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## International Congress for Students, Young Doctors and Pharmacists

### MARISIENSIS

Tîrgu Mureș, Romania  
28th of March – 1st of April 2018

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VOLUME OF ABSTRACTS

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**BOOK OF ABSTRACTS**

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# **BASIC MEDICAL SCIENCES**

## THE IMPACT OF IRON CHELATORS ON MCF-7 CANCER GROWING CELLS

Lupu Paula Madalina<sup>1</sup>, Ciobanu Maria Cristina<sup>2</sup>, Yanikkaya Demirel Gulderen<sup>3</sup>, Aru Basak<sup>3</sup>

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**Background:** Iron can have both an beneficial and deleterious effect on malignant process. For example, the free radicals produced by Felton's reaction may initiate tumor growth and also may function as a nutrient that promotes the proliferation of malignant cells. **Objective:** This study aims to find out if iron depletion facilitates the anticancer effect of 5-fluorouracil, a commonly used drug for treating breast cancer. **Material and methods:** Deferoxamine (commercial name: Desferal), an iron chelator used for treating iron overload in patients with thalassemia was used in this study. Also we used 5-Fluorouracil, one of the most common drug used for treating solid tumors. It is thought that 5-FU exerts its major cytotoxic effect via inhibiting TS during DNA synthesis, thus resulting in DNA damage. We used cultures of MCF-7 breast cancer cells which were derived from breast adenocarcinoma and have characteristics of differentiated mammary epithelium. We labeled them with CFSE and treated with 100 μM 5'fluorouracil at different concentration of Desferal. Non-treated cells were used as control, whereas cells treated with 5'-fluorouracil was used to determine the effect of Desferal. Proliferation and caspase-3 activation was assessed with Beckman Coulter FC500 flow cytometry. **Results:** Combinational application of Desferal with 5-FU resulted in Caspase-3 activation. However, this increase in active Caspase-3 is only significant when 5-FU is used with Desferal; no increases in the active protein levels were detected when 5-FU is applied alone. Also lower doses of Desferal did not change the active Caspase-3 levels. **Conclusions:** Iron depletion can slow down the evolution of growing process. Next step that should be done is taking the tests at a larger scale in order to look for a more significant impact. Maybe in the future an iron chelation drug would be used as part of the treatment of breast cancer.

**Keywords:** Iron chelator, breast cancer, 5-fluorouracil, iron

## PATHOLOGICAL ANALYSIS OF PAPILLARY THYROID CARCINOMAS COEXISTENT WITH CHRONIC LYMPHOCYtic THYROIDITIS: A RETROSPECTIVE STUDY OF 705 CASES

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**Background:** Chronic lymphocytic thyroiditis (CLT), part of the spectrum of autoimmune thyroid diseases is a major cause of thyroid hypofunction worldwide. Papillary thyroid carcinoma (PTC) has been associated with CLT. However, the effect of the concurrent presence of CLT and PTC is still under debate. **Objective:** The aim of this study was to investigate the potential relationship between CLT and PTC in a series of PTC cases. **Material and methods:** Demographic and pathological data from 705 patients with PTC who underwent surgery in our hospital from 2001 to 2015 was collected and analyzed. Age at diagnosis, gender, tumor histological type, size of the tumor (mm), multifocality, extrathyroidal extension and lymph node involvement were evaluated. The level of statistical significance was set-up at  $p < 0.05$ . **Results:** Among the 705 patients with PTC, the rate of CLT was 19.4% (137 PTC cases). PTC patients with CLT had the followings characteristics compared to patients without CLT: female predominance ( $n=132/137$ , 96.4% versus  $n=490/568$ , 86.3%,  $p=0.001$ ), younger age at presentation ( $n=42/137$ , 30.7% cases  $< 55$  years-old versus  $n=223/568$ , 39.3% cases  $\geq 55$  years-old,  $p=0.042$ ) and a slightly smaller tumor size ( $16.24 \pm 1.07$  mm versus  $18.21 \pm 0.61$ ,  $p=0.145$ ). There were no statistically significant differences in the multifocality rate ( $p=0.739$ ), extrathyroidal extension ( $p=0.471$ ) and lymph node involvement ( $p=0.648$ ) between the two groups. Patients with CLT had a lower frequency of advance-stage disease (pT3 and pT4). However, no statistically significant differences were observed ( $p=0.367$ ). The follicular variant of PTC was significantly less associated with CTL ( $p=0.001$ ), whereas Warthin-like variant of PTC was significantly prevalent among PTC cases with CLT ( $p < 0.0001$ ). **Conclusions:** We found a relatively common occurrence of CLT in patients with PTC. Compared to patients with PTC alone, patients with CLT were younger, predominantly female, had a slightly smaller tumor size and Warthin-like variant of PTC was significantly prevalent among these cases.

**Keywords:** thyroid carcinoma, papillary, chronic lymphocytic thyroiditis, association

## CAN THE MIND REALLY HEAL THE BODY? THE PLACEBO EFFECT

Băbuțan Ioana Maria<sup>1</sup>, Ivănescu Adrian<sup>1</sup>

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**Background:** Medical breakthroughs happen every year for centuries but the most fascinating aspect of healing remains the effect of something that has no effect. Body's natural abilities, mindset and social context are the most powerful weapons that when associated with proper active substances make the success rate close to ideal. Both placebo and nocebo effects involve unconscious, automatic conditioning and conscious cognitive modulation of expectation. Areas responsible for the placebo response are the frontal medius gyrus and the parahypocampal gyrus. In stress responses such as the flight or fight, amygdala activates the hormonal cascade which blocks the body's ability to heal. Placebos are accompanied by reducing stress related activity in the amygdala, allowing the body to reestablish homeostasis. **Objective:** By admitting and harnessing the effect to our advantage we'll be able to determine a way to produce it on demand in order to activate our body's natural healing ability. **Material and methods:** We have examined a total of 50 studies from which we selected 37 who used the fMRI machine or PET scan to detect changes in brain regions responsible for the placebo response. Studies typically involve applying physical or psychological stimuli with and without administering a placebo while the subject undergoes scanning. **Results:** Administration of a placebo reveals a reduction in activation during nocive stimulation in regions associated with pain processing including thalamus, anterior cingulate and insula. The placebo effect translates to physiological changes due to endorphin release, increases in endogenous dopamine and changes in bronchial muscle tone. **Conclusions:** Both unconscious learning mechanisms and conscious expectancies can be involved in placebo and nocebo effects. A conditional response combines promoting expectations of benefits and anticipations of negative outcomes. Expectations are influenced by emotions and shaped by the prior experience thus conscious placebos are modulated by verbal stimuli whereas conditioned placebo responses are shaped by unconscious conditioning.

**Keywords:** Placebo, Nocebo, Amygdala, Conditional response

## EFFECTS OF CHRONIC TREATMENT WITH IVABRADINE ON HEART RATE VARIABILITY IN HEALTHY RATS

Barmou Asmaa- Carla<sup>1</sup>, Balan Alkora-Ioana<sup>1</sup>, Cosma Ionela Alexandra<sup>2</sup>, Moldovan Diana Lavinia<sup>1</sup>, Perian Marcel<sup>2</sup>, Scridon Alina<sup>1</sup>

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**Background:** Previous studies in patients with ischemic heart disease and heart failure have linked chronic ivabradine administration with an increase in sympathetic and particularly in parasympathetic activity and suggested that ivabradine may restore normal sympathovagal balance in these populations. However, the impact of chronic ivabradine administration on autonomic function in healthy subjects remains unknown. **Objective:** We aimed to evaluate the effect of chronic ivabradine therapy on heart rate variability (HRV) parameters in healthy rats. **Material and methods:** Healthy male Wistar rats were randomized into two groups: control (C; n=14) and treated with ivabradine (IVA; n=14). IVA rats received 10 mg/kg of ivabradine for three consecutive weeks. All rats were implanted with radiotelemetry ECG devices and 72-h continuous ECG monitoring was performed. HRV analysis was performed and HRV parameters were compared between the two groups. **Results:** Ivabradine treatment was associated with a significant increase in all HRV parameters (all  $p \leq 0.01$ ), except the low frequency (LF) / high frequency (HF) ratio ( $p=0.49$ ). This was the case for both time (standard deviation of RR intervals -  $17.9 \pm 4.2$  ms vs.  $25.3 \pm 6.4$  ms;  $p < 0.0001$ , the root-mean-square of difference of successive RR intervals -  $2.8 \pm 0.6$  ms vs.  $5.4 \pm 1.2$  ms;  $p < 0.0001$ , and the proportion of successive R-R intervals difference  $> 50$  ms -  $0.07 \pm 0.04\%$  vs.  $0.26 \pm 0.09\%$ ;  $p < 0.0001$ ) and frequency (LF -  $0.85 \pm 0.48$  ms<sup>2</sup> vs.  $2.43 \pm 0.69$  ms<sup>2</sup>;  $p < 0.0001$  and HF -  $2.94 \pm 1.30$  ms<sup>2</sup> vs.  $11.00 \pm 5.00$  ms<sup>2</sup>;  $p < 0.0001$ ) domain parameters. **Conclusions:** This study demonstrates for the first time that changes similar with those seen in patients with cardiovascular conditions also occur in healthy rats, in the absence of any cardiovascular disease. These results suggest that ivabradine is more likely to induce hyperactivation, rather than normalization of autonomic function. This work was supported by a grant of the Romanian National Authority for Scientific Research and Innovation, CNCS-UEFISCDI (PN-II-RU-TE-2014-4-1544).

**Keywords:** autonomic nervous system, heart rate variability, ivabradine

## DNA DAMAGE AND GERM CELL APOPTOSIS: EXPLAINING INFERTILITY IN FANCONI ANEMIA

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**Background:** *Fanconi Anaemia* (FA) is a hereditary syndrome characterized by congenital abnormalities, pancytopenia and *infertility*. FA results from the homozygous disruption of one of the 21 currently identified genes, whose protein products act in a pathway (FA-pathway) to repair DNA interstrand crosslinks. **Objective:** Our objective was to show that the infertility observed in mouse models of FA originates *in utero*, by loss of *primordial germ cells* (PGCs), a rare stem cell population that differentiate into haploid gametes. **Material and methods:** Timed matings were performed between mice carrying heterozygous *Fanca*<sup>-/-</sup> mutations and the *Gof18-GFP transgene*, which labels the PGCs with green fluorescent protein (GFP). We dissected embryos at embryonic day 11.5 (E11.5) and removed the genital ridges (from both normal and *Fanca*<sup>-/-</sup> mice). Staining for markers of DNA damage (HistoneH2AX) and markers of apoptosis (Cleaved-Caspase 3) was performed. The resulting slides were analyzed using confocal microscopy. We dissected embryos at E12.5 and compared the number of PGCs in normal and *Fanca*<sup>-/-</sup> mice using flowcytometry. **Results:** The results show that at E11.5 the PGCs of wild type (WT) and *Fanca*<sup>-/-</sup> embryos exhibit markers of DNA double strand breaks (DSB). Additionally, *Fanca*<sup>-/-</sup> PGCs present with TP53BP1 loci, a marker of DSB-repair by *nonhomologous-end-joining* (NHEJ). These results show that the DNA of PGCs is damaged, necessitating repair by the FA pathway. Failure of the FA pathway results in the use of an alternate repair transaction, *NHEJ*, a *known mutagenic process*. Interestingly, we observed elevated levels of TP53 phosphorylation and *induction of apoptosis* in *Fanca*<sup>-/-</sup> PGCs compared to controls. **Conclusions:** Infertility in FA is due to a stem cell defect in utero. PGCs sustain DNA damage as part of their normal development. PGCs of *Fanca*<sup>-/-</sup> mice exhibit elevated markers of DNA damage and they employ alternative DNA repair pathways. TP53 is activated and induces apoptosis in damaged PGCs to suppress mutagenesis in the germline.

**Keywords:** Fanconi Anemia, Infertility, DNA Damage, Apoptosis

## THE INFLUENCE OF NATURAL POLYPHENOLS ON THE IMMUNE STATUS IN EXPERIMENTAL DIABETES MELLITUS

Profire Bianca-Ștefania<sup>1</sup>, Dumitrescu Nicoleta<sup>1</sup>, Luca Ștefana<sup>1</sup>, Matei Theodor<sup>1</sup>, Avadanei Andrei Nicolae<sup>1</sup>, Ciocoiu Manuela<sup>1</sup>

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**Background:** Diabetes mellitus is one of the most prevalent diseases at present times in the world general population. *Aronia melanocarpa* is rich in phenolic antioxidants, especially flavonoids from the anthocyanin subclass. **Objective:** The aim of the study was to investigate the influence of Aronia extract on immune status in diabetic rats. **Material and methods:** The study was conducted on a period of 16 weeks, using 4 groups of Wistar rats, which were divided as follows: Control group - healthy rats; P group - healthy rats, which were administered polyphenols; DM group - rats with induced diabetes mellitus (DM) by intraperitoneal injection of Streptozotocin (60 mg/kg); DM+P group - diabetic rats which were administered polyphenols. By using flow-cytometry, there was evaluated the immunophenotype of the cell populations in peripheral blood of the diabetic Wistar rats, with or without administering natural antioxidants. **Results:** The population of CD3<sup>+</sup> T-cells is significantly reduced in the diabetic group in comparison with the control group, which suggests a notably decreased immune response for the diabetic Wistar rats. In consequence, these rats are more likely to develop an infection, which can be proven by the increased granulocyte populations and the substantially diminished percentage of T cells. Moreover, the diabetic group presented considerably elevated levels of monocytes (p<0.001), approximately 3 times more than the control group values. The qualitative and functional phenotypic analysis of the rat immune cells after induction of diabetes shows peripheral blood lymphopenia, which can be explained by a rapid cell apoptosis and by the high values of NK cells and splenic macrophages. There wasn't noted a significant difference regarding the memory helper T-cell populations. **Conclusions:** Natural polyphenols derived from *Aronia melanocarpa* have an insulin-like

effect, mediating the specific and non-specific immune response in insulin-dependent DM, reducing the inflammatory status and the self-sustained pancreatic insulinitis.

**Keywords:** diabetes mellitus, Aronia melanocarpa extract, immune response

## MODULATION THROUGH THE FLAVONOID CONTENT OF CARDIOVASCULAR REACTIVITY IN ARTERIAL HYPERTENSION EXPERIMENTAL MODEL

Luca Ștefana<sup>1</sup>, Ayadanei Andrei Nicolae<sup>1</sup>, Zamfir Alexandra Simona<sup>1</sup>, Costache Alexandru-Dan<sup>2</sup>, Rezuș Ioana-Irina<sup>1</sup>, Ciocoiu Manuela<sup>1</sup>

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**Background:** Arterial hypertension (AHT) represents an area of major interest in the most effective therapies. Thus, new antihypertensive therapies that offer potential for improving the mechanisms affecting target organs in AHT would be of great practical value. **Objective:** The purpose of this study was to highlight the effects of Pinus brutia bark extract (EPb) on cardiovascular lesions involving oxidative stress. **Material and methods:** The research was performed on white Wistar rats grouped in 4 groups, during 8 weeks: - W group - witness group; - EPb group - the EPb extract with a flavonoid content of  $58.03 \pm 0.14$  mg/g was administered; - AHT group - L-NAME was administered; - AHT+EPb group - the EPb extract was administered simultaneously with L-NAME. Determination of blood pressure and heart rate was performed by the non-invasive method with CODA4 device. **Results:** In the AHT + EPb group EPb extract significantly reduced diastolic blood pressure by approx. 12%. Regarding the heart rate, EPb extract did not produce significant changes. L-NAME may cause an increase in oxidative stress by various mechanisms: decreasing catalase and superoxide dismutase activity, as well as intensifying lipid peroxidation processes. L-NAME caused a significant decrease in the total antioxidant status compared to the control group. The administration of EPb extract in combination with L-NAME attenuated the decrease in total antioxidant status. As a consequence of the increase in oxidative stress, reduced glutathione (GSH) has significantly lower values in rats from AHT group compared to rats from W and AHT + EPb groups. **Conclusions:** Further studies will explore, through antioxidant effects, other possible biological actions as well as the potential of the flavonoid extract on endothelial cells function, including membrane sensitivity and intracellular signaling.

**Keywords:** Arterial hypertension, Flavonoids, Antioxidant effects

## IMPACT OF CHRONIC MYOCARDIAL ISCHEMIA AND INFLAMMATION ON ATRIAL PROARRHYTHMIC ELECTRICAL REMODELING

Balan Alkora-Ioana<sup>1</sup>, Șerban Răzvan Constantin<sup>2</sup>, Pintilie Irina<sup>2</sup>, Somkereki Cristina<sup>2</sup>, Perian Marcel<sup>2</sup>, Scridon Alina<sup>1</sup>

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**Background:** Stable coronary artery disease (CAD) has been associated with chronic, low-grade systemic inflammation. At its turn, chronic inflammation promotes atrial structural remodeling, favoring the occurrence of atrial re-entrant arrhythmias. The impact of chronic ischemia and inflammation on atrial electrical remodeling remains unknown. **Objective:** We aimed to evaluate the impact of preoperative inflammatory status on the parameters of atrial action potentials using right atrial appendage samples from patients undergoing elective coronary artery bypass grafting (CABG). **Material and methods:** Venous blood samples were collected from 30 patients with stable CAD one day prior to elective CABG; complete blood count and plasma levels of several inflammatory markers were determined. Right atrial appendage samples collected during the CABG procedure were transferred to the Physiology Laboratory, where action potential recordings were performed using the Steiert organ bath. **Results:** Viable atrial myocytes were found in 6 of the 30 atrial tissue samples. Hemoglobin ( $r=0.98$ ,  $p<0.01$ ), IL-1b ( $r=1.00$ ,  $p=0.01$ ), IL-6 ( $r=0.98$ ,  $p<0.01$ ), and VEGF ( $r=0.98$ ,  $p<0.01$ ) levels significantly positively correlated with the duration of atrial depolarization. Meanwhile, a significant negative correlation was noted between preoperative hemoglobin ( $r=-0.86$ ,  $p=0.03$ ), IL-6 ( $r=-0.86$ ,  $p=0.03$ ), and VEGF ( $r=-0.86$ ,  $p=0.03$ ) levels and the velocity of atrial depolarization. No other significant correlations were recorded between any of the inflammatory markers levels and any of the atrial action potential parameters (all  $p >0.05$ ). **Conclusions:** The present study demonstrates for the first time that in patients with CAD chronic inflammation and ischemia are

associated with atrial electrical proarrhythmic remodeling characterized by decreased velocity of atrial depolarization. These electrophysiological changes, probably related to altered functioning of atrial fast, voltage-gated sodium channels, are likely to contribute to an increased propensity to atrial arrhythmias in patients undergoing CABG. This work was supported by the University of Medicine and Pharmacy of Tîrgu Mureş Research Grant number 17800/1/22.12.2015.

**Keywords:** action potential, coronary artery bypass grafting, inflammation, proarrhythmic electrical remodeling

## DEVELOPMENT AND VALIDATION OF A HIGH-PURITY HYBRID PROTOCOL FOR PERIPHERAL BLOOD MONONUCLEAR CELLS ISOLATION

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**Background:** Peripheral blood mononuclear cells (PBMC) are mainly comprised of lymphocytes and monocytes and play a major role in most immune processes. PBMC isolation is the first step in many immunological studies and can be achieved through various methods. Density gradient centrifugation is reportedly the most popular PBMC isolation technique due to its ease-of-use, efficiency and cost-effectiveness. **Objective:** The purpose of the present study was to develop and optimize a PBMC isolation protocol that would become a standard operating procedure (SOP) in the Cellular Immunology Laboratory of the Center for Advanced Medical and Pharmaceutical Research (CCAMF UMFTGM). **Material and methods:** Based on a previous comparative analysis of two commercially available protocols (Stemcell Technologies and Miltenyi Biotec), a supposedly superior hybrid protocol was proposed and tested. Six samples of human peripheral blood were processed by one examiner. In order to assess the effect of blood sample volume on isolation performance, each sample was divided into three subsamples of 1ml, 2ml and 3ml. Validation and implementation of a SOP required evaluation of two main performance indicators: PBMC recovery and viability. **Results:** For subsample lots of 1ml, 2ml and 3ml, average cell recovery was 37%, 57% and 64%, respectively, while average lymphocyte viability was 80%, 83% and 85%, respectively. An average of 5% granulocyte contamination was recorded whereas platelet contamination was low. Statistical tests revealed no intraindividual variability of our examiner. **Conclusions:** Our hybrid protocol yields similar results to the previously investigated Miltenyi Biotec protocol, but is less expensive. Also, increasing the blood sample volume has a positive effect on both cell recovery and viability. We conclude that despite its many steps and relatively long duration, this protocol yields satisfactory results and is ideal for high purity PBMC isolation.

