which has been described in the literature. FEA simulation showed that RPDs transmit occlusal forces in a lesser extent and mechanical stress do not threatening the bone augmentation. **Conclusions:** Success rate of a bone augmentations depends on biological factors and surgical techniques. Occlusal forces transmitted to the bone through RPDs does not produce atrophy of bone if RPDs were well designed technically and well biomechanical balanced. This paper was sustained by CIGCS-CC 2013, UMF Tîrgu Mureș, contract 18/2013.

Keywords: occlusal forces, FEA, bone augmentation

HYPERTENSION IN CHILDREN WITH NEPHROTIC SYNDROME

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Background: Nephrotic syndrome (NS) in children represents an important pathology, being one of the most frequent glomerular diseases in a pediatrician's practice, especially in the last years, when there was a significant decrease in the incidence of postinfectious glomerulonephritis. **Material and methods:** This is a retrospective study during the years 2001-2013, regarding the incidence and outcome of hypertension in children with NS, based on the clinical records and laboratory data of patients diagnosed with NS. **Results:** 209 children with NS were admitted in this study - 102 (48.80%) patients had steroid-sensitive NS, 23 (11%) steroid-dependent NS, 63 (30.14%) steroid-resistant NS and 21 (10%) congenital NS. In our study hypertension (HTA) was associated with edema, oliguria, proteinuria ± azotemia retention in the majority of the cases. Hypertension was present in 111 (53.11%) patients: prehypertension in 17 cases (15.31%), HTA I stage in 54 patients (48.64%), HTA II stage in 40 cases (36.04%) and no hypertensive emergency. In 53 children HTA was persistent. Complication of the hypertension appeared in 8.61% of cases (hypertensive retinopathy, encephalopathy, ventricular hypertrophy). **Conclusions:** We have observed a high incidence of HTA in children with NS. Majority of the cases (56.52%) with SDNS and 91.66% with SRNS presented impure NS. The lack of symptoms associated with serious long-term effects of hypertension requires an active approach to all patients with renal impairment, especially those with chronic kidney disease. The key to preventing long-term complications of hypertension is early detection and proper treatment, which also means a significantly better outcome, reducing morbidity and mortality related to the renal disease.

Keywords: hypertension, nephrotic syndrome, children

URODYNAMIC OBSTRUCTION FOLLOWING INCONTINENCE SURGERY: WHEN IS IT CLINICALLY SIGNIFICANT?

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Background: Urinary incontinence (UI) is a highly prevalent condition, with significant consequences on patients' quality of life. Surgery is a common treatment method, especially in stress and mixed (predominantly stress) UI cases. The onset of urodynamic obstruction after surgery can result in a series of complications ranging from incomplete and complete urinary retention to renal failure or sepsis. The aim of our study was to assess the incidence rate of obstruction in operated UI patients in a retrospective single cohort study. **Material and methods:** We performed a retrospective cohort study at our department in the period 1.10.2014 - 1.10.2015 and included a series of 24 female patients that had a history of UI surgery both in our clinic and in other departments. All patients were assessed clinically (ICIQ-SF) before urodynamics. **Results:** The majority (15 cases) had classical suspension (Burch or other) while the rest had suburethral slings (3 transvaginal and 6 transobturator slings). All patients had obstruction at urodynamics (mean Pdetmax of 50 cmH₂O with Qmax of 8 ml/s and PVR of 46 ml). Clinically, 18 patients had any kind of lower urinary tract symptoms (urgency, frequency, dysuria, straining, dribbling or other), 4 were diagnosed due to infectious complications and 2 had asymptomatic incomplete urinary retention. **Conclusions:** The presence of urodynamic obstruction after incontinence surgery is an uncommon finding that could explain the poor clinical outcomes in selected cases. Although sometimes asymptomatic, obstruction can lead to severe complications thus requiring adequate conservatory or surgical management. **Acknowledgement:** This paper is supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU/159/1.5/S/133377/.