**Keywords:** PBMC isolation, PBMC viability, density gradient centrifugation

## LONG-TERM TRANSESOPHAGEAL ATRIAL BURST PACING-INDUCED ATRIAL FIBRILLATION IS ASSOCIATED WITH PROGRESSIVE VAGAL HYPERTONIA

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**Background:** Atrial fibrillation (AF) is the most common cardiac arrhythmia and a major challenge in medical research. Mechanisms of AF have been widely explored, but the information concerning the AF-autonomic remodeling relationship is limited. **Objective:** We aimed to assess the dynamic changes in heart rate variability (HRV) indexes in a rat model of long-term transesophageal atrial burst pacing-induced AF. **Material and methods:** Eight male Wistar rats were implanted with radiotelemetry ECG transmitters and baseline 72-hours continuous ECG monitoring was performed in freely moving rats. All rats were then submitted to transesophageal atrial burst pacing for two consecutive weeks. Additional 72-hours ECG recordings were obtained during, immediately after, and in the 2 weeks following the stimulation protocol. HRV analysis was performed and HRV indexes at the five studied time points were compared. **Results:** After the first 5 days of stimulation, there was a significant increase in RMSSD ( $3.85 \pm 0.30$  ms vs.  $3.02 \pm 0.25$  ms,  $p=0.03$ ), pNN5 ( $0.14 \pm 0.02\%$  vs.  $0.08 \pm 0.01\%$ ,  $p=0.03$ ) and HF ( $5.40 \pm 1.05$  ms<sup>2</sup> vs.  $3.26 \pm 0.49$  ms<sup>2</sup>,  $p=0.04$ ) compared to baseline; these values remained similarly high for the entire duration of the study (all  $p>0.05$ ). After the end of stimulation, a significant increase in SDNN ( $26.07 \pm 0.65$  ms vs.  $23.23 \pm 0.70$  ms,  $p<0.01$ ), followed by a significant decrease in the LF/HF ratio ( $0.21 \pm 0.02$  vs.  $0.23 \pm 0.02$ ,

$p=0.02$ ) were observed. **Conclusions:** This study demonstrates that the experimental model of long-term atrial burst pacing-induced AF is characterized by early vagal hypertonia that progresses after the end of stimulation. It remains to be established if this autonomic remodeling is related to AF occurrence or to the stimulation procedure itself, and if it contributes to AF occurrence, is a consequence of AF, or a simple arrhythmia bystander. This work was supported by a grant of the Romanian National Authority for Scientific Research and Innovation, CNCS - UEFISCDI, project number PN-II-RU-TE-2014-4-1544.

**Keywords:** atrial fibrillation, autonomic remodeling, heart rate variability, vagal hypertonia

## DECOUPLING OF MRNA AND PROTEIN EXPRESSION OF GABA<sub>A</sub>-RECEPTOR GAMMA 2 SUBUNIT IN PTZ-KINDLED AND LACOSAMIDE TREATED RATS

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**Background:** The hippocampal neurons are prone to epileptic seizure-induced molecular changes and even cell death. Repeated seizures induced by pentylenetetrazole (PTZ) progressively modify the behavioral pattern and reduce the seizure threshold in rats. The increased mRNA of the GABA<sub>A</sub>- $\gamma$ 2 (gamma-Aminobutyric acid gamma 2) receptor subunit has been described as an important modification during the PTZ-kindling process. **Objective:** In the present study we sought to investigate the quantitative changes of GABA<sub>A</sub>- $\gamma$ 2 in CA1 and CA3 hippocampal regions of PTZ-kindled, lacosamide treated and control rats at protein level. **Material and methods:** Male Wistar rats (n=6) underwent kindling process by repeated intraperitoneal PTZ (37.5 mg/kg) administration and were treated with lacosamide (10 mg/kg for 26 days). We performed double immunofluorescence staining on the brain slices of these transcardially perfused animals using anti-GABA<sub>A</sub>- $\gamma$ 2 antibody and DAPI. Images were acquired by confocal microscopy and analyzed using semi-quantitative fluorescence imaging technique. **Results:** The relative abundance of GABA<sub>A</sub>- $\gamma$ 2 in fully kindled rats with cognitive dysfunction has shown a significant decrease in the PTZ-kindled and in the lacosamide treated group compared to controls in both CA1 and CA3 regions of the hippocampus ( $p=0.0108$  and  $p=0.0022$ ). This decrease was the most evident in the stratum oriens and radiatum of CA1 ( $p=0.0179$ ). Lacosamide prevented the decrease of GABA<sub>A</sub>- $\gamma$ 2 in the stratum radiatum of CA1 ( $p=0.0164$ ). Conversely, the mRNA level of GABA<sub>A</sub>- $\gamma$ 2 in whole hippocampus showed an increase in the PTZ-kindled group, but lacosamide significantly reduced the compensatory overexpression ( $p=0.0455$ ). **Conclusions:** The expression of GABA<sub>A</sub>- $\gamma$ 2 showed important inter-regional differences in the hippocampus of PTZ-kindled rats compared to controls, and lacosamide treatment prevented the kindling-induced modifications in the stratum radiatum of CA1. A potential decoupling of mRNA and protein expression may be due to the neuroprotective effect of lacosamide. The confocal microscopy studies were performed in CCAMF of the University of Medicine and Pharmacy of Tîrgu-Mureş.

**Keywords:** Epilepsy, GABA<sub>A</sub> receptor, Lacosamide, PTZ-kindling

## EVALUATION OF THE NORMAL RESPONSES IN LABORATORY MICE DURING A BATTERY OF FIVE BEHAVIORAL TESTS. A FIRST STEP FOR FEASIBLE RESULTS.

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**Background:** Erroneous results in certain tests can be easily attributed to the mice` natural variability. From our point of view, information on this variation is crucial for correct interpretation of data sets. **Objective:** The aim of our study was to set up a battery of tests in order to dismiss erroneous results occurring as a consequence of mice` natural variability, and lead to better results of the study. **Material and methods:** We tested a group of 30 laboratory mice to evaluate their memory and response to diverse stimuli, using 5 commonly used tests: Tail Suspension Test, Neophobia Test, Sensory Reflexes Test, Morris Water Maze Test, and Corner Test. We then compiled our data, ran Descriptive Statistics, and the Grubbs` Outliers Test in order to isolate the anomalies. **Results:** For our Tail Suspension Test, the mice stood still an average of 9 times (SD = 4.5), the mean time of immobility being 15.10 seconds (SD = 11 seconds); the Grubbs test detected 3 (10%) outliers. For the Neophobia Test, the average number of moves (both vertical and horizontal) was 12 (SD = 5), with 2 (6%) significant outliers.

The Sensory Reflexes Test revealed that 10 (33%) of the mice did not respond to the stimuli. Surprisingly, our Water Maze and Corner Tests did not yield any significant outliers. Moreover, no significant correlation was observed between the mice that offered outlying results. **Conclusions:** The natural variability of these mice without pilot studies can lead to erroneous results, even in the absence of other factors. The source of variability is uncertain, because there are no significant correlations between the mice holding abnormal values when considering all the tests. **Acknowledgement:** This work was financed by a grant from the Competitiveness Operational Programme 2014-2020, "C-REACTIVE PROTEIN THERAPY FOR STROKE ASSOCIATED DEMENTIA", ID P\_37\_674, MySMIS code: 103432, Contract 51/05.09.2016.

**Keywords:** Mice, Behaviour, Pilot test

## OCCUPATIONAL DISEASES IN MEDICAL SYSTEM: A STUDY FOCUSED ON PHYSICIANS

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**Background:** The medical staff is a complex socio-professional structure composed of practitioner with different levels of training organized in complementary compartments. Occupational risk assessment is an essential step in the process of preventing & improving the working conditions. **Objective:** To evaluate the effect of occupational risk as a relevant issue of the healthcare sector & to highlight some correlations. **Material and methods:** A retrospective observational study was conducted using quantitative data from the Public Health Directorate of Sibiu. The researched period was between first of 1990 until December 2017. Inclusion Criteria: occupational pathology, physician, evidence of clinical diagnosis & public hospital affiliation. We analysed: gender, age and seniority at diagnosis moment, the source of causative agent & medical affiliation of the cases. SPSS Statistics 17.0. was the software used to statistically analysed the data blind-identity at a significance level p **Results:** 24 cases were accepted with a recent peak in 2016. Physicians represents 32.88% of the total occupational pathology of the hospital employees. The selected group reported: 83.33 % women; 33.50 ± 10.36 years average age; 5.21 ± 8.49 years average seniority. The viral highly contagious disease with occupational source were prevailing pathologies. Occupational hepatitis 16.67% had decreased significantly in the period of the study. 1 case with chronic intoxication has been identified. The source of 83.33% causative agents was the contact with the patient. The incidence decrease with experience: resident physicians 62.50% > specialist physicians 25.00% > senior physicians 12.50%; The prevalent affiliations were Paediatrics Hospital & Dermatology Clinic. **Conclusions:** The occupational risk is uncontrollable, but the factors as protective equipment, training programs, balancing working overtime & dynamic protocols should be inspected and improved. Effective interventions should be implemented.

**Keywords:** occupational, physicians, analysis, risk

## SECULAR TREND IN HEIGHT – TRUE OR FALSE FOR ROMANIAN CHILDREN?

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**Background:** Secular trends of heights in children have been well documented worldwide, demonstrating that improvement in health, medical care, and socio-economic status are associated with an increase in height stature. **Objective:** The purpose of this study was to analyze the secular changes of the mean height in Romanian children and adolescence over the last 80 years. **Material and methods:** The data was collected from the National Institute of Public Health, reported from 1950-1999 (one each 7 years), both for urban and rural areas, synthetic growth charts published in 2016, and 1937 data set from a national auxological evaluation, which included the height measurements of 5 to 15 years old Romanian children performed over the last 80 years. **Results:** From the year 1937 to 2016, there were ten national auxological evaluations. Mean height increased for all age groups, with a maximum of 24.5cm for 15 years old boys and 16.4cm for 13 years old girls and a minimum for 6 years old of 6.6cm in boys and 6.5cm in girls. The secular trend had two peaks, one in 1957 compared with the 1950 data, and the other in 1971, compared with the 1964 data. Height incremented with 0.8mm/year in 6 years old boys and girls and 3mm/year in 15 years old boys, respectively 1.5mm/year in 13 years old girls. From 1950 to 1971 there was an increase in the difference in mean height between urban and rural areas, which decreased up to 1985, when the last separate evaluation was performed, for both sexes and all age groups. **Conclusions:** The secular trend in height of Romanian children follows that reported for other regions. The difference between rural and urban

children tends to decrease over time. The biggest difference in height is observed in pubertal years, consistent with reports of earlier maturation occurring world-wide in children.

**Keywords:** Secular trend, Auxological evaluation, Growth

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## EMIGRATION INTENTIONS AND CAREER PREFERENCES AMONG MEDICAL DOCTORS IN ROMANIA

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<sup>2</sup>

**Background:** The emigration of medical doctors is one of the main issues Romania is confronted with. The exodus accelerated after Romania's accession to the European Union and, in particular, in the context of austerity measures adopted in response to the financial crisis. Young medical doctors are more likely to emigrate due to lower financial and psychological costs of migration. Romania is producing a high number of medical graduates but, after Poland, it has the lowest number of physicians per capita among EU countries. **Objective:** The aim of this paper is to investigate the career plans among medical students in Romania and their intention to emigrate.

**Material and methods:** The study was conducted in 6 universities from Romania: the University of Medicine and Pharmacy Carol Davila Bucharest, the University of Medicine and Pharmacy of Târgu Mureş, the University of Medicine and Pharmacy Iuliu Haţieganu Cluj Napoca, the University of Medicine and Pharmacy Grigore T. Popa Iaşi, the University of Medicine and Pharmacy of Craiova and the Faculty of Medicine, Lucian Blaga University Sibiu. The questionnaire included items regarding the career plans (intention to train abroad, post-training intentions, preferred destinations, return intentions) of students enrolled in medicine studies, in all years of study. SPSS software was used for data analysis. **Results:** 42.7% of the respondents intend to migrate, but only 10% have already started to prepare for leaving. 15% responded that they will never leave the country. Preferred destination countries include Germany, UK, France, Canada, SUA, Sweden, Belgium. One third of the respondents declared that they intend to return to Romania after finishing their training or after accumulating some work experience abroad and 12.9% don't intend to return. **Conclusions:** The implementation of a long-term national strategy in the area of health workforce is greatly needed. The results of this study provide evidence that could be used in the attempt of drawing a set of retention and human resources planning measures.

**Keywords:** emigration, medical doctors, medical university

# **PRECLINICAL GENERAL MEDICINE**

## THE CREDIBILITY, COMPLETENESS, AND ACCURACY OF ONLINE INFORMATION ABOUT COLORECTAL CANCER ON THE ROMANIAN AND ENGLISH LANGUAGE WEBSITES

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**Background:** The internet has become an important source of health related information and a number of studies have shown that the quality thereof is, at best, problematic. **Objective:** The goal of our study was to assess the quality of online information about colorectal cancer provided to the general population on the Romanian and English websites as far as credibility completeness and accuracy for the general Internet users. **Material and methods:** We evaluated a sample of 25 sites Romanian and 25 English language websites about colorectal cancer selected from the Google's first search results pages using specific rating scores for credibility, completeness, accuracy. The evaluation of the quality of the information was done by two independent evaluators using a common set of detailed instructions. **Results:** The mean quality scores of the Romanian vs English language websites expressed on a scale from 0 to 10 were as follows: credibility 4.50 vs. 6.20 ( $p=0.007$ ); completeness 2.20 vs. 3.30 ( $p=0.0228$ ) accuracy 7.30 vs. 7.90 ( $p=0.4963$ ). The completeness scores of the Romanian and English websites and the accuracy scores of the Romanian websites were significantly or marginally higher for websites with higher Google rank compared to those with lower Google rank. There was no correlation between the credibility scores and the completeness and accuracy scores of the assessed websites. **Conclusions:** The overall quality of the information about colorectal cancer on the Romanian and English language websites was low, at best, modest. The quality scores were inconsistently associated with their Google rank and there was no correlation between the quality of information and the credibility score of the websites. The results of this study should raise the awareness of the general population about the risks involved in seeking information about colorectal cancer on the Internet.

**Keywords:** Colorectal cancer, Information quality, Internet

## ARE GOOGLE RANKS AND CREDIBILITY CRITERIA INSTRUMENTAL IN FINDING QUALITY HEALTH WEBSITES?

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**Background:** While the Internet has become the primary source of health-related information, finding complete and accurate medical advice represents a challenging task for the users with no medical training. A number of user-friendly screening tools have been proposed but none of them have been tested and rigorously validated so far. **Objective:** The aim of the study was to test whether a high Google rank and high compliance to general credibility criteria are correlated with high quality health websites. **Material and methods:** The observational, cross-sectional study included 384 health websites in Romanian, English, Hungarian, Russian and Ukrainian that cover a variety of health topics aimed at nonprofessional users. Each website was assessed by two independent evaluators regarding credibility, completeness and accuracy using a common set of rating tools with scores ranging from 0 to 10. We applied the Spearman correlation test to check the correlation between Google Ranks and the credibility scores on one hand and the content quality scores on the other. **Results:** Of the 384 websites included in the sample, 63.5% were Romanian, 18.2% English, 6.5% Russian, 6.5% Ukrainian, and 5.2% Hungarian. We found no correlation between Google ranks and completeness scores (Spearman  $r=0.0325$ ,  $p=0.6596$ ), neither between Google ranks and accuracy scores (Spearman  $r=-0.01602$ ,  $p=0.8411$ ). Also, there was no correlation between credibility scores and completeness scores (Spearman  $r=-0.0116$ ,  $p=0.8208$ ), neither between credibility scores and accuracy scores (Spearman  $r=0.099906$ ,  $p=0.0524$ ). **Conclusions:** Our study suggests that users cannot rely on Google rank or credibility assessment in order to decide about the quality of the online health-related information. Promoting credibility criteria as indicators of scientifically sound health websites might be misleading and could have harmful consequences for non-professional users.

**Keywords:** online health-related information, consumer health informatics, health seeking behavior, completeness

## BLOOD CULTURE ISOLATES – A STUDY OF BACTERIAL PREVALENCE AND ANTIBIOTIC SUSCEPTIBILITY

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**Background:** The bloodstream is normally a sterile environment. If a patient presents with signs or symptoms of a systemic infection, blood cultures can help identify the causing organism and its susceptibility to antibiotics. **Objective:** Identification of positive blood culture (BC) isolates, their epidemiology and susceptibility to antibiotics. **Material and methods:** BC were collected from patients admitted in the Clinical County Hospital of Tîrgu-Mureş in 2017 using specific BC bottles (aerobic/anaerobic/pediatric), and incubated in BacT/Alert (Biomérieux) system. All positive cultures were processed by standard bacteriological methods, and the isolates were tested for their antibiotic susceptibility using CLSI standard; the data was analyzed statistically in spreadsheet software. **Results:** During 2017, 1326 BC were collected from 755 patients (184 pediatric bottles and 1142 aerobic/anaerobic pairs). A number of 114 unique bacterial isolates were found (15.1% of the patients), from 55 males and 59 females. The age groups 50-79 years presented most of the positive cultures (64%), followed by young adults, elderly and newborns. The most prevalent were the Enterobacteriaceae (35.1%), *Staphylococcus aureus* (32.5%), non-fermentative Gram-negative rods (16.7%) and *Enterococcus* spp. (9.6%). Almost half of the positive BC originated from medical wards (44.7%), followed by ICU (27.2%), surgical (20.2%) and neonatology (7.9%). The Enterobacteriaceae presented good susceptibility to 3rd and 4th gen. cephalosporines, aminoglycosides and carbapenems. *S. aureus* was 100% susceptible to Ceftazoline, Linezolid, Teicoplanin, Vancomycin and Tigecycline. *Enterococcus* spp. were 100% susceptible to Linezolid and Tigecycline. The non-fermenters were susceptible to Colistin and partly to Amikacin (66.7%). **Conclusions:** Gram-negative rods were the most prevalent in bacteremic/septicemic syndromes, in patients admitted in ICU, medical and surgical wards. Although there are some multiresistant isolates (non-fermenters and some Enterobacteriaceae) on which Colistin is the main therapeutic alternative, the majority of other isolates have multiple antibiotic alternatives. The blood culture testing is essential in the aimed treatment of sepsis.

**Keywords:** blood cultures, systemic infection, antibiotic susceptibility, Gram-negative rods

## HISTOPATHOLOGICAL ASPECTS OF EXTRANODAL LYMPHOMA

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**Background:** The last decades have seen an increase in the incidence of extranodal lymphomas. Accurate and early diagnosis of lymphoma type plays an important role in adequate treatment. **Objective:** To identify the frequency of extranodal lymphomas according to age, gender, location and microscopic types. **Material and methods:** We performed a retrospective study during 2009-2017 in the Pathology Department of the Clinical County Emergency Hospital of Tîrgu Mureş, Romania. We assessed a number of 476 consecutive lymphomas out of which 284 were extranodal lymphomas. **Results:** Extranodal lymphomas represented 59,66% of the total number of diagnosed lymphomas. They were predominantly located in the gastro-intestinal tract (26%), spleen (15%), head&neck and bone. The most frequently diagnosed histological subtypes were diffuse large B-cell lymphoma (DLBCL) (164, 58%), marginal zone/MALT lymphoma (29, 10.21%), T cell lymphoma, small B-cell lymphoma, follicular lymphoma, Hodgkin lymphoma. Extranodal lymphomas occurred mainly between the 6th-8th decade of life (71,47% of all cases), females being more affected in the 7th and 8th decades, while males were predominantly affected in the 5th-6th decades. Concerning the gastro-intestinal tract, the stomach was mostly affected (69%), followed by the small bowel (22%) and colon (8%). The DLBCL microscopic type affected predominantly the stomach, MALT lymphoma were dominant in the small intestine (41,17%). **Conclusions:** The extranodal lymphomas occurred mainly in 6th to 8th decade. The eradication of *H.pylori* is the first line-treatment in all gastric lymphoma (MALT or DLBCL). To decrease the number of lymphoma-associated gastrectomies, endoscopy-based screening during the 5th decade in men and 6th decade in females, is recommended. DLBCL is the dominant microscopic type of extranodal lymphoma, they are largely located in the gastro-intestinal tract, especially in stomach.

**Keywords:** extranodal lymphoma, DLBCL, gastro-intestinal tract

## THE ETIOLOGY AND THE PATTERNS OF RESISTANCE TO ANTIBIOTICS OF BACTERIA ISOLATED FROM URINARY TRACT INFECTIONS

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**Background:** Urinary tract infections(UTI) represent a worrying threat to the public health through their increased frequency and etiology which consists mainly of bacteria rapidly developing antimicrobials resistance (AMR). Certain of these treatments have been associated with an increase in Clostridium difficile infections, especially in elderly people. **Objective:** This research has as objectives to study the etiology of UTIs and the patterns AMR in patients hospitalized in the National Institute of Infectious Diseases "Prof. Dr. Matei Bals" (NIID), Bucharest. **Material and methods:** This study was performed during a one-year period (Jan-Dec 2015) in the patients from NIID. Urine samples were collected from 14188 patients then, isolation and bacterial identification were performed with VITEK2 automated system; antimicrobial susceptibility testing, based on EUCAST standards, through the same VITEK 2 system and diffusimetric method. **Results:** The results were processed, analysed and compared to specialised literature. Positive samples represented 1814(12,78%) from the total of 14188. Most strains were Escherichia coli (58,6%), followed by Klebsiella spp(17,2%), Enterococcus spp(9,1%), Pseudomonas aeruginosa (5,7%), Proteus spp(3,5%) and others(5,9%). 17% of E. coli strains were extended-spectrum beta-lactamase(ESBL) positive and had increased resistance to ampicillin(60%), piperacillin(58%) and cotrimoxazole(35%). K. Pneumoniae showed 50% of strains ESBL+ and resistant to ampicillin(99%), piperacillin(97%), 2nd and 3rd generation cephalosporins(60%), fluoroquinolones(62%) and carbapenems(17%), Enterococcus spp to cotrimoxazole(100%), erythromycin(97%), tetracyclines(85%), fluoroquinolones(50%) and vancomycin(7%), P.aeruginosa to cephalosporins(75%), fluoroquinolones(72%), aminoglycosides (65%) and carbapenems(55%); P.mirabilis to colistin(100%), cotrimoxazole(63%), penicillines(55%) and aminoglycosides(41%). **Conclusions:** The AMR of bacteria causing UTIs is increasing, especially against broad-spectrum antibiotics, becoming a real threat to the public health. E. coli seems to be less frequent and other bacteria (Klebsiella spp, Enterococcus spp) with high AMR, more frequent than mentioned in studies from other EU countries. This challenge may be controlled by correct microbiologic diagnostic and antimicrobial stewardship.

**Keywords:** Urinary Infections, E coli, Klebsiella spp, Antibiotic Resistance

## COMPARISON BETWEEN LABORATORY INVESTIGATIONS AND COMORBIDITIES IN DIABETIC IN- AND OUTPATIENTS FROM TIRGU MURES DURING JANUARY-OCTOBER 2017

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**Background:** Diabetes mellitus is a disease with increasing incidence in the modern society. The imbalance of carbohydrate metabolism is often associated with cardiovascular pathology. Laboratory investigations could help in the early diagnosis of several complications. **Objective:** The aim of the study was to compare the laboratory parameters and comorbidities in ambulant and hospitalized diabetic patients. **Material and methods:** The study group included 231 diabetic patients, 47.6% of them from the Diabetology Compartment of the Emergency Clinical County Hospital Tîrgu Mureş and the rest from a cardiovascular disease-oriented outpatient unit of this town during January 2017. Laboratory investigations regarding carbohydrate metabolic balance, lipid profile, minerals, kidney, liver and thyroid function were evaluated. DCSI (Diabetes Complication Severity Index) score was calculated based on comorbidities. **Results:** The hospitalized diabetic patients (average age 59.5 years±14.07(SD)) were significantly younger than the ambulant group (average age 64.9 years±11.01(SD)) (p=0.001). Serum glucose concentration (168.97 mg/dl±63.09(SD) versus 134.91 mg/dl±35.40(SD)) and HbA1c level showed significantly worse metabolic balance in the inpatients (p<0.0001). Serum cholesterol and triglyceride levels were slightly higher in the hospitalized group, but no significant difference could be found regarding the lipid profile of in- and outpatients (p=0.3114-cholesterol and p=0.2406-triglycerides). HDL- and LDL-cholesterol results

were missing in 99% of the hospitalized patients and in only 12% of the ambulant patients. TSH and FT4 results could be found in 72% of the inpatient, in the ambulant group TSH measurement can be considered a routine. Incidence of overweight/obesity was significantly higher in the hospitalized group ( $p < 0.0001$ ), thyroid disorders occurred mostly in the ambulant group ( $p = 0.01$ ). DCSI score was significantly higher in the hospitalized group. **Conclusions:** This study revealed several differences between the laboratory profiles of the two patient groups. As expected, hospitalized subjects presented worse metabolic balance and higher incidence of comorbidities compared to the ambulant group, in spite of their younger age.

**Keywords:** diabetes mellitus, comorbidities, laboratory investigations, metabolic balance

## PATHOLOGICAL CHARACTERISTICS OF CONVENTIONAL VERSUS FOLLICULAR VARIANT OF PAPILLARY THYROID CARCINOMAS: A RETROSPECTIVE, INSTITUTIONAL STUDY OVER A 15-YEARS PERIOD (2001-2015)

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**Background:** Among papillary thyroid carcinoma (PTC) cases, CPTCs (conventional PTC) and FVPTCs (follicular variant of PTC) account for most of the cases. **Objective:** The aim of our study was to compare the pathological characteristics of CPTCs versus FVPTCs in our institution, over a 15 years period. **Material and methods:** Pathological data were retrieved from database registries and original pathological reports from the Department of Pathology, Tîrgu-Mureș Emergency County Hospital, between January 2001 and December 2015. Age at diagnosis, gender, tumor histological type, size of the tumor (mm), multifocality (unilateral or bilateral), extrathyroidal extension and lymph node involvement were evaluated. The level of statistical significance was set-up at  $p < 0.05$ . **Results:** Our study included 624 PTC cases with complete available data. The mean age at diagnosis was  $48.46 \pm 13.74$  years-old and most of the patients were female (88.3%). Among PTC cases, 256 (41.0%) were CPTCs, 320 (51.2%) were FVPTCs and the remaining 48 (7.6%) corresponded to other rare variants of PTC. Compared to FVPTC cases, CPTCs revealed a higher rate of extrathyroidal extension (30.9% versus 5.9%,  $p < 0.0001$ ), lymph node involvement (14.8% versus 1.7%,  $p < 0.0001$ ) and multifocality (34.4% versus 25.3%,  $p = 0.018$ ). The mean tumor size was significantly higher among FVPTCs compared to CPTCs ( $19.02 \pm 0.86$  versus  $15.77 \pm 0.82$ ,  $p = 0.008$ ). **Conclusions:** Our study revealed important differences in the pathological characteristics of CPTC, compared to FVPTC, which are in accordance with the existing published data. These results highlight the importance of a correct tumor phenotyping. Moreover, recent data consistent with the introduction of the NIFTP (Noninvasive Follicular Thyroid Neoplasm with Papillary-Like Nuclear Features) opened new insights regarding the biological behavior of FVPTC cases, which is different from CPTCs.

**Keywords:** papillary thyroid carcinoma, conventional, follicular variant, pathological characteristics

## NOVEL ANTIANGIOGENIC AGENTS INDUCE CYTOTOXICITY IN HIGH GRADE GLIOMA CELL LINES

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**Background:** Angiogenesis inhibitors have been a core pillar of modern oncology for over two decades. While therapeutic agents such as bevacizumab have shown promising results in other malignancies such as colon or lung cancer and have been included in current medical practice, anti-angiogenic molecules have proven to be mostly ineffective in the treatment of malignancies of the brain. **Objective:** To observe the cytotoxic effect of anti-ELTD1 siRNA in glioblastoma cells. **Material and methods:** Cell lines GB5B and GB8B were obtained from fresh tumor tissue samples collected from patients diagnosed at "Bagdasar-Arseni" Emergency Hospital, Bucharest, Romania. Cell cultures were established and cultivated according to standard procedures. Cells were transfected using anti-ELTD1 siRNA. Transfection was done using the calcium phosphate co-precipitation technique, according to the manufacturer's instructions. Cell viability was measured 24h, 48h and 72h posttransfection using the MTT proliferation assay. Data was analyzed using the ANOVA two tailed t-test.  $P \leq 0.05$  was considered statistically significant. **Results:** Anti-ELTD1 siRNA transfection proved to be cytotoxic for glioblastoma tumor cells.

25 nM ELTD1 siRNA produced a drop in proliferation by 4% after 24h ( $p=0.12$ ), by 13% after 48h ( $p=0.05$ ) and by 25% after 72h ( $p=0.034$ ) in the GB5B cell line. The 50 nM dose decreased proliferation by 13% after 24h ( $p=0.042$ ), by 24% after 48h ( $p=0.002$ ) and by 42% after 72h ( $p=0.001$ ). In the GB8B cell line, proliferation dropped by 25% after 24h ( $p=0.02$ ), by 29% after 48h ( $p=0.032$ ) and by 49% after 72h ( $p=0.0001$ ) for the 25 nM dose. The 50 nM dose produced a cytotoxic effect of 39% after 24h ( $p=0.0003$ ), of 43% after 48h ( $p=0.001$ ) and by 60% after 72h ( $p=0.0001$ ). **Conclusions:** Targeting ELTD1 has shown great potential in preclinical models and could prove to be a viable option alongside more classic therapeutic approaches for the treatment of glioblastoma in clinical practice.

**Keywords:** glioblastoma, angiogenesis, transfection, ELTD1

# **CLINICAL - MEDICAL**

## ARTERIAL PATHOLOGY: METHODS OF DIAGNOSTIC

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**Background:** For the arterial pathology it is important to efficiently use imagistic exploration to pave the way for faster diagnostics and treatments. The risk of stroke and other pathologies of periferic arteries has increased in the last years and nowadays, there are other techniques used besides angiography as non-invasive methods, such as ultrasound, CT and MRI, for arterial stenosis. **Objective:** The aim of this study is to understand the most important contributions for the various imaging investigations that are best used for the vascular pathology. **Material and methods:** The study was conducted between January 2016 and January 2018 on a group of 220 patients, both women and men, with specific symptomatology for acute or chronic vascular lesions. CT, ultrasonography, MRI and angiography were the imaging techniques that we used. **Results:** From the 220 cases which were analyzed we have found that in 90% cases (198 cases) the ultrasound exam was used as first-line examination. Another imaging investigation was performed after the ultrasound in 28.78% cases (57 cases). Ultrasound exam was performed as a post-interventional or post-treatment imaging monitoring method in 83.63% cases (184 cases). In 8.63% cases (19 cases) was performed a CT for suspicion of aortic dissection or large artery lesions. The MRI exam was used in 8.18% cases (18 cases) with suspected stenosis or high carotid occlusion. Angiography was performed in 16,63% cases (36 cases) with peripheral or cerebral arterial pathology. Before angiography, Doppler Ultrasound Exam was made in 66.66% cases (24 cases), AngioMRI in 22.22% cases (8 cases) and in 11.11% cases (8 cases) angiography was used as the main diagnostic method. **Conclusions:** Imaging examinations have a determining role in the diagnosis of arterial disease, contributing to the establishment of a suitable therapeutic attitude for each patient. However, these methods are not excluded, but often complete each other.

**Keywords:** Ultrasound, Computer Tomography, Angiography, Doppler

## THE USE OF PENTOXIFYLLIN IN THE TREATMENT OF NEONATAL SEPSIS

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**Background:** Literature (too few and too small studies) and in-vitro studies show that pentoxifyllin is a vasodilator that suppresses pro-inflammatory mediator production (especially tumor necrosis factor-alpha), improves tissue perfusion, amplifies endogenous antioxidant mechanisms and has other, yet not fully understood, effects that could be useful in the adjunctive treatment of neonatal sepsis patients. **Objective:** To evaluate the in-vivo workings of pentoxifyllin on NICU (neonatal intensive care unit) patients with sepsis. **Material and methods:** We studied the drug in an observational retrospective study in which we included all patients who received pentoxifyllin in the past two years (2016-2017) at the Targu Mures County Hospital NICU, a total of 16 neonates. Patients received 5mg/kg/hour for 6 hours every day, for five consecutive days, as adjunctive treatment to sepsis management. We recorded the C reactive protein, leukocyte count and platelet count as quantitative indicators of the systemic inflammatory state. The values before and after the five days of pentoxifyllin for each of the 16 patients were used as paired data and we compared the means to see if any significant change took place. **Results:** The parameters are improved in a statistically significant way: C reactive protein dropped ( $p < 0.0001$ ), white blood cell count decreased ( $p = 0.0092$ ), platelet count increased ( $p = 0.0067$ ). Also, clinically, an improvement was documented for most of the cases (decrease in fever, normalization of heart rate and diuresis, less episodes of apnea). However, this improvement was only temporary, the final outcome of the patients was dictated by heavy weighing factors such as degree of lung development, accompanying malformations or hypoxia experienced at birth. **Conclusions:** Although pentoxifyllin is just one pion on the board of neonatal sepsis management strategies, since it is a drug with relatively little side effects and causes a fair degree of improvement, even though just temporary, its routine use in neonatal sepsis could be justified.

**Keywords:** neonatal sepsis,, pentoxifyllin,, TNF-alpha

## ASSOCIATION BETWEEN SERUM LEVEL OF RETINOL BINDING PROTEIN 4 (RBP4) AND ANTHROPOMETRIC EVALUATION

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**Background:** Retinol Binding Protein 4 (RBP 4) is a plasma protein binding cytokine that transports retinol (Vitamin A) from the liver to the peripheral tissues. A strong correlation between elevated serum concentrations of RBP4 and the severity of insulin resistance, obesity and metabolic syndrome components has been demonstrated.

**Objective:** Our objective is to prove a correlation between serum level of RBP4 and values of anthropometric indices, measured in standard deviations (SD): weight, BMI (Body Mass Index), waist, triceps-skinfold-thickness.

**Material and methods:** In our study participated one hundred children with age between 5 and 18 years (age mean: 12,25 years) selected randomly from Tîrgu Mureș schools. Each child included in the study was measured, weighed, analyzed for abdominal circumference and thickness of the triceps cutaneous fold. The data obtained were centralized and correlation between RBP4 and anthropometric measurements were analyzed using Mann Whitney and Spearman test.

**Results:** In our results a high level at plasma RBP4 was correlated with obesity (p < 0,05). **Conclusions:** RBP4 can be considered an important biomarker, it has complex functions and requires special attention. A better understanding of RBP4's role and removal of technical limitations of tests used to quantify RBP4 are mandatory.

**Keywords:** Anthropometric measurements,, RBP4,, Obesity,

## THE IMPORTANCE OF VISION SCREENING IN PRESCHOOL CHILDREN

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**Background:** Vision screening in preschool children is of great importance, because the early detection and correction of refractive errors leads to a proper development of visual function. The screening can be conducted by the family doctor, the optometrist, trained personnel like students, teachers etc. and ophthalmologists. **Objective:**

To detect refractive errors and amblyopia in preschool children, with no previous ocular history. **Material and**

**methods:** We conducted a clinical study following vision screening in preschool children from two different institutions (Kinderland- and Biobee kindergarten), in Cluj-Napoca on the 23rd of February and the 2nd of March 2018. We tested 74 children aged between 1,8 and 7 years. Using the portable Plusoptix Auto-Refractometer we registered ocular refraction without instilling mydriatic drops and measured visual acuity using symbol charts. The examination technique will be shown in a few pictures. **Results:** 74 children between 1,8 and 7 years old were examined, with a slight prevalence of the male gender (52,71%). To 15 children (20,27%), we recommended a comprehensive eye and vision examination at Laser Optisan Clinic Cluj-Napoca, because of newly detected refractive errors, amblyopia in 2 children and convergent strabismus in 1 child. The prevalence of refractive errors was 12,16% (hyperopia in 6 children, astigmatism in 2 children and myopia in 1 child). One child presented unilateral convergent strabismus (1,35%), 2 children presented refractive errors and amblyopia (2,70%). The predictive value of the screening was 60% (compared to 50-72,2% as described in literature). **Conclusions:**

The prevalence of refractive errors is significant in the examined groups. Vision screening performed by trained personnel is a valid method for early detection of refractive errors, including screening in preschool children. Early correction of visual deficits prevents amblyopia and leads to a better quality of life and education.

**Keywords:** vision screening, preschool children, refractive error

## CONGENITAL CENTRAL NERVOUS SYSTEM MALFORMATIONS AT MURES COUNTY CLINICAL HOSPITAL

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**Background:** In a year, globally an estimated 305 000 infants die within 4 weeks of birth due to birth defects. The most commonly diagnosed fetal anomalies are related to the central nervous system. According to the European Surveillance of Congenital Anomalies (EUROCAT) the prevalence of nervous system malformations per 10 000 live births was 3872 between 2005 and 2011. **Objective:** Investigating the central nervous system (CNS) malformations in newborns admitted to Mures County Clinical Hospital's Neonatology Department. **Material and methods:** A total number of 78 patients had been evaluated in our retrospective, descriptive study between 2009 and 2017. Data was analyzed using programs Graph Pad Instat and Microsoft Excel. **Results:** 44,8% of all subjects were born with myelomeningocele (MMC), 52% with hydrocephaly ( posthemorrhagic hydrocephalus excluded) and 19% with corpus callosum dysgenesis. Congenital cardiac malformations were associated in 34,6% and/or urogenital anomalies in 3,8%. There had been four cases registered with craniosynostosis, six with Arnold Chiari syndrome, three with hydranencephaly and three with Dandy Walker syndrome. A total of 37 patients were followed up regularly by an obstetrician-gynecologist, but we had no data available in 16 cases. There was no significant difference between mature and premature patient's prevalence of CNS anomalies. **Conclusions:** The most common congenital anomalies were hydrocephalus and myelomeningocele. In the third of the cases premature birth occurred. The prevalence of the central nervous system anomalies have similarities compared to the international data, but further investigations are needed to obtain a more reliable set of data and results, due to the decreased number of included subjects and improper medical records of antepartum diagnosis and follow-ups.

**Keywords:** congenital, malformations, central, nervous, system

## COMPARISON BETWEEN TWO DENSITY GRADIENT CENTRIFUGATION PROTOCOLS FOR PERIPHERAL BLOOD MONONUCLEAR CELLS SEPARATION

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**Background:** Peripheral blood mononuclear cells (PBMC), namely lymphocytes and monocytes, have an important role in the body's immune response. Therefore, their separation is a key step in most immunological experiments. Over the years, various PBMC separation techniques have been developed. The one based on density gradient principle is currently considered the most reliable worldwide. **Objective:** Our experiment aimed to compare two commercially available PBMC separation protocols - Stemcell Technology (ST) and Miltenyi Biotec (MB) □ in terms of PBMC recovery efficiency and purity. As there were two examiners, we also tested the reproducibility of our experiment. **Material and methods:** Twelve samples were assigned to each protocol, each examiner working six samples. Each sample was divided in three different subsamples of 1ml, 2ml and 3ml, in order to assess the influence of blood volume on PBMC separation. **Results:** According to our results, there was no statistically significant interindividual variability. Also, our findings showed that, globally, ST protocol not only was faster and cheaper compared to MB protocol, but also yielded a higher PBMC separation (74.28%). When assessing the blood volume influence on PBMC separation, our experiment proved that while using MB protocol, 2ml blood subsample had a better recovery rate and while using ST protocol, 3ml blood subsample was statistically better than the others. Regarding granulocyte contamination, both protocols showed a similar degree of purity (95.78%). As far as platelets impurity is concerned, MB protocol yielded a similar level of contamination regardless of the blood subsamples, although much lower than ST. Nonetheless, considering ST protocol, 1ml blood subsample was the poorest in platelets. **Conclusions:** We conclude that our experiment was not influenced by the skill level of each examiner. In our study, the most efficient protocol for PBMC separation in terms of recovery, purity and the ratio between these two is Stemcell Technologies.