Keywords: urodynamics, urinary incontinence, surgery, complications, infection

HYDROXYPROPYLMETHYLCELLULOSE AS FILMS FORMER FOR TRANSDERMAL DIFFUSION OF INDOMETHACIN

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Background: Transdermal route could represent an alternative to avoid the main side effects determined by oral administration of indomethacin, a non-steroidal anti-inflammatory drug. This study aims the evaluation of hydroxypropylmethylcellulose effects on the in vitro release of indomethacin from films formulated for transdermal diffusion. **Material and methods:** Ingredients: indomethacin, hydroxypropylmethylcellulose 15000 (HPMC), polysorbate 20; ethanol/propylene glycol 3:1 (plasticizer and enhancer). Solvent casting evaporation technique: ingredients were homogenized 1.5 hours, 500 rpm; 25 g of resulting solution was poured in a 10 cm diameter glass petri dish; evaporation of solvent was conducted in oven, at 50 °C, for 24 hours. Films were evaluated by: physical appearance, weight uniformity, thickness, folding endurance (measured manually for a strip of 4 cm²), tensile strength (for a strip of 1.5/4cm length), elongation (determined by noting the initial length and the length just before the break point: %E=(Length_f -Length_i)/Length_i×100); drug content uniformity (spectrophotometrically, 320 nm), in vitro drug release and diffusion through synthetic membrane (diffusion cell, 10 ml phosphate buffer pH 7.4 as receptor). **Results:** Films were formulated with 0.5% indomethacin (active ingredient), 1-3% HPMC (film former) and 1% polysorbate 20 (penetration enhancer). The 1% HPMC films results with transparent and uniform appearance, 2.48 g weight, 0.27 mm thickness, 10.5 g/cm² tensile strength, 62.5 % elongation and 0.61 mg/cm² indomethacin of which 0.58 mg/cm² are in vitro released/diffused in 9 hours. **Conclusions:** In the preparation process of transdermal films containing 0.5% indomethacin, 3% HPMC used as film forming polymer determines a too stronger gelation, which yields films with patchy appearance, difficult to handle and mold. Decreasing the concentration of HPMC to 1%, the films result with transparent uniform appearance.

Keywords: hydroxypropylmethylcellulose, indomethacin, transdermal films

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DIAGNOSIS OF ACUTE DIARRHOEA IN CHILDREN

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General considerations. Infectious diarrhoea may have multiple etiologies. In most cases, the disease is self-limiting, treatment consisting of preventing or combating dehydration. In some cases, antibiotic therapy is indicated, but in other cases this therapy is unnecessary or may increase the risk for complications.

Aim. Assessing the etiology of acute diarrhoea and the therapeutic implications for the cases hospitalized for a period of one year.

Materials and methods. There were carried out 1950 stool cultures and 1138 viral antigen tests for Rotavirus and Adenovirus (immunochromatographic assays). For seeding stool cultures, the following culture media were used: Hectoen-enteric and Selenite broth (for Salmonella, Shigella), McConkey Agar for enteropathogenic and enterohemorrhagic E. coli (EPEC and EHEC), CIN (for Yersinia), CCDA (for Campylobacter). Other tests used: latex agglutination (screening for Salmonella), multitest media (MIU, TSI), anti- "O" polyvalent or monovalent sera agglutination (for the confirmation of Salmonella, Shigella, Yersinia, EPEC, EHEC), smear gram (confirmation of Campylobacter) and Vitek identification tests.

Results. Of all stool samples, 181 tests were positive for Rotavirus, 57 positive tests for Adenovirus, 93 positive stool cultures for Campylobacter, 71 for Salmonella, 18 for Shigella, 10 for EPEC and no positive test for EHEC.