**Keywords:** PBMC, separation,, density gradient centrifugation

## DISTRIBUTION OF ADIPOSE TISSUE IN CHILDREN – IS THERE A CONNECTION WITH INSULIN RESISTANCE AND VISFATIN?

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**Background:** Central obesity represents a significant risk predictor of cardiovascular disease in children and adolescents in many studies. The waist-to-height ratio provides an index of central adiposity and has emerged as a better predictor of health risk, compared with body mass index (BMI). **Objective:** The aim of our study is to investigate if there is any difference at the analysed variables in obese and non-obese children. **Material and methods:** We included in our transversal study 100 children from the schools of Târgu Mureș, from which 53 girls and 47 boys. We divided them in two groups by the waist-to-height ratio. Children with a ratio  $\leq 0.5$  were included in the group no abdominal obesity and the ones with a ratio  $> 0.5$  were included in the group with abdominal obesity. We analysed glucose, insulin, Homa index, visfatin and used Mann-Whitney and Wilcoxon statistic tests to compare the means of the two groups. **Results:** The group no abdominal obesity has an age mean of 12.48 in years, BMI mean of -0.1 in standard deviations glucose mean of 80.96, insulin mean of 25.47, Homa index mean of 5.05. The group with abdominal obesity has an age mean of 12.01 in years, BMI mean of 2.13 in standard deviations, glucose mean of 85.79, insulin mean of 34, Homa index mean of 7.16. Comparing the means of the two groups, our results showed a significant difference at the next analysed variables: glucose level ( $p=0.007$ ), insulin level ( $p=0.006$ ) and Homa index ( $p=0.001$ ). Our results showed no significant difference at plasma visfatin mean ( $p=0.174$ ). **Conclusions:** In conclusion, our study showed a significant difference between glucose, insulin and Homa index means in obese and non-obese children. Our study showed no significant difference between plasma visfatin mean in obese and non-obese children.

**Keywords:** obesity,, insulin,, resistance,, visfatin

## QUALITY OF LIFE AFTER TOTAL KNEE REPLACEMENT

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**Background:** Gonarthrosis is a degenerative disease of the knee joint defined by articular cartilage damage ,pathologic synovial fluid and reactive changes in synovial membrane .It is a progressive disease and it affects women, obese people and the elderly.It is known that there is a high correlation between pain and limited functional activities and this may lead to lower quality of life. **Objective:** This study aims to explore the effects of a total knee arthroplasty by comparing range of pain,motion,functional level and quality of life of patients who underwent total knee replacement.Furthermore, the study aims to underline a significant increase in the 36-item Short form health survey (SFHS) score in the first 6 months after the surgery. **Material and methods:** A sample of 50 patients was included in this study. All the patients underwent total knee arthroplasty in 2017 at the Orthopaedic and Traumatology Clinic I from Târgu Mureș Clinical County Hospital. As a method of investigation we used the 36-item SFHS score, using a phone administered questionnaire. **Results:** After the 36-item SFHS score was done,we found out that the patient's health condition after the surgery is very good to excellent in 60% (number=30) of the cases.50% (number=25) of the patients rated their health now somewhat better than one year ago and 76%(number=38) of those who suffered a total knee arthroplasty accused none or very mild pain to moderate bodily pain in the last four weeks.Most patients reports that daily activities,such as walking, climbing several flights of stairs, bending or stooping are not limited at all after the surgery. **Conclusions:** Based on our results, we consider that total knee arthroplasty is a surgical procedure that has been performed successfully to all the questioned patients suffering from gonarthrosis and is one of the most appreciate surgical procedure because of its immediate and spectacular results in patient's quality of life.

**Keywords:** gonarthrosis,, knee pain,, total knee arthroplasty

## THE ASSOCIATION BETWEEN ALCOHOL CONSUMPTION AND SOCIAL STATUS IN PATIENTS HOSPITALIZED TO THE PSYCHIATRIC CLINIC NO.1 TARGU MURES

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**Background:** Alcoholism and alcohol abuse occur in all socioeconomic categories, ethanol being an extremely extensive substrate of medical complications, including neuropsychiatric disorders. A significant role is played by social prejudices, which, therefore, believe that alcohol stimulates social integration and plays an important role in adulthood. Another important aspect is that alcoholism can be found in certain professions that require more difficult work (in construction) or those that require contact with alcohol (waiters, businessmen, commercial representatives). **Objective:** The aim of this study is to evaluate the relationship between alcohol consumption and the social status. **Material and methods:** Our retrospective study included 271 patients between January 2016-December 2016 selected from the archive of the Psychiatric Clinic No.1 of Targu Mures Emergency County Hospital. The patients included in the study were those diagnosed with chronic alcoholism, with age groups between 19 to 81 years. **Results:** Alcohol abuse in association with social status has shown that the highest frequency of alcohol consumption occurs in patients with low education (79,7%), followed by higher-education patients (12,9%), on the last place being those without education (7,4%). There was also a correlation between marital status and the amount of alcohol consumed or frequency, so that the married patients meet the highest frequency (47,3%) and also the highest quantities of alcohol consumed (an average of 1521 ml per day). In terms of gender distribution, there was a higher incidence of males (89,3%) compared to females (10,7%). The rural environment presents a higher frequency of the patient with chronic alcoholism (70,1%) in opposition to the urban environment (29,9%) for both genders. **Conclusions:** According to the results, the level of education has the greatest influence on the consumption of alcohol, which remains a decisive cultural behavior of the patient.

**Keywords:** ethanol,, social status,, chronic alcoholism

## RISK FACTORS FOR PROGRESSION OF CHRONIC KIDNEY DISEASE AMONG PATIENTS WITH TYPE 2 DIABETES MELLITUS

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**Background:** Chronic Kidney Disease (CKD) affects 6,7% of the adult population in our country and is associated with high morbidity, especially in stage 3 to stage 5 CKD. According to PREDATORR study, diabetes mellitus (DM) is the leading cause of kidney damage and the need for renal replacement therapy (RRT). The early detection of risk factors is important, because, by initiating the right treatment it may slow the progression to end-stage renal disease (ESRD). **Objective:** To identify the risk factors associated with progression of CKD in diabetic patients. **Material and methods:** At the beginning of this study we had approximately 200 patients with DM and CKD who were referred for examination in Nephrology Department of Târgu Mureș Hospital between 2014 and 2017. We included the patients who had two measurements of the same parameters at one year interval, a number of 32. Data contained biological parameters, comorbidities and previous treatments. The estimated glomerular filtration rate (eGFR) was calculated using the Modification of Diet in Renal Disease (MDRD) four-items equation. The stages of CKD are those devised by KDIGO group (Kidney Disease Improving Global Outcomes). We defined that any reduction of eGFR greater than 1mL/min/1.73m<sup>2</sup>/year is considered to reflect CKD progression. For those patients that had a decrease of eGFR greater than 1mL/min/1.73m<sup>2</sup>/year, we calculated the clinical and biological factors associated with this decrease. For statistical analysis we used GraphPad 6.0. **Results:** Mean age was 67(±9) years and 84,37% patients had CKD stage 3-5 (eGFR<60 mL/min/1,73m<sup>2</sup>). Of these, eGFR decline greater than 1mL/min/1,73m<sup>2</sup>/year was observed in 81,48% patients. High blood pressure (P=0,0357), hemoglobin (P=0,0048) and glucose levels (P=0,0152) were the main risk factors associated with progression of CKD in our patients. **Conclusions:** Hypertension optimal treatments, good glycemic control and early diagnosis and treatment of anemia can slow the progression of CKD.

**Keywords:** chronic kidney disease,, diabetes type 2,, risk factors

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## DIET AS AN IMPORTANT PLAYER IN THE MANAGEMENT OF AUTOIMMUNE DISEASES

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**Background:** Diet plays an active role in the treatment of systemic, autoimmune, inflammatory diseases. Nevertheless, even though taken by granted with their anti-inflammatory effects gluten free and vegan diet are not supported by many studies. **Objective:** To provide new data concerning the use of gluten-free and vegan diet in systemic, autoimmune, inflammatory diseases. **Material and methods:** A meta-analysis focusing on autoimmune diseases and "so-called" anti-inflammatory diets was performed. The main outcome consisted on the remission of those patients. Remission was considered the lack of pain, the improvement of fatigue, no more than one swelling and tender joint and no extra-articular manifestations. Patients diagnosed with rheumatoid arthritis and lupus were included in our statistics. The meta-analysis was performed using OpenMetaAnalyst software using forest plot and random effects due to the heterogeneity of the studies reported. **Results:** Seventy patients out of one hundred and twenty - three reported remission after starting a vegan or gluten-free diet. The final results showed a prone tendency for the benefit of diet in systemic, autoimmune diseases ( $p < 0.001$ , 95% CI: 0.281-0.822). **Conclusions:** Diet can be beneficial in the treatment of autoimmune, inflammatory diseases. Further studies are needed in order to outline the role of vegan or gluten-free diet.

**Keywords:** Autoimmune Inflammatory Diseases,, Gluten-Free Diet,, Vegan Diet,

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## CLINICAL AND PARACLINICAL ASSESSMENT OF GASTRITIS IN PEDIATRIC CLINIC NO. 1 TÂRGU-MUREŞ

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**Background:** Gastritis is an inflammatory process which occurs following imbalances of aggressive factors and defense mechanisms of gastric mucosa. From etiologic point of view Helicobacter Pylori infection is one of the most frequent causes of gastritis. **Objective:** The aim of study was to evaluate the diagnostic methods of gastritis among pediatric patients. **Material and methods:** We performed a retrospective study on 152 gastritis patients (57 known with Helicobacter pylori infection and 93 without Helicobacter pylori infection) admitted to Pediatric Clinic I Targu-Mures, between January 2013 and December 2017. We analyzed data from the medical records and the histopathological results. Comparative statistical analysis was performed after data collection and centralization. **Results:** The most common onset symptom was the abdominal pain (57.3%). Gastroscopy was performed in 89.3% of patients. The incidence of Helicobacter pylori infection among patients was 38%. For H. pylori determination the following tests were performed: the rapid urease test was positive in 36.7% of the cases, the detection of Helicobacter pylori antigen in the stool was positive in 4%, the anti-H. pylori immunoglobulin A was positive in 10% of patients, and the anti-H. pylori immunoglobulin G in 7.3%. **Conclusions:** For rapid diagnosis urease test was the most indicated and had the most positive results.

**Keywords:** gastritis, helicobacter pylori, children

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## THE EFFICIENCY OF ENCEPHALAPP STROPP TEST FOR DIAGNOSIS OF MINIMAL HEPATIC ENCEPHALOPATHY

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**Background:** Early detection of minimal hepatic encephalopathy in cirrhotic patients may have a substantial impact in improving the quality of life and overall progression to overt hepatic encephalopathy (OHE). Because of the lack of clinical manifestations the diagnosis of covert hepatic encephalopathy (CHE) can only be established using specialized cognitive testing methods. Computerised tools like Encephalapp Stropp application could be used to evaluate neuropsychiatric abnormalities which describe CHE. **Objective:** The aim of the study was to demonstrate the usability of Encephalapp Stropp Test in early detection of impaired response inhibition in order to

prevent the onset of OHE. **Material and methods:** A prospective clinical study was conducted in 2017 at the Gastroenterology Clinic in Tîrgu Mureş ,on 67 patients enrolled in two groups : 34 with hepatic cirrhosis and the control group consisted of 33 patients without hepatic pathology.The EncephalApp StroopTest was performed on each patient and the results measured were correlated with clinical and paraclinical parameters. **Results:** Demographic data showed that 67.16% of tested patients were males and 32.84% females. Out of 34 cases ,a percent of 20.58% (n=7) patients experienced at least one one episode of hepatic encephalopathy. In our study we identified alcohol consumption as the leading cause for cirrhosis (58.83%) followed by chronic hepatitis (23.53%) and autoimmunity (8.82% ) .A total of 58.82% (n=20) patients developed esophageal varices and ascites was diagnosed in 44.11% (n=15) of cases. Thrombocytopenia was identified in 67.64%(n=23) of patients. **Conclusions:** Compared with laboratory findings and paraclinical investigations , Stroop App test was shown to be a reliable method for exposing incipient signs of CHE in patients with cirrhosis .

**Keywords:** hepatic cirrhosis ,, encephalopathy ,, EncephalApp Stroop Test

## STIGMA TOWARD MENTAL ILLNESSES AMONG MEDICAL STUDENTS IN TWO MEDICAL SCHOOLS FROM ROMANIA

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**Background:** The stigma of mental illness among medical students is restlessness and seeing the concern there were many pursuits to strive this using educational actions, however, mixed results have been obtained. **Objective:** The impact on the stigma of mental health illness among medical students was assessed by exposing them to specific situations. **Material and methods:** We used MICA2 scale of explicit attitudes towards people with mental illness (Kassam et al, 2010) on a sample of students from University of Medicine and Pharmacy Iuliu Hațieganu Cluj-Napoca and University of Medicine and Pharmacy of Craiova. The online form was addressed to students from 1st year, respectively 6th year, after they completed psychiatry clerkship. **Results:** The survey was completed by 122 students, 77 from Cluj-Napoca, respectively 45 from Craiova. Scores bigger than 51 are considered an expression of stigmatizing attitudes related with mental ill people. For Cluj-Napoca students in 1st year, 23 students (62.16%) had scores under 51, respectively 14 (37.84%) bigger than 51, while for Craiova, for 15 students (68.18%) were recorded scores under 51, respectively over 51 for 7 students (31.82%). The scores of students in 6th year of study, after attending psychiatry lectures and direct contact with psychiatric disorders patients, were distributed as following: Cluj-Napoca - 28 students (70.00%) under 51, respectively 12 over 51 (30.00%); Craiova 15 under 51 (68.18%), respectively 8 over 51 (31.82%). Overall, from 1st year students 38 (64.4%), respectively from 6th year students 43 (68.25%) had responses associated with reduced stigma. **Conclusions:** Broadly speaking medical students have a stereotypical concept that mental illness patients have reduced chances to heal and severe mental illness patients are threatening. According to our results, for almost one third of them, psychiatric education and direct contact with mental disorders patients during the courses and practices did not lead to an improvement of these negative attitudes.

**Keywords:** Stigma, Mental illness, Implicit attitudes

## THE CYP2C19 POLYMORPHISMS AND GASTRO-DUODENAL LESIONS IN PATIENTS WITH PROTON PUMP INHIBITOR THERAPY

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**Background:** Proton pump inhibitors (PPI) are well known for their role in the management of a variety of acid-related disorders and eradication of *Helicobacter pylori* in combination with other drugs. CYP2C19 is involved in metabolism of all proton pump inhibitors, therefore pharmacodynamic effects and their therapeutic efficacy are partially determined by CYP2C19 polymorphisms. **Objective:** The objectives of our study were to investigate the influence of CYP2C19\*2 and CYP2C19\*3 gene polymorphisms and the impact of predisposing factors - *Helicobacter pylori* infection, concomitant drug consumption, social habits, comorbidities - on severe endoscopic

lesions in patients with PPI protective therapy. **Material and methods:** We enrolled 155 patients with PPI therapy who underwent upper endoscopic examination and successfully genotyped, divided into two groups according to the severity of their endoscopic lesions (130 patients with no or mild endoscopic lesions and 25 patients with severe endoscopic lesions). **Results:** There was no significant difference in terms of age between the studied group and control group ( $p=0.636$ ,  $OR=0.73$ ,  $95\% CI 0.27-1.98$ ), but there was a significant difference in terms of gender, namely the severe endoscopic lesions were more frequent in males than in females ( $p=0.026$ ,  $OR=2.84$ ,  $95\% CI=1.16-6.92$ ). CYP2C19\*2 and CYP2C19\*3 hetero or homozygous variant genotypes (1\*/2\* or 2\*/2\*) did not differ significantly in the study group in comparison with control group ( $p=0.901$ ,  $OR=1.02$ ,  $95\% CI=0.9-2.65$ , respectively  $p=0.067$ ,  $OR=0.089$ ,  $95\%CI=0.007-1,025$ ), although the last has a tendency towards statistical signification ( $p=0.067$ ). A statistically significant correlation was observed between the severity of endoscopic lesions and anticoagulant therapy ( $p=0.028$ ,  $OR=2.92$ ,  $95\%CI=1.13-7.48$ ) and also anemia was noticed as an important risk factor in severe lesions ( $p=0.007$ ,  $OR=3.46$ ,  $95\%CI=1.43-8.36$ ). **Conclusions:** In the studied population, anticoagulant therapy and anemia are important risk factors in severe endoscopic lesions in patients with PPI, with higher incidence in male gender, while CYP2C19\*3 is slightly associated with healing rates of PPI.

**Keywords:** anemia;, anticoagulant therapy;, CYP2C19 polymorphisms;, proton pump inhibitor.

## PREDICTIVE MARKERS IN RECURRENCE OF ATRIAL FIBRILLATION AFTER PULMONARY VEIN ISOLATION

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**Background:** The feasibility of treating atrial fibrillation with radiofrequency ablation revived interest in the structure of the left atrium. It is known that its volume, as a sign of atrial remodeling, is an independent risk factor of AF recurrence. Comorbidities such as: diabetes, hypertension, obesity, heart failure and smoking could also be influencing factors. **Objective:** The study aims to assess the evolution of patients with AF and other comorbidities: diabetes, hypertension, obesity, heart failure and smoking, during a 3 month follow-up after radiofrequency ablation. Furthermore, it also evaluates the relation between left atrial volume, right atrial volume, right atrial volume index and the recurrence of AF. **Material and methods:** In 20 patients, with paroxysmal(35%) and persistent(65%) AF pulmonary vein isolation was performed using Ensite NavX three dimensional electro-anatomical mapping system. The right and left atrial(LA) volume were determined by computer tomography. The right atrial(RA) volume was indexed to body surface area. The patients also underwent basic laboratory tests and Echocardiography. **Results:** Among the 20 patients, 3 (15%) were smokers, 6 (30%) had diabetes, another 6 (30%) were obese, 14 (70%) were hypertensive and 16 (80%) had heart failure (NYHA 2-3). During a 3 month follow-up after pulmonary vein isolation the recurrence of AF was significantly higher both with greater LA volume ( $115.3.2\pm 3.96$  ml vs.  $94.14\pm 2.88$  ml,  $p=0,0014$ ) and greater RA volume ( $109.7\pm 3.65$  ml vs.  $87.02\pm 2.49$  ml,  $p<0,0001$ ). The RA volume index showed a significant correlation with AF recurrence ( $56.88\pm 3.53$  ml/m<sup>2</sup> vs.  $43.97\pm 1.24$  ml/m<sup>2</sup>,  $p<0,0001$ ). **Conclusions:** In the future RA volume index and RA volume should be considered as an important predictor factor of AF recurrence. The correlation of AF recurrence with different comorbidities should be studied to a greater extent. Furthermore, attention should be drawn to the research of other arrhythmia substrate, to improve the success rate of ablation techniques.

**Keywords:** atrial fibrillation recurrence, predictive markers, radiofrequency ablation, right atrial volume index

## INCIDENCE AND FEATURES OF SESSILE SERRATED POLYPS DIAGNOSED ON NBI COLONOSCOPY

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**Background:** Serrated lesions generate 15-20% of sporadic colorectal cancers. Serrated polyps (SP) are mucosal elevations that resemble saw teeth due to folds made by the crypt epithelium. Sessile serrated polyps have intermediate features between hyperplastic polyps and traditional serrated adenomas. **Objective:** a) to determine the portion of the colon having the highest rate of colon cancer diagnosis in patients with SP; b) to evaluate whether the sex of subjects with colorectal polyps has an influence on the prevalence and localization of SP in patients with diagnosed polyps at the Emergency Clinical County Hospital of Tîrgu Mureș □<sup>§</sup> Gastroenterology

**Clinic. Material and methods:** The group of subjects consists of 1076 patients diagnosed on NBI (narrow-band imaging) colonoscopy with colorectal polyps lesions, which correspond to a representative sample for the study interval 2013-2017. The following data has been collected and evaluated: Sex M / F; Diagnostic; Polyps - localization; Histopathological examination; Localization of left vs. right colon cancer. **Results:** From the total number 1076 of patients with polyps, 88 patients were identified with SP, representing a percent of 8,17%. Among them 57 (64,77%) are men, 31 (35,23%) are women. Localization of serrated polyps left vs. right reveals to men: 13 (22,81%) SP located in the left, 44 (77,19%) SP located in the right; in women: 14 (45,16%) SP located in the left, 17 (54,84%) SP located in the right. The statistical analysis of the batch was performed with the Epi Info software. **Conclusions:** The statistical analysis of the results, leads us to the following conclusions: Sessile serrated polyps represent 8,17% of the total of the polyps diagnosed; on colonoscopy Men have serrated polyps in higher proportions compared to women, approx. 1,84 times; In the case of men, the location of sessile serrated polyps occurs predominantly on the right side of the colon.

**Keywords:** serrated lesions, sessile serrated polyps, colonoscopy, colorectal cancer

## THE CLINICAL IMPORTANCE OF COPY NUMBER VARIANTS ANALYSIS IN PATIENTS WITH OBESITY AND DEVELOPMENTAL DISABILITY/ INTELLECTUAL DISABILITY

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**Background:** Copy number variants (CNV) analysis have had a significant impact on the field of medical genetics, providing a mechanism to identify genomic alterations that can lead to various phenotypes. Although a powerful tool to identify deletion and duplication syndromes with atypical phenotype, in some cases the CNV analysis may also result in variants with unknown clinical significance. Sometimes these abnormalities can lead to pediatric obesity, often associated with other clinical features like intellectual disability. **Objective:** The main objective of this study was to determine if this analysis for patients with obesity and intellectual disability is justified by relevant findings. Thus, we searched in the genomes of 36 patients with these clinical features for pathogenic CNVs that may explain their phenotype. **Material and methods:** We collected 36 cases from the Emergency Clinical Hospital for children, Cluj-Napoca, which presented pediatric obesity and intellectual disability. We used single nucleotide polymorphism array technique (SNP array), Infinum OmniExpress 24V1.2 in order to detect copy number variants. Data analysis was made using Genome Studio, and the interpretation of the data was performed using University of California Santa Cruz (UCSC) Genome Browser data base, Decipher, ClinVar, OMIM and Gene Reviews. **Results:** 15 patients (42%) had copy number variants with a high degree of pathogenicity and 21 (58%) presented benign variants. 8 patients (33%) were found to carry pathogenic variants, 5 presented variants of uncertain significance and 2 patients had uniparental disomy. **Conclusions:** In this research, we found that 33% of the cases could be explained by pathogenic copy number variants, and we found relevant results in 42% of them. Therefore, we showed that it is justified to search for pathogenic variants in patients with pediatric obesity and intellectual or developmental disability.

**Keywords:** Obesity,, intellectual,, developmental,, copy number variants

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technique, Infinum OmniExpress 24V1.2 in order to detect CNVs. Data analysis was made using Genome Studio, and the interpretation of the data was performed using UCSC data base (Decipher, ClinVar, OMIM and Gene Reviews). **Results:** 15 patients (42%) had CNVs with a high degree of pathogenicity and 21 (58%) presented benign CNVs. 8 patients (33%) were found to carry pathogenic CNVs, 5 presented probably pathogenic VOUS and 2 patients had uniparental disomy. **Conclusions:** In this research, we found that 33% of the cases could be explained by pathogenic CNVs, and we found relevant results in 42% of them. Therefore, we showed that it is justified to search for pathogenic variants in patients with pediatric obesity and intellectual or developmental disability.

**Keywords:** Obesity, intellectual disability, developmental disability, CNV

## IMPACT OF CHRONIC KIDNEY DISEASE ON THE RISK OF NEW-ONSET ATRIAL FIBRILLATION IN PATIENTS WITH ST-SEGMENT ELEVATION MYOCARDIAL INFARCTION

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<sup>2</sup>

**Background:** Atrial fibrillation (AF) occurs frequently in the setting of ST-segment elevation myocardial infarction (STEMI) and has been associated with poor short- and long- term outcomes. Classic predictors of STEMI-related AF have been assessed in several studies, but more recently chronic kidney disease (CKD) was identified as a novel AF predictor in the general population. **Objective:** The main purpose of our study was to evaluate the ability of CKD to predict new-onset AF in STEMI patients treated by primary percutaneous coronary intervention (pPCI). **Material and methods:** Data from consecutive patients without preexisting AF who were treated by pPCI for STEMI in our center between January 2011 and December 2013 were assessed retrospectively. All available data were reviewed and the occurrence of STEMI-related new-onset AF was recorded. The ability of CKD to predict new-onset AF was evaluated. **Results:** A total of 401 patients treated by pPCI for STEMI were enrolled in the study. STEMI-related new-onset AF occurred in 45 of patients (11.2%). Arrhythmic patients were significantly older ( $p=0.0001$ ), more likely to have a history of heart failure ( $p<0.01$ ), and previous myocardial infarction ( $p=0.04$ ) than the non-AF patients. Compared with non-arrhythmic patients, patients with new-onset AF had more often CKD (OR 19.2; 95% CI 9.2-40.2;  $p<0.0001$ ). In multiple regression analysis, CKD remained a strong independent predictor of STEMI-related AF (OR 16.7; 95%CI 6.95-39.98;  $p<0.0001$ ). **Conclusions:** The present study identified CKD as a strong independent predictor of STEMI-related AF. Thereby, identifying patients who are at high risk to develop STEMI-related AF by evaluating kidney function could be useful for guiding a more intensive prevention strategy. **Funding:** This research was supported by the University of Medicine and Pharmacy of Tîrgu-Mureş, Romania (Grant number 17800/1/22.12.2015);

**Keywords:** atrial fibrillation, chronic kidney disease, predictor, ST-segment elevation myocardial infarction

## AUTISM SPECTRUM DISORDER: EARLY DIAGNOSIS AND THERAPEUTICAL STRATEGIES

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**Background:** Autism spectrum disorder is a sever disorder of the childhood, which appears before the age of 3 characterized by the lack of attachment, avoidance of the eye contact, failure to develop social interactions, rituals, repetitive acts and bizzare, compulsive behavior manifested by the resistance to change, general intelectual retardation and markedly aberrant communication skills. **Objective:** This study proposed to reveal the importance of early diagnosis; adequate medicational and comportamental therapy (ABA, PECS) in case of autism. **Material and methods:** In our retrospective study were involved 36 patients hospitalized in 2017 in the Children Neuropsychiatric Hospital from Targu Mures diagnosed with autism spectrum disorder. In this study we reviewed the intelectual development, clinical signs ,psihiatrical and psihological evaluations of the children and their therapeutical strategies. **Results:** From 36 examined children were 66,66% boys 33,33% girls; 58,33% from rural origins, 41,66% from urban areas; 97,22% had stereotyped motor movements, 83,33% presented vocal stereotypy, 80,55% resistance to change, 100% reduced communication skills, 83,33% deficit of social-emotional reciprocity, 63,88% had sever intelectual retardation. **Conclusions:** Diagnosis before age 3 based on DSM 5

criteria; drug and behavior therapy (ABA, PECS) play an important role in the favorable evolution of the children with infantile autism.

**Keywords:** autism spectrum disorder, repetitive behavior, intellectual retardation

## COMPARATIVE STUDY OF THE LIPID PROFILE BETWEEN PATIENTS WITH ENDOGENOUS HYPERCORTISOLISM AND REACTIVE HYPERCORTISOLISM

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**Background:** Hypercortisolism is a condition defined by excess of glucocorticoids in the blood, due to endogenous or exogenous causes. Endogenous hypercortisolism can be ACTH-dependent or ACTH-independent. Reactive hypercortisolism or pseudo-Cushing, characterized by symptoms of glucocorticoids overproduction, is generally linked with depression, anorexia, alcoholism and obesity. **Objective:** We followed the design of a case-control study whose aim is to analyze the lipid panel of both endogenous and reactive hypercortisolism patients. **Material and methods:** We retrospectively studied the medical records of 3705 patients hospitalized in the Endocrinology Department of Targu Mures County Clinical Hospital between year 2007 and 2011. Out of these 3705 patients, 24 patients were diagnosed with Cushing Syndrome and 144 patients with reactive hypercortisolism, resulting a total of 168 cases. For these cases we analyzed the height, weight, body mass index, age and from a paraclinical point of view: total cholesterol and triglycerides, searching for values that exceed 150 mg/dl for triglycerides, respectively 200 mg/dl for total cholesterol. **Results:** From 168 cases, 73.21% were women and 70.23% were from the urban area. The mean age of our subjects was 25 years old. High total cholesterol was detected in 15.47% of cases and in 14.88% of cases high triglycerides levels, with 17.26% of the total patients having both values elevated. OR was calculated resulting a value of 1.655 with a 95% CI of 0.6894 to 3.971 and a two-sided P value of 0.2776 after Fisher's Exact Test, meaning there is no positive correlation between an altered lipid profile and Cushing syndrome. **Conclusions:** Patients with hypercortisolism often have an altered lipid panel; nevertheless we didn't identify any positive correlation between a disturbed lipid metabolism and the development of Cushing syndrome.

**Keywords:** Cushing, pseudo-Cushing, hypercortisolism, lipid profile

## EVALUATION OF THE LIPIDS SERUM LEVEL TO THE PATIENTS WITH CHRONIC HEPATITIS C

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**Background:** Hepatitis C Virus plays a major role in liver disease and chronic hepatitis C can progress to liver cirrhosis and hepatocellular carcinoma. Chronic hepatitis C virus is associated with lipid disturbances, insulin resistance, an increased risk of diabetes type 2 and atherosclerosis. To the patients with chronic hepatitis C it's not well known the significance and importance of lipids serum level. **Objective:** To evaluate the possible association between serum lipids level and the stage of steatosis and fibrosis to the patients with chronic hepatitis C. **Material and methods:** Biological samples with peripheral blood were obtained from patients admitted on the "Phylanthropy" Hospital of Craiova, between September 2016- September 2017 and diagnosed with chronic hepatitis C. A total number of 88 CHC patients (47 male, 41 female), was included in the study lot. Liver cirrhosis(F4) was diagnosed in 35 cases. In the ultrasound examination 47 patients presented steatosis. For each patients laboratory panel included complete blood count, liver tests and serum lipid levels(mmol/l). Aspartate aminotransferase to Platelet Ratio Index test was calculated for every patient from the study lot. Statistical analysis included Spearman's rho, Mann-Whitney-U test, Receiver Operating Characteristic (ROC) curve. **Results:** The patients with liver steatosis the level of Total Cholesterol (p=0.027) and Low-Density Lipoprotein (p=0.032) were higher. Patients with F4 had lower level of TCh (p<0.022), High-Density Lipoprotein (p=0.025) and LDL (p=0.031) compared with F1-F3 patients. Triglyceride (TG) levels was correlated with APRI (r=0.345, p=0.039) test to the patients without steatosis. Patients with F4 have TG/LDL ratio (p=0.022) higher than patients with F1-F3 patients. **Conclusions:** The patients with chronic hepatitis C lipids serum levels depend on the presence of steatosis and cirrhosis. Patients with cirrhosis have a low cholesterol level, but a few increased triglyceride level. In patients with chronic hepatitis C TG/LDL ratio can be a potential marker of liver cirrhosis.

**Keywords:** chronic hepatitis C, TG/LDL ratio, lipids serum levels, liver cirrhosis

## CLINICAL MANAGEMENT OF HYPERTENSION DURING PREGNANCY AND DELIVERY – A CONTINUOUS CHALLENGE FOR THE OBSTETRICIAN

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**Background:** With a prevalence of 10%, hypertension is the most common complication encountered during pregnancy. Five forms of hypertension in pregnancy are described: chronic hypertension, preeclampsia, eclampsia, preeclampsia superimposed on chronic hypertension, gestational hypertension. Hypertension is known to be an important source of neonatal and maternal morbidity and mortality. **Objective:** Our aim was to analyze the possible risk factors of hypertension in pregnancy, to assess the prevalence of each form, to evaluate the complications, to analyze the optimal way of delivery and treatment. **Material and methods:** We included 50 pregnant women, all having a form of hypertension. We monitored them during pregnancy by performing obstetric clinical, ultrasound examination and by evaluating their urine protein level and complete blood count. Chi-squared test was applied. **Results:** The rate of caesarean section was 50%. The incidence of preeclampsia was 6%. All preeclamptic women gave birth by caesarean section. Maternal age under 20 proved to be the most important risk factor for hypertension ( $p = 0.001$  95%CI). Multiparity correlated significantly with the development of hypertension ( $p = 0.03$ ). Fetal growth restriction appeared in all preeclamptic women and in 30% of the other women. Proteinuria appeared in all cases of preeclampsia. 19% of patients initially diagnosed with gestational hypertension developed proteinuria later. 90% of patients with gestational hypertension and the preeclamptic women received an alpha-blocker. **Conclusions:** Vaginal birth can be a reliable option for hypertensive women, but in preeclamptic women the caesarean operation was preferred. No case of preeclampsia evolved into HELLP Syndrome or eclampsia. Hypertensive pregnant women should be continuously assessed for proteinuria, as the chance of it to appear during pregnancy is relatively high. Treatment with an alpha-blocker proved to be the most reliable for gestational hypertension and the association between an alpha-blocker and a Calcium channel blocker (Nifedipine) was efficient in cases of systolic pressure > 160 mmHg.

**Keywords:** hypertension, preeclampsia, obstetric ultrasound, proteinuria

## COMPARISON OF AMBULATORY BLOOD PRESSURE PARAMETERS IN PREDIALYSIS CHRONIC KIDNEY DISEASE VERSUS RENAL TRANSPLANTATION PATIENTS

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**Background:** Hypertension is an important cardiovascular risk factor in chronic kidney disease (CKD). Multiple factors (specific to CKD but also patient specific) make adequate control of blood pressure difficult to achieve. Literature suggests that ambulatory blood pressure monitoring (ABPM) provides information on blood pressure (BP) variation which is associated with cardiovascular and renal outcomes. **Objective:** The aim of our study was to compare BP pattern in patients with predialysis chronic kidney disease and kidney transplantation and to find out which one has a more negative circadian profile in terms of BP control. **Material and methods:** Prospective study on 27 predialysis chronic kidney disease and 28 kidney transplantation patients followed in the Department of Nephrology of Mures County Clinic Hospital. Chronic kidney disease was defined according to KDIGO guidelines. Blood pressure was recorded with a ABPM-05 device; frequency of measurements was on every 15 minutes on daytime period and on every 20 minutes for the night time period. **Results:** Predialysis CKD patients had lower glomerular filtration rate ( $p < 0.05$ ) and higher age compared with kidney transplantation patients ( $p < 0.001$ ). We found no statistical differences in mean, maximum, minimum systolic and diastolic BP on daytime and nighttime, and no differences in terms of morning surge and non-dipper profile. Average pulse pressure was statistically higher in predialysis chronic kidney disease patients ( $p < 0.05$ ). **Conclusions:** Although we did not find large statistical differences for the main parameters of 24-hour ABPM monitoring, increased pulse pressure values for predialysis CKD patients give them a higher cardiovascular risk.

**Keywords:** Hypertension,, Chronic kidney disease,, Ambulatory blood pressure parameters,, Predialysis.

## CLINICAL AND PATHOLOGICAL FACTORS ASSOCIATED WITH ENDOSCOPIC LESIONS AND ANAEMIA: A CASE-CONTROL STUDY

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**Background:** Iron deficiency anaemia (IDA) is a frequent clinical condition that requires upper digestive endoscopy (UDE) evaluation. Localization of histologic abnormalities (inflammatory, premalignant, reactive) in the gastric mucosa may play a role in the mucosal healing and/or persistence of anaemia. **Objective:** We aimed to study the correlations between histological aspects, as well as clinical factors and endoscopic lesions in anaemic patients referred for UDE. **Material and methods:** We included 108 patients with chronic IDA, undergoing both upper and lower endoscopy (excluding the ones with lesions in the lower gastrointestinal tract, suspected of active bleeding or with renal disorders). We divided them into two groups using Lanza score for upper digestive endoscopic lesions: 29 patients with severe lesions (Lanza score 3 and 4, study-group) and 79 patients with no lesions (Lanza score 0 and 1, control-group). At least two biopsies from the antrum and from the corpus were taken and medical records were studied. **Results:** Reactive gastropathy changes were more frequent in our control group than in our study-group, but without any statistical significance ( $p=0,382$ ). Atrophic gastritis and/or intestinal metaplasia: antral ( $p=0,755$ ) or in both antrum and the corpus ( $p=0,9769$ ) did not reveal any statistical difference between our groups. The same was discovered for active/inactive gastritis in the antral region ( $p=1,000$ ), but gastritis in both antrum and the corpus was associated with severe mucosal injury ( $p=0,0096$ ; OR=3,300; 95%CI:1,305-8,345). *Helicobacter pylori* infection had a tendency towards being statistically correlated with endoscopic lesions ( $p=0,07041$ ; OR=2.244; 95%CI:0.925-5.442), while smoking ( $p=0,0152$ ; OR=4,709; 95%CI:1.359-16.31) proved to be statistically more frequent in the study-group. Gastrotoxic drug consumption (aspirin, clopidogrel, NSAIDs, anticoagulants) was similar in our groups ( $p=0,52$ ,  $p=0,26$ ,  $p=1,0$ , respectively  $p=0,67$ ). **Conclusions:** Extension of inflammatory changes in both antrum and corpus, smoking and *Helicobacter pylori* in gastric biopsies are more frequently associated with severe endoscopic lesions in anaemic patients referred for UDE in our population.

**Keywords:** Anaemia,, Endoscopy,, Premalignant gastric lesions,, Gastritis

## PSYCHIATRIC EXPERTISE AND SOCIO-MEDICAL PROBLEMS

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**Background:** The forensic psychiatric expertise is a common ground of legal medicine and psychiatry, is an interdisciplinary activity serving social justice. In the civil cases, the main perspective is the capacity of fulfilling the expected social tasks and the psychic ability to allow him to live with his rights without harming the self or other persons. In penal cases role of the psychiatric expertise is to make a clinical decision about the degree of judgment and the accountability of the person, and to consider the modalities of the treatment which has to be a social prophylaxis by neutralizing the source of danger. The treatment of these individuals can be considered as social medical problem which is a burden for the health system. **Objective:** Illustrating the dispersion of psychopathology and to survey the persons who can be considered as potential sources of danger due to questionable ability of judgment in Mures county. **Material and methods:** We collected the data from the Mures County Institute of Forensic and Legal Medicine psychiatric expertises of 2014. They were systematized and compared in Microsoft Excel programme. The total number of enrolled subjects were 253. **Results:** 73% of all cases were civil and 27% were criminal cases. In 80% of the civil cases guardianship is recommended due to the loose of psychic capacity. 55% were diagnosed with dementia and 35% with oligophrenia of with 64 patients needed professional healthcare and medication. In criminal cases 75% were minors and only 35% of them with the chance of reeducation. **Conclusions:** In civil cases the dominant pathologies are dementia and oligophrenia. In penal cases most offenses were committed by minors. In addition to the fact that the equilibrium between patient and environment is influenced by the existing pathology, there are some favoring factors which are making the "criminal characteristics" stronger .

**Keywords:** Psychiatric expertise, Civil case, Penal case, Socio-medical factors

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## THE EUROPEAN COMPARATIVE STUDY REGARDING MEASLES

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**Background:** Measles is an extremely contagious acute viral infection caused by Morbillivirus. It is spread when people, who have not been vaccinated or have not developed immunity to it, come into contact with droplets containing the virus that are produced when infected people sneeze or cough. Efforts to eradicate measles have succeeded in getting rid of the virus in many countries worldwide. Such countries are actively working to maintain this virus removal, continuing to improve vaccination coverage. **Objective:** This subject is of universal interest, being covered both by approval and by disapproval of parents/guardians. The purpose of this study was to compare measles data from two European cities, namely Lombardy region and Mureş County. **Material and methods:** This is a retrospective study in which we have analyzed the incidence of measles cases, considering the age and sex of patients for the first semester of 2017. We also compared the history of measles vaccine coverage in Lombardy, region of Italy and Mureş County of Romania. **Results:** In Mureş County were reported 184 cases, 52.7% girls; 47.3% boys. Most cases from rural areas (72.8%, p=0.02), most in January and May and almost half in the age group 1-4 years (41.3% -p= 0.001). In Lombardy, measles was highlighted for population between 0-4 years and 25-34 years, also the age classes between 15-19 years and 35-44 years old. Genders were equally involved. In the first semester were genotyped 301 cases (43% of the total) representing D8 on the top. Most of the cases occurred in June (158 out of 686 cases). **Conclusions:** One of the most significant factors for the appearance of measles in both regions was the age group 1-4 years. The difference between them were the epidemic peaks periods and the area, also the group age of 25-34 years old that occurs just in Lombardy.