Conclusions. Most cases had viral etiology, in accordance with literature data; for these cases, antibiotic therapy is not recommended. Infection with Campylobacter spp represented the most common bacterial etiology. In this case, treatment with antibiotic lowers disease progression and reduces the risk of dissemination within entourage. Infection with Salmonella ranks 2 in terms of bacterial etiology, and treatment with antibiotics is not recommended. In terms of frequency, Shigella infections rank 3; antibiotic therapy is indicated according to sensitivity testing. Introduction of the method for the detection of Shiga-toxin for STEC and giving up EHEC testing may be more beneficial because STEC incidence is considered more frequent, evolution may be severe and the antibiotic treatment is contraindicated.

Keywords: acute diarrhoeal disease, child, treatment

ESTABLISHING REFERENCE INTERVALS FOR SERUM TOTAL CALCIUM IN MEDIAS AREA

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Background: Calcium is a mineral whose presence is very important to the body. The body skeleton contains about 99% of the total calcium, small amounts of this one are found in plasma and extravascular fluid. Every hospital or medical analysis laboratory must establish its own reference intervals depending on the facilities they are working with, the working substances and protocols.

Materials and methods: The study is a retrospective one using 157 data from the electronic archive of the laboratory of the VLADUȚIU & GARABEDIAN S.N.C. Clinic in Medias. Total serum calcium was determined by the colorimetric method on the Konelab analyzer. Processing of the collected data was done using the Hoffmann method, considering 5% up to 95% of the values in the database, the values being randomly selected. For comparison, data from the literature was used.

Results: In children under 1 year old, it was not possible to calculate the reference intervals since data was insufficient.

Regarding the age group between 4-6 years old, there have been obtained reference intervals of 2.19 - 2.57 mmol / L, which are similar to the reference values provided in the Lothar Thomas Guide- Clinical Laboratory Diagnostics, 1998 - (2.19 - 2.51 mmol/l).

For adolescents aged 7-18 years old, we obtained reference intervals ranging from 2.15 to 2.57 mmol/l. Comparing our results with the reference intervals stated by Lothar Thomas Guide - Clinical Laboratory Diagnostics, 1998, we can see that the upper limit was found to be slightly lower for the adolescents in the study.

Conclusions: Reference intervals established for calcium can provide important guidance for the reasonable supplementation of this essential element in infants and children. Also, the establishment of reference intervals is particularly significant because they represent the values for a reference population of a given region.

Keywords: calcium, children, reference interval.

ESTABLISHING REFERENCE INTERVALS FOR SERUM MAGNESIUM FOR CHILDREN IN MEDIAS

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Background: The aim of the present study was to calculate the reference intervals for serum magnesium in Medias area. Magnesium, the second most abundant intracellular cation throughout the body, has a special importance, functionally and structurally. Also, magnesium has a large number of functional roles, as activator of some enzymes (more than 300 enzymes) involved in the regulation of the neuromuscular function, control of cardiac excitability, regulation of energy metabolism, mitochondrial function, as well as in the synthesis of proteins and DNA.

Materials and methods. The study is a retrospective one, using almost 157 data from the archives of the Laboratory within the VLADUȚIU & GARABEDIAN S.N.C. Clinic in Medias. Serum magnesium was dosed using Konelab Prime 30i analyzer. The findings come from the children and adolescents hospitalized or outpatients during one year. In order to apply the Hoffmann method, firstly, aberrant values were removed. This was possible using the Chauvenet criterion.

Results. In the age group between 0 and 1 month, reference intervals were not possible to calculate using the indirect Hoffmann method, since data was insufficient. For the age group of 1 to - 4 years old, the reference intervals obtained in the current study, (0,69 – 1,03) mmol/l, are almost identical to the reference ranges set in the Roche Diagnostics Guide, 2004. For children aged 5-18 years old, the reference ranges obtained, (0,70 – 1,05) mmol/l, are almost identical to the reference intervals stated in the Roche Diagnostics Guide, 2004 but are slightly higher compared to the reference ranges declared in the Lothar Thomas Guide - Clinical Laboratory Diagnostics, 1998.