**Keywords:** measles, worldwide, vaccination

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## EARLY DIAGNOSIS OF GASTRIC PRENEOPLASTIC LESIONS

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**Background:** Intestinal-type gastric adenocarcinoma is the most common malignant tumor of the stomach and has as precursors atrophic gastritis, intestinal metaplasia and dysplasia. The first step in carcinogenesis initiation process is the colonization of the gastric mucosa with *Helicobacter Pylori* (HP). HP has been classified as first class gastric carcinogen. Identifying and surveillance in patients with these gastric preneoplastic lesions leads to early diagnosis of gastric cancer with treatment options and an improvement in survival rate. **Objective:** The purpose of this study was to determinate the incidence of gastric preneoplastic lesions from several points of view: gender, age, histopathology type and the presence of the *Helicobacter Pylori*. **Material and methods:** Upper digestive endoscopy has been performed in 5161 patients with dyspeptic syndrome in First Gastroenterology Clinic from Târgu Mureş. Data in our center between 2016-2017 were assessed retrospectively. Patients with upper digestive hemorrhage and liver cirrhosis were excluded from the study. In all the patients gastric biopsies and histopatological exam were made. 777 patients were diagnosed with gastric preneoplastic lesions. **Results:** From the total of 777 patients 388 (49,9%) were males and 389 (50.06%) were females. Histopathologically, 31,9% of patients had atrophic gastritis, 47,6% intestinal metaplasia and 0,9% dysplasia. Active gastritis/pangastritis with *Helicobacter Pylori* was identified in 473 (60,9%) patients and in 4,6% of cases potentially malignant polyps were revealed. **Conclusions:** Regarding the age impact, we notice that a high incidence of preneoplastic gastric lesions is registered on patients aged between 60 and 70 years, males and females being equally affected. *Helicobacter Pylori* was identified in more than half of the patients. From the total of 777 patients, 281 (36.16%) of them simultaneously present two or more preneoplastic gastric lesions. As the current guidelines require, the patients with preneoplastic lesions will be followed-up and in all the patients with HP was administrated the eradication treatment.

**Keywords:** preneoplastic, metaplasia, dysplasia, atrophic gastritis, *Helicobacter Pylori*

## MONITORING THE EVOLUTION OF HEPATITIS C TREATMENT WITH NEW DIRECT ACTING ANTIVIRALS.

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**Background:** Hepatitis C is a disease with significant global impact. According to the World Health Organization a total of 130-150 million people are chronically infected, which corresponds circa to 2-2.5% of the world's population. **Objective:** The study aims to evaluate treatment efficacy and safety profile in a group of patients with liver cirrhosis C Child-Pugh A. All the patients received treatment with VIEKIRAX® (ombitasvir/paritaprevir/ritonavir tablets), EXVIERA® (dasabuvir tablets) and Ribavirin for 12 weeks. **Material and methods:** A total of 63 patients, 33 males (mean age 59 years old) and 30 females (mean age 65 years old) were analyzed from Mures County Hospital Gastroenterology I. Data were inserted in an Excel spreadsheet. All the patients presented genotype 1b except one with genotype 1a. All the patients completed the treatment except one deceased due to causes not related to therapy. **Results:** The following were the most common side effects: headache 12 (19.4%), insomnia 4 (6%), arthralgia 4 (6%), fatigue 3 (5%), gastralgia 3 (5%), hypertension 3 (5%), whereas pruritus, loss of appetite, inferior limb pain, palpitations and lombalgia were found in less than 3% of cases. Laboratory: at the second round of visit 23 patients (37%) have presented increased total bilirubin (highest value 5,000 mg/dL), 30 patients (48%) have increase direct bilirubin (highest value 1,928 mg/dL), 8 patients (13%) have elevated GGT (highest values 303 U/L), 11 patients (17%) have elevated GOT (highest value 127 U/L) and 13 patients (21%) have elevated GPT (highest value 115 U/L). Anemia showed low haemoglobin in 22 patients (35%) and low haematocrit in 18 patients (29%). Platelet count was low in 22 patients (35%). All the patients have been evaluated for SVR at weeks 12 and 24 resulting in undetectable viral load. **Conclusions:** Treatment has an optimum tolerance profile and efficacy reaches 100% with null viral load at follow-up.

**Keywords:** Hepatitis C, Direct acting antivirals, Viekirax, Exviera

## RELATIONSHIP BETWEEN METABOLIC SYNDROME AND COGNITIVE IMPAIRMENT IN PATIENTS WITH HYPERTENSION

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**Background:** Numerous studies have demonstrated that hypertension plays an important role in cognitive decline. The presence of metabolic syndrome can increase this negative effect on cognitive function. **Objective:** Aim of study was to screen cognitive dysfunction in hypertensive patients and assess whether presence of metabolic syndrome has an influence on brain function. **Material and methods:** The study was cross-sectional, and included 200 patients from the Cardiovascular Rehabilitation Clinic of Targu Mures, diagnosed with essential hypertension; Neurocognitive tests (MoCA < 26, Montreal Cognitive Assessment, MMSE < 24, Mini Mental State Examination, GPCOG < 5, General Practitioner Assessment of Cognition) were performed in all patients. Metabolic syndrome diagnosis was based on IDF criteria. **Results:** Out of the 200 patients, 110 presented metabolic syndrome, out of which 81 tested positive for MoCA, 16 for MMSE and 25 for GPCOG tests. There is a significant difference in the median age of the two groups (73 years for the group without MetS and 68 years for the group with MetS, p=0.011). In patients without metabolic syndrome we obtained the following results: 68 were positive for the MoCA, 28 were positive for the MMSE and 29 were positive for the GPCOG. Subjects with metabolic syndrome have a significant higher odds of having a modified MMSE (OR 2.13, 95%CI 1.23-3.69, p=0.004), but not MOCA (OR 1.02, 95%CI 0.87-1.20, p=0.443) or GPCOG (OR 1.41, 95%CI 0.89-2.23, p=0.09). In logistic regression, age was the single significant predictive factor for a positive neurocognitive deficiency test, with the exception of MMSE, for which, the presence of MetS predicts a positive test (p=0.04). **Conclusions:** Subjects with MetS have higher odds of modified MMSE evaluation. Positive relationship was found between MMSE neurocognitive test, the increased age and the prevalence of MetS; the same parameters don't appear to significantly influence MoCA and GPCOG results. Future studies need to analyze this relationship.

**Keywords:** MetS, Hypertension, Cognitive Impairment

## PARTICULARITIES OF DEPRESSIVE DISORDER AT ADOLESCENCE

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**Background:** Depressive disorder is a mental illness, characterized by persistent and generalized sadness, inner emptiness, inability to feel pleasure, irritability, lack of energy, diminishing thinking and concentration, low interest in daily activities, suicidal behavior and attempt. It is most salient to differentiate the functional impairment in depression from the "normal ups and downs" of childhood and adolescence. Depressive disorders are classified on the basis of severity, presence or absence of mania and pervasiveness. **Objective:** This study proposed to relieve the significance of particularities like the symptomatology, the family and social environmental factors, genetical predisposition, in depressive disorders at adolescence. **Material and methods:** This paper presents a retrospective study, that involved 30 patients, who were hospitalized in Mures County Hospital, Infantile Neuropsychiatry Clinic, between January 2016- December 2017 with depressive disorder. The patients in our study, were evaluated neurologically (ex. EEG), psychiatrically and psychologically (Beck, Hamilton), the diagnosis has been established on DSM 5 and ICD 10 criteria. **Results:** The medium age of the patients in our study it was 10,59 year, 27,27 % was male, 76,6 % was female, 56,67 % comes from urban areas. Our study disclose that 60 % of cases had family environmental factors, 46,6% had family history of psychiatric behavior, 50 % had sleeping disorder, 53,33 % somatization, 26,66 % suicide attempts, 23,33 % ideation with a plan or a history of suicide attempt, 16 % irritability, 13,33 % decreased concentration. **Conclusions:** Depressive disorder in adolescence is an illness with increasing incidence, with a wide range of causes and symptomatology.

**Keywords:** depressive disorder, adolescence, particularities

## SYSTEMIC MANIFESTATIONS ENCOUNTERED IN VIRAL HEPATIC CIRRHOSIS C

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**Background:** Chronic hepatitis C is a common infection affecting 185 million people worldwide. One of the most common manifestations of chronic HCV is cirrhosis, which is histologically defined by the liver fibrosis with nodular regeneration and altered hepatic architecture. Clinically, the patients develop both hepatic and extrahepatic manifestations, which have a great importance regarding the treatment and the evolution. **Objective:** Liver cirrhosis, the end stage of chronic liver diseases of different etiologies, can result in severe complications. Awareness and recognition of these extrahepatic manifestations have a high importance for facilitating early diagnosis and treatment. **Material and methods:** 78 y.o. female hospitalized for purpuric rash, pain and paresthesia at lower limbs. Furthermore she accused pain and morning stiffness in small joints of the hand. From the personal history of the patient we remember that she suffers from a chronic viral hepatitis C, a portal and parenchymal decompensated cirrhosis, diabetes mellitus type 2, ischemic stroke in right carotid artery territory and deep thrombophlebitis and postthrombotic syndrome at left lower limb. The clinical exam reveals a few important points: café au lait spots on the posterior thorax, multiple bruises at the level of the calves, pigmentary angiodermatitis and Heberdeen nodules. **Results:** The investigations revealed the following pathological findings: Platelets: 100,000/mm<sup>3</sup>, Leukocytes: 3900/mm<sup>3</sup>, Urea: 71 mg/dl, Cholesterol: 245 mg/dl, Triglycerides: 153 mg/dl, RF+: 64 UI/ml, Antinuclear antibodies: +, Fibrin Degradation Product: +, anti-HCV antibodies: +, HBs antigens: -, ESR: 35/75 mm, GGT: 111 u/l, GOT: 98 u/l, GPT: 104 mg/dl, IgM: 2,67 g/l (0.4-2.3 g/l), A/G raport: 1,72 (1.2-1.5), abdominal ecography: liver with APLL: 6, 5 cm, RL: 14,5 cm, irregular contour, non-homogeneous structure, PV: 14 mm. **Conclusions:** In this case, the patient presents a series of extrahepatic manifestations associated to the background disease. At the same time, an important part of the case is the differential diagnosis, which is ample and can be done with various diseases and pathologies, such as: cryoglobulinemic vascular purpura with thrombocytopenic or Henoch-Schonlein purpura, SLE; hepatic cirrhosis of viral etiology with ethanolic or autoimmune cirrhosis; portal-hypertensive gastropathy with gastritis induced by non-steroidal anti-inflammatory drugs; portal hypertension with portal vein thrombosis or Budd-Chiari syndrome.

**Keywords:** hepatitis C, liver cirrhosis, cryoglobulinemia, Heberdeen nodules

## VITAMIN D INFLUENCES CLINICAL PROGRESSION OF MULTIPLE SCLEROSIS

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**Background:** Vitamin D is an immunomodulator, having target genes, vitamin D response elements, in immune cells, which also express 1 $\alpha$ -hydroxylase. In multiple sclerosis (MS), vitamin D suppresses inflammatory T helper (Th) 17  $\square\square\square\square$ , promotes antiinflammatory interleukine 10 production and protects blood-brain barrier, maintaining activated Th1/Th17 cells in circulation. Therefore, hypovitaminosis D is a recognized risk factor for MS development and for its long term progression and disability. **Objective:** The aims of this study are to demonstrate that higher serum levels of vitamin D correlate with lower long term activity of MS and to find exogenous factors associated with normal vitamin D serum levels. **Material and methods:** We conducted a study on 129 MS patients, analysing 25-hydroxycholecalciferol serum levels with enzyme-linked immunosorbent assay (ELISA) kits and clinically evaluating progression of MS and neurological deficits with Expanded Disability Status Scale (EDSS) score. Each patient filled in a questionnaire, containing data about diet, smoking, sun exposure and vitamin D supplements. The normal vitamin D serum level was predetermined between 30 and 50 ng/mL. We statistically processed the data. **Results:** Our study population is made by: 68% female, with average age 44.52; 32% male, with average age 39,97. 85% presented relapsing remitting MS and 15% secondary progressive MS. There is a statistically significant negative correlation between vitamin D and EDSS score ( $P=0.0004$ ;  $r=-0.3056$ ; 95% confidence interval; by Spearman rank correlation test) and a statistically significant positive correlation between sun exposure and vitamin D ( $P=0.037$ ;  $r=0.1832$ ; 95% confidence interval; by Spearman rank correlation test). All 21 patients who took vitamin D supplements had serum level above 30 ng/mL. **Conclusions:** Vitamin D slows the progression of MS and maintains the neurological disability at a low grade. Sun exposure and vitamin D supplements can prevent vitamin D deficiency.

**Keywords:** Vitamin D, Multiple Sclerosis, EDSS

## CORONARY CT VS. INVASIVE CORONARY ANGIOGRAPHY: QUALITY OF LIFE AND COST EFFECTIVENESS IN PATIENTS WITH STABLE CHEST PAIN AND INTERMEDIATE RISK OF CORONARY ARTERY DISEASE

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<sup>1</sup>

**Background:** Coronary artery disease is the major cause of death in Europe, leading to over 4 million deaths each year and costs of 196 billion Euro per year. The goal of this study was to compare quality of life and cost effectiveness for coronary CT angiography versus invasive coronary angiography. **Objective:** To compare cost-effectiveness and quality of life between invasive coronary angiography and coronary CT angiography in patients with stable angina and intermediate risk of coronary heart disease. **Material and methods:** Quality of life analysis using EQ-5D-3L and cost effectiveness analysis were performed on the patients enrolled in the Targu Mures branch of the DISCHARGE trial, a European multi-national randomized controlled trial. The study cohort includes patients older than 30 years, with stable chest pain and intermediate likelihood of coronary artery disease, who were randomized to receive either coronary CT or invasive coronary angiography with 1-year follow-up. The outcome measures were mean change in EQ-5D-3L Health Index from baseline to follow-up, cost per major adverse cardiovascular event, and cost per quality adjusted life year. **Results:** The study cohort included 100 patients, of which 52 were randomized to invasive coronary angiography and 48 were randomized to coronary CT angiography. There was no significant difference between the mean change in EQ-5D-3L Health Index from baseline to follow-up for invasive coronary angiography versus coronary CT (mean change SD: 0.14 - 0.18 versus 0.10 - 0.20 respectively,  $p=0.29$ ). **Conclusions:** Coronary CT, a non-invasive diagnostic imaging approach, and invasive coronary angiography led to comparable effects on quality of life at 1-year follow-up. This establishes an important baseline for coronary CT.

**Keywords:** angiography, coronary CT, heart disease, angina

# **CLINICAL - SURGICAL**

## LARGE PERONEAL BONE GRAFT TRANSFER IN POSTTRAUMATIC CRITICAL SIZE DEFECT OF THE TIBIA IN A YOUNG FEMALE PACIENT.CASE REPORT

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**Background:** It is well known in traumatology that the most often fractures affect the lower limbs, and the most frequent are the fractures of tibia and fibula. A lower-leg fracture usually happens due to a "high-energy" force from falls, trauma or a direct blow. These are often caused by motor vehicle crashes or by direct contact or sudden twisting in sports. Whenever there is a trauma to the leg, the impact spreads between the tibia and fibula. Because both bones absorb the blow, the impact usually results in a combined tibia/fibular fracture. These devastating injuries need full cooperation between various specialities, such as plastic surgery and orthopaedics. **Objective:** The objective of this case was to save and reconstruct the patient's inferior limb. **Material and methods:** We describe the case of 23 years old female patient, that presented in Plastic Surgery Departement from another surgical unit with a critical size tibial and tegumentary defect in the right calf, after a vehicle crash that happened 2 months before. Firstly, there were performed multiple tegumentary flaps followed by the attempt to stabilize the tibial fracture with bone graft, 6 months later. In order to do this, there was collected 10 centimetres of the left fibula and iliac crest. **Results:** After multiple surgical interventions, the bone graft settled and the tegumentary flaps covered the defect of the right calf, so the patient was ready to start the recovery treatment, after healing. **Conclusions:** Despite the good response and settlement of the bone graft and as well of the patient, this is a long term recovery process, extending over many years. However, we had to deal with a very young patient, with no comorbidities, good medical and psihical condition and a good patient compliance that will lead to a good and stable recovery, hopefully.

**Keywords:** Transfer, Posttraumatic, Bonegraft, Defect

## LOWER EYELID BASAL CELL CARCINOMA IN A 77 OLD PATIENT. CASE REPORT

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**Background:** The skin of the eyelid is the thinnest, most sensitive skin in the human body. Because of this, the eyelid is often the first part of the body to develop skin cancer due to sun exposure. Eyelid tumor excision and trauma are two common causes of eyelid defects requiring surgical reconstruction. The complexity of structures within the periorbital region makes reconstruction of this area particularly a challenging endeavor. **Objective:** The goals of eyelid reconstruction are to provide structural and functional restoration with an acceptable aesthetic result. **Material and methods:** We describe the case of a 77 years old male patient, that presented to the Plastic Surgery Department with an ulcerative tumor in the lower eyelid of the left eye which appeared three years ago, but in the last 12 months began to increase in size. Under general anesthesia it was performed a complete excision of the tumor, removing all the tissues invaded including the periosteum of the zygomatic bone. The reconstruction of the inferior eyelid was made with a muco-chondral graft, taken from the nasal septum and covered with rotated local flap. After the surgery, the evolution was not favorable and the flap became necrotic. A necrectomy of the flap was performed and the defect was covered with a tarsoconjunctival flap from the superior eyelid. **Results:** Even if the first surgery wasn't a success, after the second one, the eye functionality was restored. **Conclusions:** There are various techniques available for reconstructing the eyelid defects and while choosing a method, the specific function of the area of the eyelid has to be kept in mind. It is very important to know the various options available for reconstruction. The availability of tissues, technical expertise, and the specific needs of the patient have to be kept in mind before choosing a particular method.

**Keywords:** eyelid tumor, reconstruction, plastic surgery

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## FINGER TIP RECONSTRUCTION

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**Background:** Distal phalanges (including the nail bed, the perionychium and the finger tip) are very important for the normal function of the hand. **Objective:** To fully understand the importance of early surgical repair in different distal phalangeal injuries, one needs to remember some anatomical notions (phalangeal skeleton, nail bed, nail plate, perionychium etc.) **Material and methods:** This paper describes several techniques commonly used in Plastic Surgery Department of Targu Mures for the finger tip reconstruction: autologous FTSG and homodigital flaps. This paper deals with 3 clinical cases of finger tip injuries involving the nail bed -one adult male and a child to whom FTSG has been applied and one female to whom homodigital flaps has been used. **Results:** All three cases have shown postoperative results with complete functional and anatomical recovery at the end of several months with no morbidity of the donor site. **Conclusions:** As mentioned before, finger tip reconstruction has paramount importance in order to restore adequate sensation especially in the light touch, as well as for the fine grasping (pinch) required by normal (uninjured) finger tip.

**Keywords:** plastic surgery, anatomical notions, finger tip, surgical reconstruction

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## TREATMENT OF VARICOSE VEINS WITH ENDOVENOUS LASER ABLATION

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**Background:** Varicose veins represent the chronic dilation of the saphenous system due to valvular incompetence or impairment of calf muscle pump. Endovenous laser treatment (EVLT) is a minimally invasive procedure using a laser fiber, which, inserted into the veins through a catheter, seals them when pulled back. **Objective:** The aim of this study is to present clinical features of varicose veins based on CEAP classification, the treatment through EVLT procedure and subsequent results. **Material and methods:** We conducted a retrospective observational study from 2010 to 2017 on 508 patients hospitalized within TopMed Medical Center, diagnosed with varicose veins, who underwent EVLT. 34% (172) of the patients were male and 66% (336) female. Age range was from 10 to 79 years old. Severity of the disease was assessed using CEAP classification and varied from C2 (varicose veins) to C6 (active ulcer). Onset of the disease was noted 1-50 years back. **Results:** Most of the patients (29%) were aged 40-49, 33% of them with an outbreak of 6-10 years. Varicosities were located on the right leg in 27.4% of the females and on the left leg in 36% of the males. The majority accused oedema (91%) and hyperthermia (70%). One-day hospitalization was mostly observed in men (49.4%) and two-day hospitalization in women (56.8%). Stage  $\leq C3$  was specific for an onset  $\leq 10$  years (56%) in patients aged 30-40 (28-31%) and stage  $\geq C4$  for an onset  $\geq 15$  years (38%) in patients aged  $\geq 50$ . Postinterventional complications were: inflammation (23%), phlebitis (9%), pain (7%), bruising (3%), burns (18%), pigmentation (15%) and hypoesthesia (2%). **Conclusions:** Patients opting for EVLT (including those with active ulcers) recover rapidly, recurrence of the disease being infinitesimal. Reduced hospitalization and quick recovery (maximum one week) are notable features of this procedure. Active movement may begin 20-60 minutes postinterventional with reduced complications.

**Keywords:** varicose veins, EVLT, ablation, CEAP

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## THE UTILITY OF MULTIPLE SIMULATION SESSIONS IN COMPLEX SCENARIOS

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**Background:** Prior to October 2014, in the Simulation Centre of the University of Medicine and Pharmacy Targu-Mures the scenario-based learning within the ICU course was being conducted with only one simulation per session. Starting with the academic year 2014-2015, the double simulation sessions were introduced, with an applied and detailed debriefing with feedback between the two simulations. **Objective:** This new procedure was

based on assumptions that the students would be more engaged, and have better results at least in the second simulation. Therefore, we considered useful to perform a preliminary test of the fact that two simulations with a feedback in between provides a better understanding and improvement of practice in students. **Material and methods:** The first step was to analyse from the literature how various types of simulations are used in medical education, and what effects they produce. Subsequently, I used some of the video recordings of simulation sessions from the ICU course of the academic year 2014-2015 involving 152 students divided into 20 groups, to investigate the implementation and effects of this method. **Results:** The results showed, as expected, an improvement in students' behaviour. Specifically, in the first simulation the students rarely used correctly and timely all the procedures, tools and equipment. However, after the intermission debriefing and during the second simulation, most of these errors were avoided, and the students managed to treat the 'as if' of the exercise as 'as is'. **Conclusions:** The conclusion of this study is that the performance of the students increased significantly using the two-simulation sessions with an intermission debriefing. However, side results also showed that the implementation of this system can still be improved, followed by its successful application in other medical courses as well.

**Keywords:** Multiple simulation session, Medical simulation education, Scenario-based learning, ICU

## THE ROLE OF AUTOLOGOUS SKIN GRAFTS IN THE SURGICAL TREATMENT OF HEAD AND NECK TUMORS

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**Background:** For unknown reasons, the number of skin cancers of the head and neck (BCC/SCC/MM) have substantially increased in the last decade, requiring early adequate treatment. **Objective:** The excision of the skin cancers of the head and neck is the first step in the treatment of such tumors, followed by oncological treatment (if needed). The excisional defect can be covered by direct approximation, local flaps or by autologous skin grafts (STSG, FTSG). **Material and methods:** This paper will present two cases with extensive skin cancers (probably BCC) localized in the upper and medium level of the face. FTSG was used for cutaneous closure. First case is a male patient with a large, vegetant, ulcerated hemorrhagic skin cancer of the left fronto-temporal region. The tumor was excised by a large elliptical incision which margins have been approximated by direct closure and the middle has been covered by a large FTSG (7 cm diameter). The second case is a male patient with a large, nodular, ulcerated and hemorrhagic BCC of the right nasal wall. The tumor penetrated the perichondrium and the nasal cartilages and has been excised by a circumferential excision then covered by a FTSG. **Results:** The two grafts have a very good post-operative result with "full take". Flaps have a better cosmetic outcome, but the development of the tumor is easier seen through a skin graft, therefore we prefer the latter in case of aggressive tumors which have a high chance of incomplete excision and recurrence. **Conclusions:** In all cases mentioned above (large, invasive skin tumors) skin grafts are a better option than local flaps because the recurrence of the tumors is easier observed. If there is none in the first 6-8 months after surgery, we can reconsider the cosmetic aspect of the lesion.

**Keywords:** skin cancers, FTSG, STSG, local flaps

## SURGICAL APPROACH TO GROWN-UP CONGENITAL HEART DISEASE PATIENTS WITH SEPTAL DEFECT

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**Background:** Grown-up congenital heart disease patients with septal defect remain undiagnosed until late adulthood. These patients when referred for surgery frequently present with cardiac-related comorbidities that have to be addressed concomitantly with the defect closure. **Objective:** The aim of this study is to evaluate the surgical cases of GUCH patients with septal defect and to assess the surgical management of patients with secondary comorbidities. **Material and methods:** A retrospective study was conducted on 45 GUCH patients (aged between 18-72 years) who underwent surgery for septal defect correction at IuBCVT Târgu-Mureș during a period of 3 years, 2013-2015. **Results:** Atrial septal defect had the highest prevalence (ASD-84,5%), followed by ventricular septal defect (VSD-11%) and partial atrioventricular canal defect (AVCD-4,5%). 82.2% of the patients underwent

primary suture closure and 17.8% patch closure. 3 patients underwent previous corrections. The average ejection fraction was 55%. The 33.3% of the patients had NYHA class III heart failure. The concomitant surgeries performed were mitral valve repair (38.1%), tricuspid valvuloplasty (19.05%), aortic valve repair (9.52%), coronary artery bypass grafting (CABG-9.52%), tricuspid anuloplasty (4.76%), carotid endarterectomy (4.76%) and aortic valvuloplasty (4.76%); for patients with AVCD, suturing of the anterior leaflet cleft of the mitral valve (9.52%) was performed. In the majority of the cases (27), the patients underwent operation only for the correction of septal defect. The average age for patients who developed cardiac-related comorbidities was 41 years in opposition to 47 years for the exclusively septal defect related cases. There was no significant difference between the length of intensive care unit ( $p=0.3496$ ) and hospital stay ( $p=0.4939$ ) of the patients with and without concomitant intervention for secondary comorbidity. The mortality rate was 4.45%. **Conclusions:** Despite the increased surgical difficulty, a favourable outcome for the patient was possible due to proper and professional intervention.

**Keywords:** GUCH, septal defects, cardiac-related comorbidities

## TOTAL PSA SERUM LEVEL AS A PREDICTOR FACTOR FOR SURGICAL MARGINS POSITIVITY AFTER RETROPUBIC RADICAL PROSTATECTOMY

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**Background:** Prostate cancer is the most frequent form of cancer diagnosed in the male population. Prostate Specific Antigen (PSA) is a protease produced by the prostatic epithelial cells. The Total PSA serum level is the most used screening method for prostate cancer. For a lot of patients, retropubic radical prostatectomy represents the recommended therapeutic strategy. Positive surgical margins represent an important outcome. Finding a parameter to predict the probability of positive surgical margins resulted after the retropubic radical prostatectomy would be useful for surgical management. **Objective:** The objective is to determine if the levels of serum total PSA before surgery may be used as a probability indicator of positive surgical margins after the retropubic radical prostatectomy as an outcome. **Material and methods:** The study design is a longitudinal retrospective realized on a 5 year period, from 2012 to 2016. 46 retropubic radical prostatectomies histopathological reports emitted by the Pathology Clinic of the Clinical Emergency County Hospital Mures were reviewed; the surgical procedures were performed in the Urology Clinic of the Clinical Municipality Emergency Hospital of Tîrgu Mureş. We recorded the Total PSA serum level before the procedure and the presence of positive surgical margins on the surgical specimen after the surgery. The data was analyzed by using statistical tools. **Results:** From 46 patients who underwent retropubic radical prostatectomy, 23 turned out to have positive surgical margins. The Total PSA serum level varied from 4.35 to 24.90. We used Receiver Operating Characteristic (ROC) curve analysis in order to determine if the Total PSA level can be a diagnostic test for positive surgical margins as an outcome. The area under the curve resulted 0.571,  $p = 0.407$ . **Conclusions:** In conclusion, the value of the Total PSA serum level before surgery cannot be used as a predictor factor of positive surgical margins outcome after the retropubic radical prostatectomy.

**Keywords:** Total PSA Serum Level, Retropubic Radical Prostatectomy, Prostate Cancer

## IMPACT OF CORONARY ARTERY BYPASS GRAFTING SURGERY TIMES ON POSTSURGICAL INFLAMMATORY STATUS

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**Background:** Systemic inflammation has been incriminated in the occurrence of post-coronary artery bypass grafting (CABG) complications. Part of this inflammatory response seems to be linked to factors that are related to the surgical intervention itself. **Objective:** We aimed to assess the impact of CABG surgery times on the magnitude of the post-surgical inflammatory status and the relationship between this inflammatory response and the occurrence of post-CABG complications. **Material and methods:** The study included 30 patients admitted to hospital for elective, isolated on-pump CABG. Circulating levels of several inflammatory markers were determined the day preceding the intervention (D0-1), and on days two (D2) and five (D5) post-CABG. The total duration of the

CABG procedure, of extracorporeal circulation (ECC) and aortic clamping (AC) were recorded. In-hospital post-CABG complications were also noted. **Results:** Although all studied inflammatory markers increased post-CABG, there was no significant correlation between ECC, AC, or total surgical times and post-CABG levels of white blood cells count, high-sensitivity C reactive protein, interleukin (IL) 1b, and IL-2 (all  $p>0.05$ ). Meanwhile, D2 IL-8 and IL-6 levels significantly positively correlated with ECC and AC times (all  $p<0.05$ ). Furthermore, D2 IL-8 levels significantly positively correlated with the duration of inotropic/vasopressor therapy ( $r=0.42$ ,  $p=0.03$ ), the occurrence of kidney ( $r=0.46$ ,  $p=0.01$ ) and liver ( $r=0.51$ ,  $p<0.01$ ) dysfunction, as well as with the sum of major post-CABG complications ( $r=0.46$ ,  $p=0.01$ ). **Conclusions:** Our findings demonstrate that longer duration of cardiopulmonary bypass and AC are associated with a significantly higher increase in D2 post-CABG IL-6 and IL-8 levels, and that D2 post-CABG IL-8 levels predict numerous post-surgical complications. Taken together, these data suggest that reducing the duration of ECC and AC may improve the post-CABG in-hospital outcomes of these patients. This study was funded by the University of Medicine and Pharmacy of Tîrgu Mureş (research grant number 17800/1/22.12.2015).

**Keywords:** aortic clamping, coronary artery bypass grafting, extracorporeal circulation, inflammatory response

## ENDOVENOUS PHOTOTHERMOCOAGULATION OF THE VARICES OF THE INFERIOR EPIGASTRIC VEINS

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**Background:** Varices of the inferior epigastric veins represents a rarity in the absence of a pathology of the inferior vena cava or the portal system. The lower epigastric veins represents one collateral of the inner saphenous vein and, unlike the rest of the collaterals, gravitationally drain the blood to the deep venous system. Endovenous laser treatment (EVL) is the minimally invasive method of photothermocoagulation in the treatment of these varicose veins. **Objective:** The aim of this study is to present a rare case with left inferior epigastric variceal dilatation. **Material and methods:** We report the case of a 41-year-old woman, who was diagnosed and treated in a private hospital. She was diagnosed with varices of the left superficial epigastric vein for which she had undergone proximal closure of the left superficial epigastric vein at the level of the internal saphenous vein; Endovenous laser photothermocoagulation of parietal varicose veins and left epigastric thoracic collaterals. **Results:** The postoperative evolution was favorable, without surgical complications and the patient was discharged on the first postoperative day. Out-patient follow-up was favorable, no recurrence or other complications at 1 and 3 weeks following the procedure. **Conclusions:** Treatment of inferior epigastric varicose veins through EVL can be the standard procedure.

**Keywords:** EVL, epigastric superficial veins, varices

## SURGICAL APPROACHES IN THE TREATMENT OF OVARIAN ENDOMETRIOMA

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**Background:** The balance between recurrence and postoperative damage to the ovarian reserve makes the surgical approach of ovarian endometriomas difficult and widely disputed amongst surgeons worldwide. **Objective:** The aim of this study is to compare the outcomes of two surgical approaches for ovarian endometrioma: fenestration/coagulation versus laparoscopic ovarian cystectomy. **Material and methods:** This retrospective study analyzed the postoperative outcomes of patients diagnosed and treated for the recurrence of ovarian endometrioma on one or both ovaries, hospitalized between 1.03.2014 and 30.06.2017 at the Obstetrics and Gynecology no. 1 Department of the Emergency County Hospital Targu Mures. Variables such as fertility, AFS Score, age, the duration (years) until recurrence, unilaterality/bilaterality were taken into account. Patients were divided into Group A (those that underwent laparoscopic ovarian cystectomy) and Group B (those that underwent fenestration/coagulation of the ovarian endometrioma). **Results:** When compared, the two groups showed no statistically significant difference ( $p>0.2$ ) between the two surgical methods: recurrence occurs after both types of surgeries with a similar incidence. An average of 6 years was recorded (Group A) and 5 years (Group B) between

the primary and secondary diagnosis of ovarian endometrioma. Primary infertility was recorded at 47.05% for Group A and 43.75% for Group B ( $p>0.8$ ). Secondary infertility was recorded at 29.41% for Group A and 6.25% for Group B ( $p<0.05$ ). **Conclusions:** The medical literature states that the recurrence of ovarian endometrioma is lower after laparoscopic ovarian cystectomy. Our findings suggest that both surgical treatments gave the same outcome regarding recurrence and symptoms; both approaches have the same curative index for primary infertility. However, available data showed an increase in the occurrence of secondary infertility after laparoscopic ovarian cystectomy due to damage to the ovarian reserve.

**Keywords:** recurrence of ovarian endometrioma, fertility, cystectomy, fenestration

## CAUSE AND EFFECT RELATIONS DURING LUNG RESECTION: INTRAOPERATIVE AND POSTOPERATIVE ASPECTS

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**Background:** One of the most important condition for surgical and oncologic treatment of lung cancer and solitary pulmonary nodules is the proper knowledge of perioperative cause and effect relations which can greatly influence not only the surgical outcomes, but also the pre-, and postsurgical treatment. Recognizing these influencing factors can improve effectiveness in treatment. **Objective:** Considering that thoracic surgery occupies an important position in the diagnosis, staging and treatment of various lung tumors, our aim was to identify the factors which influence the surgical treatment, and the post-surgical outcomes. Another purpose of the study was to give a practical meaning to our findings. **Material and methods:** Initially we included 1538 patients who underwent surgical treatment in the National Institute of Oncology - Budapest, from April 2012 to September 2017 and compared their perioperative records with the intraoperative and postoperative outcomes. After investigating the cause and effect relations we used nomographs for proper representation. **Results:** Our findings suggest that lower forced vital capacity (FVC%) from pulmonary function testing, significantly increases the length of the surgery ( $p=0.0028$ ; ANOVA test), while lower FEV1% values contributes to the growth of intraoperative bleeding ( $p=0.025$ ; ANOVA test). At the same time the intraoperative bleeding was also higher among the mens (average bleeding: 54.9 ml,  $p<0.0001$ ; unpaired t-test). Regarding the occurrence of postoperative pneumothorax we can affirm that it is more common among patients with lower BMI and FEV1% values ( $p<0.0001$ ; unpaired t-test). **Conclusions:** Our work provides information about the importance of different circumstances and shows, among others, that intraoperative parameters such as the possible length of the surgery or intraoperative bleeding can be predicted. At the same time, with the help of nomographs the surgeon can predict the possibility of early, and late postoperative events. Further prospective studies are needed to clarify the exact role of these perioperative factors during lung resections.

**Keywords:** lung resection, risk factor, perioperative

## LESIONAL ASSOCIATIONS - RISK FACTOR IN POLITRAUMA?

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**Background:** The development and evolution of technology has made our world more "accelerated" and proportionally whit this, the trauma palette got more diversified. In most politraumas, there is a combination of injuries that interest more segments. There are frequent traumatic associations located at the cranial, thoracic and abdominal level. **Objective:** The aim of the paper is to study the lesional localizations encountered in politraumas and to analyze their individual and associated impact on the patients' evolution. **Material and methods:** We conducted a retrospective, observational study that included 498 patients admitted and treated for cranial, thoracic, abdominal traumas or combination of them, from January to December 2017, in the General Surgery Clinic, the Thoracic Surgery Compartment or the Neurosurgery Clinic of Tîrgu Mureş Emergency County Hospital. Patients were divided into groups depending on lesional levels in different segments. Data gathered from the observation sheets, digital database and operating registers were organized into a Microsoft Excel database and statistically

processed using Graph Pad Prism 6. **Results:** From all traumas, the cranial lesions are on the first place (41%), followed by thoracic injuries (35.9%). The double association was the most common on cranio-thoracic level (12.8%) and the most rarely were cranio-abdominal ones (8.7%). The overall mortality rate among patients with traumas was (14%). From the standpoint of evolution and prognostic, we analyzed and compared groups with different traumatic localizations from the perspective of mortality, days of hospital stay and lesion severity score. **Conclusions:** The number of cases with lesion associations was higher than the number of patients who suffered isolated lesions, the most frequent being cranial followed by thoracic localization. From an evolutionary perspective, lesion associations at different segments can be considered, along with lesion severity, as an important risk factor.

**Keywords:** politrauma, lesion severity, risk factor, mortality

## “OSTRICH FOOT” AND PUR-FOAM DRESSINGS – A RELIABLE TECHNIQUE FOR DLS (DIABETIC LIMB SALVAGE)

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**Background:** Why "ostrich foot"? Ostrich (*Struthio camelus*) is a large African bird characterized by its beautiful feathers and its two large anterior toes which facilitate walking on very dry grounds. The above mentioned procedure consists of splitting the anterior foot (phalanges and metatarsals) and creating an aspect quite similar to the "ostrich foot". **Objective:** DLS is an international society for diabetic injuries of the lower limb that have created a protocol including surgical and conservative methods which preserve the length and the function of the toes, foot, ankle and so on. The Plastic Surgery department of Tîrgu Mureș became a partner of DLS a few years ago. **Material and methods:** This paper presents several cases of diabetic, necrotic and soft tissue infections of the anterior foot admitted in the last years in the Plastic Surgery department to which the "ostrich foot" technique has been applied. The procedure can be performed under regional block anesthesia, sometimes combined with local tumescent anesthesia. It consists of the debridement of all the necrotic lesions completed by a longitudinal incision through the web space involved into the necrotic process and extended on the dorsal and plantar aspect of the foot. This large incision allows all debris and necrotic tissues to be evacuated on behalf of specific absorbent dressings made from PUR-foam. **Results:** The incision is left opened for quite a long period of time in order to encourage "secondary intention" healing. All cases treated by this procedure, despite the scar of the web space, have a good walk (and pretty normal life), preserving all their professional and social connections. **Conclusions:** "Ostrich foot" is a personal technique developed many years ago by the author which gave very good anatomical and functional results for the diabetic foot. The technique has been included in the International Protocol of DLS.

**Keywords:** ostrich foot, DLS, PUR-foam, surgical technique

## MANAGEMENT OF THE PELVIC FLOOR DYSFUNCTION ISSUE – A COMPARATIVE EVALUATION AFTER A PERIOD OF 20 YEARS

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**Background:** Pelvic organ prolapse is a frequent condition among multiparous women and the decision of an individualized therapy has to be grounded both on the patients will and also on the awareness of long-term efficiency results. **Objective:** The aim of the study is to make a comparison between the surgical approach for genital prolapse, in two different periods of time: 1984-1997 and 2016-2017, in the same Department of Gynecology & Obstetrics I, from Tîrgu-Mureș, Romania. **Material and methods:** A retrospective study was conducted on a series of 126 patients, to whom a surgical procedure was performed in the period 2016-2017. In contrast, we tried to see how the approach for pelvic organ prolapse developed after 20 years, in the same department, analyzing our data and reporting it to the past years. **Results:** Essentially, we have noticed that reconstructive surgical procedures, such as anterior compartment repair, were more often used in the period 1984-1997, compared to the higher incidence of vaginal hysterectomy between 2016-2017. The ascending trend in the performance of inpatient hysterectomy is obviously with each decade, mostly for the handling of severe pelvic

organ prolapse, third degree or second degree. **Conclusions:** Due to low costs and also days of inpatient care, diminished intrasurgical and postsurgical risks for high-comorbidity patients, vaginal hysterectomy remained the first-line treatment in patients with third or second pelvic organ prolapse degree. The higher incidence of this procedure nowadays, can be explained by the increasing number of severe cases, comparing to the period 1984-1997, when the first degree prolapse was the most common.