Conclusions. Our study results better reflect the real reference interval for the population of Medias area, also helping the clinicians to set up a diagnosis as quickly and correctly. These results were not significantly different from the literature studied.

Keywords: magnesium, reference range, children and teenagers

IMPORTANCE OF URO CULTURE IN URINARY TRACT INFECTION IN CHILDREN

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Background. In pediatric pathology, the urinary tract infection (UTI) is common (after respiratory infections and acute diarrheal diseases). The diagnosis of UTI is difficult to be set in infants and small children, most often fever represents the only symptom.

Materials and methods: There were analyzed the results of urine cultures (2958 samples) between 01.01.2014 – 31.12.2014 in Sibiu Children's Hospital. Quantitative urine culture was done by calibrated loop method at 1 ml, the sample being seeded on culture medium (blood agar, CLED, chromogenic medium). Urinalysis results were divided into 4 categories: 1. "negative" (<103 CFU / ml); 2. "positive" (> 105 CFU / ml, the growth of one type of germ in pure culture or predominant); 3. "possible contamination" (growth of a single type of germ in pure culture or predominant, between 103-105 CFU / ml); 4. "contamination" (increase of ≥ 2 germs, regardless of quantity).

Results. Of all urinalyses performed, 74.5%, samples were negative 9.2% samples were positive, 5.2% samples were possibly contaminated and 11.1% urine cultures were contaminated. The germs identified in positive urine cultures were *E.coli* (80.1%), *Proteus spp.* (8.3%), *Klebsiella spp.* (5.6%), *coliform bacilli* (2.8%), *Enterococcus spp.* (3.2%). Regarding the potentially contaminated samples, there have been identified: *E.coli* (52.0%), *Proteus spp.* (12.5%), *Klebsiella spp.* (7.0%), *coliform bacilli* (5.2%) and *Enterococcus spp.* (23.3%).

Conclusions. Most urine cultures were positive for *E.coli*. Also, the percentage of contaminated urine samples is high (11.1%), this may be due to the sampling method that uses containers attached to the genital areas of infants and babies less than 2 years old. The low number of positive urine culture is explained by the fact that pediatricians request urinalysis to evaluate the febrile syndrome, frequent entity in pediatric pathology. The results of "potentially contaminated" tests belong completely to the clinician, by correlating the result with the complete urinalysis and clinical status.

Keywords: urinary tract, infections, child, analyze

THE STUDY OF PARAMETERS WHICH CAN INFLUENCE THE OPTIMIZATION OF RADIOLOGICAL PROCEDURES

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Introduction. The use of ionizing radiation is a huge responsibility. There is a risk in establishing the diagnosis process. Both the patient and the occupationally exposed workers is needed for any clinical indication exposure at the individual level. The patient's benefit is the principal criteria in justification of this kind of examination.

Material and method. The study was realized at the Clinical County Emergency Hospital of Sibiu in 2014, using the radiological examinations performed at the Röntgen Diagnostic Laboratory. The radiodiagnostic examinations were performed with the MULTI-RADIOGRAPHY SYSTEM MRS, with maximum parameters: 125 kV, 320 mA. The development was effected with an automatic developer model HQ-350XT.

Results. There were analysed registered data from the lab's archive for the next groups of ages: <15 years (16-40) years, > 40 years. Data recorded: the age of the patient, the location of exposure, the type of exposure, the radiogenic voltage (kV), dose area product (DAP).

As a result of the analysed data was observed that the doses which received by the patients aren't too high and they are integrated in the reference intervals according to the Radioprotection series No. 109/1999.

Conclusions. The doses received by the patients is increased because the fact of this kind of examinations leave the tendency to be repeated, leading to large cumulative doses. It is considered that these problems can be resolved if: each exposure of the patient is justified, it is respected the Quality Management and the radioprotection measures.

Keywords: ionizing radiation, radioprotection measures, radiodiagnostic examinations