**Keywords:** pelvic organ prolapse, surgical procedure, hysterectomy

## RETROGRADE BLOOD CARDIOPLEGIA IN TOTAL SURGICAL ARTERIAL CORONARY REVASCULARIZATION

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**Background:** In the case of patients with severe coronary lesions, utilization of antegrade warm blood cardioplegia may cause an inefficient myocardial protection during cardiac arrest. Supplementary administration of warm blood cardioplegia through coronarian anastomosed grafts is not possible in case of a total arterial revascularization **Objective:** Evaluation of myocardial protection through administration of retrograde cardioplegia, in coronary patients with severe and multiple coronary lesions **Material and methods:** This is a retrospective study, which follows a number of 20 patients with severe coronary lesions who underwent total arterial revascularization at the Cardiovascular Surgery Clinic of IUBCVT Targu Mures, between January 2015-July 2017, by the same surgical team. In all of the patients, the method used for myocardial protection was retrograde administration of warm blood cardioplegic solution during mild hypothermia **Results:** The study includes a number of 3 female patients and 17 male patients. 62% presented myocardial infarction sequelae. The left internal mammary artery was used in all of the cases, the right internal mammary artery in 80%, the left radial artery in 65% and the right radial artery in 1 case. None of the patients necessitated IABP or ECMO after unclamping the aorta. Postoperative, the cardiac output was approximated through the requirement of inotropic and the evolution of lactic acid. The required amount of inotropic was 1, maximum 2 inotropics, in small/average doses. Lactic acid presented the highest values immediately postoperative, while it returned to normal values in 48 hours. The mean ICU hospitalization time was 1-4 days, the patients being discharged in 8-10 days postoperative **Conclusions:** Utilization of retrograde warm blood cardioplegia in mild hypothermia, for patients with multiple severe coronary lesions, with total arterial revascularization, although more technically laborious, is a safe method that achieves adequate protection during cardiac arrest

**Keywords:** retrograde cardioplegia, severe coronary lesions, arterial revascularization

## THE ROLE OF ESWL IN THE TREATMENT OF PATIENTS WHO SUFFER FROM CONGENITAL MALFORMATIONS OF THE KIDNEY

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**Background:** Congenital malformations of the kidney have a significantly higher appearance rate than those of any other organ. The clinical importance of this is highlighted when they are associated with kidney stones. **Objective:** The goal of the study was to determine the clinical success and stone-free rates for patients with renal malformation associated with urinary lithiasis treated via ESWL **Material and methods:** A retrospective study was performed of the patients treated at the Urology Clinic of Targu Mures, since January 2014 to February 2018, who underwent ESWL on renal anomalies. Inclusion criteria were: clear urinary path distally of the stone, functional kidney, without stasis. 36 patients fit this criteria. **Results:** Of the 36 patients, 9(25%) had duplex kidneys, 7(19,4%) pyelo-urethral duplication, 4(11,1%) horseshoe kidney, 3(8,3%) solitary kidney, 2(5,5%) hypoplastic kidney, 6(16,6%) malrotated kidney and 5(13,8%) ectopic kidneys. From the total of the patients, 15 were women and 21 men. The median sessions of ESWL/patient was 1,22. No major complications were found. The 3 month check-up data was available for 27 patients. For these, the stone-free rate was 68,97%. **Conclusions:** Extracorporeal shock-wave lithotripsy is the treatment of choice in most cases of reno-urethral lithiasis in renal anomalies due to it not invasive, no need for anesthesia, high stone-free rate, and the rarity of complications.

**Keywords:** ESWL, lithiasis, stone-free, malformation

# **NUTRITION AND DIETETICS**

## COMPARATIVE STUDY OF RECEPTIVITY TO NUTRITIONAL COUNSELING

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**Background:** Among the etiological factors for various pathologies, we mention the influence of genetic inheritance, the individual interaction with the external environment and lifestyle behaviors, including eating habits. Intervention on lifestyle depends largely on the characteristics of individual eating habits and is essential in the daily work of the General Practitioner. **Objective:** We studied the attitude of medical staff in Mures County on the role of nutritional counseling in the prevention of three pathologies, comparatively. **Material and methods:** There were accredited 3 continuous medical education courses offered to General Practitioners from Mures County, focusing on specialized nutritional counseling offered by dietitians to patients, in which they requested the completion of two questionnaires (pre-course and post-course) by a sample of 204 physicians. The data obtained were centralized and statistically compared for obesity, digestive and cardiovascular pathologies, starting from the attitude of family doctors to the importance and role of dietitians in the medical team. This attitude was followed in the dynamics, before and after each course. **Results:** 73.33% of family doctors consider nutrition counseling to be opportune for patients diagnosed with cardiovascular disease, 64.44% for those with digestive pathologies, and 57.64% for obese patients. Post-course, in the case of cardiovascular pathology the doctors receptivity increases to 100% and for obesity 98.82%. The pre- and post-course physicians adherence to the nutritional counseling provided by the dietitian shows an increase of 29.41% in obesity, 20% in cardiovascular pathologies and 17.78% in digestive diseases. **Conclusions:** A concern for secondary prophylaxis has been observed at the expense of the primary one, obesity being a risk factor for cardiovascular pathologies, and the receptiveness of family doctors to nutritional counseling being influenced by the type of approached pathology. However, we can assert that the perception of the dietitian could be positively influenced by informing physicians about his/her aptitudes.

**Keywords:** dietitian, family doctor, nutritional counseling

## ASSESSMENT OF MEDICAL SERVICES SUPPLIERS ATTITUDE FROM THE MURESAN PRIMARY MEDICAL ASSISTANCE TOWARDS THE IMPORTANCE OF NUTRITIONAL COUNSELING ASSURED BY DIETETICIANS

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**Background:** Given that it was expected that from 1 January 2018 dietary counseling in our country to be provided exclusively by dietitians. **Objective:** We considered it appropriate to investigate the receptivity of General Practitioners to collaborate with a dietitian, in order to provide a complex treatment to patients with certain pathologies. **Material and methods:** There were accredited three courses of continuous medical education focused on specialized counseling in certain pathologies offered by dietitians, where two (pre-course and post-course) questionnaires were completed by all the participants, namely a group of 204 General Practitioners of Mures County, predominantly women (n=171, 83.82%). Regarding the age of the participants, 31.07% were under 50 years, 31% between 50-60 years and 37.93% over 60 years. The data obtained were centralized and then statistically analyzed comparatively before and after the course, regarding attitude of General Practitioners towards importance and role of dietitians. **Results:** Physicians who have attended these 3 presentations consider that the professional benefit is higher than the financial benefit, 91.17% finding that these dietitian - physician collaborations reduce the consultation time and 53.92% see it as a new source of income for the cabinet. One of the benefits offered to patients is the adoption of a healthy lifestyle complementary to the physician's indicated therapy, with 92.64% of physicians agreeing to this. 75% recognized that a physician-dietitian collaboration would reduce the costs of a chronic treatment, counseling helping to halve or even replace medication. If, prior courses, physicians thought they alone could cover nutritional advice, after presentation related to some of the specialty aspects that the dietitian reaches in a counseling, their opinion has changed. **Conclusions:** The success of the mixed physician-dietitian team could be positively influenced by informing the physician about the dietitian's preparation and interacting with the patient through workshops based on case simulations

**Keywords:** counseling, general practitioners, dietitian

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## ANTIMICROBIAL ACTIVITY OF HYDROSOLUBLE COMPONENTS OF SIX ESSENTIAL OILS AGAINST REPRESENTATIVE PATHOGENIC BACTERIA

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**Background:** Essential oils (EO) are natural plant compounds that have been used for centuries in the prevention and treatment of health-related conditions. The term essential refers to the fact that, through certain methods of extraction, the very essence of the plant is preserved, holding in a concentrated form all of its bioactive principles. **Objective:** The present study tested the bactericidal and bacteriostatic effects of six essential oils, frankincense (*Boswellia carterii*), myrtle (*Myrtus communis*), thyme (*Thymus vulgaris*), lemon (*Citrus limon*), oregano (*Origanum vulgare*) and lavender (*Lavandula angustifolia*) against six of the most common pathogenic bacterial strains, methicillin sensitive and methicillin resistant *Staphylococcus aureus*, *Enterococcus faecalis*, *Escherichia coli*, *Klebsiella pneumoniae* and *Pseudomonas aeruginosa*. The premise was that EO present certain hydrosoluble fractions, which could be of interest for their antibacterial activity. **Material and methods:** To obtain aqueous extracts, equal amounts of EO and sterile water were mixed overnight in a shaker; after centrifugation, the bottom aqueous phase was recovered and further used. Both the minimum inhibitory concentrations (MIC) and the minimum bactericidal concentrations (MBC) were recorded for the aqueous extracts of essential oils, by a microdilution method in 96-well plates, respectively by spot inoculations on agar plate. **Results:** The most significant inhibitory effect was that of oregano and lavender against all bacteria (MIC 6.3-50% v/v). Oregano and thyme presented good MBCs (6.3-50% v/v). Thyme and lemon inhibited all bacteria (MIC 12.5-50% v/v), but *P. aeruginosa* (MIC/MBC>50% v/v). Myrtle and frankincense lacked any bacteriostatic effect. **Conclusions:** The most relevant findings were the good bactericidal activity of oregano and thyme and the further bacteriostatic effect of lavender and lemon. These findings set the base for further research that could lead to the advance of viable alternatives, with none to low adverse effects, to the present antimicrobial medication that is progressively becoming insufficiently effective on both old and new bacterial strains.

**Keywords:** Antimicrobial Agents, Essential Oils, Minimum Inhibitory Concentration

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## THE RISK TO DEVELOP TYPE 2 DIABETES IN RELATION WITH LIFESTYLE CHARACTERISTICS FOR A TIRGU MURES ADULT SAMPLE

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**Background:** Diabetes mellitus is currently one of the leading causes of morbidity and mortality globally. Risk factors associated with type 2 diabetes are: unhealthy eating habits, sedentary, obesity, alcohol and tobacco consumption, stress, atherosclerosis. **Objective:** This study aims to assess the risk of developing type 2 diabetes in a group of adults from Mures area, based on personal data and lifestyle, in order to improve community preventive measures. **Material and methods:** A screening was conducted in two General Practitioner's cabinets from Tîrgu Mureş city, in 2017, upon 367 patients. These were monitored for: blood glucose, blood pressure, body mass index, abdominal circumference, plus a life style questionnaire (for personal history of diabetes, hypertension, dyslipidemia, eating habits, physical activity, health risk behaviors, stress level, and addressability to medical services). The applied questionnaire was anonymous respecting the terms of confidentiality. **Results:** In our sample the risk for type 2 diabetes (evaluated by FINDRISC score) increases with age and was higher in males and those with a history of family diabetes. Overweight and obesity as main risk factors were more common in male and sedentary patients. The degree of addressability of medical services varied according to anthropometric and age characteristics (especially elderly). Diet-related behaviors highlighted a low consumption of fresh vegetables and fruits, high saturated fat and high calorie intake, along with smoking, alcohol abuse, stress, and sedentarism risk factors registered. Following the comparative and punctual analysis of each criterion defining healthy lifestyle, it was found that the risk of diabetes was 1.5 times higher in subjects with unhealthy lifestyle (prevalence of 60.25%) compared to subjects who have a healthy lifestyle (prevalence of 38.40%). **Conclusions:** Our results emphasized the need to develop effective primary prevention systems that primarily lead to lifestyle optimization, avoiding the exposure of the healthy individual to risk factors that may subsequently lead to the

illness.

**Keywords:** type 2 diabetes, nutrition, risk factors, sedentary

## HEALTH STATUS MEASUREMENT OF UNIVERSITY AND HIGH SCHOOL STUDENTS

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**Background:** Minerals are important elements that indicate health status of an individual. In traditional medicine, mineral levels are measured through blood testing. We aimed to design a study to survey levels of minerals in a group of students using a complementary medicine diagnostic method. **Objective:** We aimed to measure levels of minerals such as Mg (magnesium), Ca (calcium), Fe (iron), P (phosphorus) within a student group using bioresonance as a method of assessment. **Material and methods:** A descriptive transverse trial was performed using a bioresonance equipment, called Quantum Resonance Magnetic Analyzer, to measure the level of minerals. Bioresonance records the magnetic field of human cells in providing health related parameters. The students who were tested also completed a questionnaire about their potential food allergies and food intolerances. In total, 89 persons were involved in the study. A class of 29 pupils was selected from Bolyai Farkas high school Tîrgu Mureş, with ages between 16-18 years and 60 students from the University of Medicine and Pharmacy Tîrgu Mureş with ages between 18-49 years. No one was excluded from the study. **Results:** A significant number of the examined persons, 85 out of 89 (95.51%) did not have lack of calcium, 4 persons had a mild deficiency. 33 people (37.08%) had normal levels of iron, 37 people (41.57%) had mild iron deficiencies and 19 persons (31.35%) presented moderate deficiencies. 62 people (69.66%) had normal levels of phosphorus, 27 (30.34%) presented mild deficits. 50 people (56.18%) had no magnesium deficit and 39 (43.82%) had a mild lack of magnesium. 82 persons out of 89 (92.13%) had no food allergies. 7 people out of 89 (7.87%) presented lactose intolerance and pepper, strawberry, mushroom and nut allergies. **Conclusions:** The most relevant findings were that iron deficiency, together with magnesium, are the most common affections in our tested group.

**Keywords:** Bioresonance measurement, Mineral levels, Food allergies and intolerances, Mineral deficiencies

## DETERMINATION OF VITAMINS, MINERALS AND ESSENTIAL FATTY ACIDS FOR BRAIN FUNCTION

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**Background:** The weakening of memory may be due to the deterioration of brain's blood circulation and the decrease in the number of neuropath ways. The sharpness of memory depends on age, physical condition, spiritual freshness, and the presence of certain vitamins and minerals that support the flow of information between cells, the generation and level of neurotransmitter substances in the body. **Objective:** In order to increase memory, conducting measurements of the amounts of vitamins, minerals and essential fatty acids for the first year medical students. **Material and methods:** With the 2017 edition of Quantum Resonant Magnetic Analyzer we performed mineral, vitamin, fatty acid and memory index measurements with 65 first-year general medical students. The pattern of brain waves in the body is indicated by the device's memory index. Based on this, students were divided into two groups: a group of normal memory indexes, 37 students, and a group of slightly reduced memory indexes, 28 students. Our paper presents the measurement results of the two groups. Among minerals, zinc, vitamins B6 and C, vitamins, omega 3 and omega 6 fatty acids have been processed. **Results:** It is known that mental activity, concentration and memory are greatly increased by the daily intake of vitamin B6: 2 mg, vitamin C: 100 mg, zinc: 9 mg, omega-3: 2g, omega-6: 2g. According to our measurements, there is no significant difference between the parameters of the two groups ( $p = 0.92$ ), the zinc value in the normal range is 26%, the vitamin B6 value is 60-62%, the vitamin C 9-10% of students and Omega-3 24-26% and Omega-6 showed a normal value of 29-30% of students. **Conclusions:** For more than 50% of the participants in the experiment, vitamin, mineral and fatty acid values are lower than normal. Based on the measured quantities, the memory index can not be increased.

**Keywords:** vitamins, minerals and essential fatty acids, memory index, students

## CROSS-SECTIONAL CORRELATION STUDY OF BODY MASS INDEX WITH NUMBER OF SLEEP HOURS IN CHILDREN BETWEEN 5 TO 12 YEARS OF AGE.

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**Background:** Obesity is seen as the first wave of a defined cluster of non-communicable diseases called "New World Syndrome". Childhood obesity is a strong predictor of adult obesity. With rapid demographic and socioeconomic transition, India is becoming the epicentre of epidemics of both adult and childhood obesity. In India specifically the urban population has prevalence of overweight about 25.1% and that of obesity about 8.1%. To best of our knowledge there is a paucity of information regarding correlation between sleep duration and BMI amongst Indian children. Therefore, we thought it will be useful to conduct the present study. **Objective:** 1.To correlate number of sleep hours with increased risk of obesity(or increase in BMI)2.To find correlation between a)BMI and sleep hours.b)Physical activity with BMI and sleep hours. **Material and methods:** This is a cross-sectional correlation study conducted over 2months. Approval for project was taken from Institutional Ethics Committee. Total sample of 900children was calculated from global prevalence. Permission was taken from respective schools before conducting the research. Informed consent was signed, following which History and CSHQ were filled. Anthropometric measurements(height,weight,hip-waist circumference) were taken, and BMI and waist-hip ratio were calculated. Out of total of 900 children, 733 were considered for analysis after excluding 167incomplete forms. Nested cohort of age and gender matched sample(n=200) was used for correlation analysis(Normal BMI=100,Overweight/Obese=100) were randomly selected. Analysis was done by using Descriptive statistics and Pearson's method. **Results:** In the present study no association was observed. **Conclusions:** In this age group, we have observed very structured pattern of behaviors in children mainly influenced by environmental factors specifically parental supervision. Therefore, we might not have observed the expected correlation amongst these variables. As age advances and children become more independent and respond to their endogenous rhythms, this expected association between variables may be better reflected as seen in various studies conducted in adolescents and adults.

**Keywords:** Obesity, Sleep, No correlation, Children

## MEASUREMENT OF THE AMOUNTS OF VITAMIN, TRACE ELEMENT AND AMINO ACID CONTENT FOR STUDENTS INVOLVED IN SPORTING ACTIVITIES

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<sup>2</sup>

**Background:** Sportmen pay attention to the quality of their diet in order to increase performance, whereby they monitor the daily vitamin and branched chain amino acid intake. Branched chain amino acids (BCAA) leucine, isoleucine and valine have essential effects on muscle production, endurance improvement in performance, delaying fatigue and making altitude training more bearable. In order to increase the level of ATP- energy, raise fat-free muscle mass and regeneration, it is vital the L-carnitine, which is formed of Methionine and Lysine, in the presence of iron, niacin and vitamin B6. **Objective:** The aim of this study is to compare the results of 20 medical students doing sport regularly with measurements of 20 randomly chosen non-sport active students, also from the first-year medical students. **Material and methods:** We used minerals, vitamins and amino measurements with Quantum Resonant Magnetic Analyzer 2017's edition. **Results:** The level of methionine was the same normal value for both cases. Lysine is higher among 35% of the sportsmen students than the normal reference value. (p=1) Iron - trace showed normal value 40% of athletes, the other 60% had lack of iron, the measured results show an unremarkable distinction. (N=40, 75% v. 60% p=0,311, OR=0,5) Niacin deficiency was observed among athletes, however, 40% of the students indicated severe deficits, 20% mild form deficit. Vitamin B6 was at normal value of 70% of the athletes for 14 subjects, and the remaining six people need vitamin supplementation. **Conclusions:** From the results of my work, I would recommend assessing the individual measurements and, after the subsequent consultation, in each case, adjusting the corresponding amino acid substitution, from which is L-Carnitine synthesized.

**Keywords:** L-Carnitine, amino acid, trace element, vitamin

## DIFFERENCES IN EATING AND LIFESTYLE HABITS BETWEEN FIRST YEAR MEDICAL STUDENTS INVOLVED AND NOT INVOLVED IN SPORTING ACTIVITIES

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**Background:** The disorganized undergraduate lifestyle, the tremendous rush, and the total chaos leads to a significant number of students to live in disarray. **Objective:** The aim of this study is to evaluate how many first year medical students can manage to set up to do sport on a regular basis and to eat healthy. **Material and methods:** The present survey is based on an international EATMOT questionnaire (Psycho-social motivations associated with food choices and eating practices) which was filled out by first year medical students. **Results:** During the data procession we found out that among 70 students only 20% does exercise, many of them stopped doing sport after the university began. 70% of the sportsperson drink the daily recommended 2 l of water, contrarily only 25% of the questioned students who don't do sport drink 2 l per day. Regarding to the water consumption there is a significant deviation between students. ( $p=0,001$ ). 33% of the students who do sport never eat Fast-Food conversely 90% of the students who do not do sport eat in quick-food restaurant at least once in a week. **Conclusions:** The students who are more active physically are more aware regarding their lifestyle, they pay more attention to the importance of vitamin intake and hydration in comparison with the one who are not sport oriented. It must be kept in mind that the participants analysed are all studying within the field of medicine, it is important therefore to provide more education about prevention methods and health promotion.

**Keywords:** water, healthy food, conscious living, sport

## ASSESSMENT OF TEENAGERS ATTITUDES TOWARDS FOOD

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**Background:** Almost one third of European children are overweight or obese and therefore likely to develop diseases that can be prevented, including type 2 diabetes. Nutrition is one of the environmental factors, with a primary role in the harmonious development of the child and teenager, as the source of energy and nutrients is represented by various foods. **Objective:** Starting from the hypothesis of a low information of students on healthy eating, we aimed to study and highlight the food behavior, knowledge, and opinions of a group of highschool students about nutrition and healthy lifestyle. **Material and methods:** This evaluation was carried out through a questionnaire applied to several highschool classes from Tîrgu Mureş. The questionnaire used was composed of 70 questions that focused on the knowledge and opinions on: the frequency of daily meals, physical activities, family diet, and weight perception. **Results:** In our sample, 55.5% were boys; the age range was 15-19 years; for 49.5%, food is "a necessity" and for 43% "a pleasure"; 20% said they were well aware of calories number in food, while 15.5% had a low interest in calories; 12.5% said they avoid tempting foods, 27% did not eat fruits and vegetables daily, 44.5% do not serve breakfast regularly, a share of 65% consume alcohol occasionally, 11% declared that they smoke, 27% have the perception that their weight is slightly above normal; and a share of 30% want to lose weight. **Conclusions:** The hypothesis of our assessment, namely the assumption that there is a low information for young people on healthy eating, was partially confirmed, as in our group of teenagers there were also young people with healthy eating habits, but the tendency to eat unhealthy food remains high in a significant proportion of high school students.

**Keywords:** diet, nutrition, teenagers, attitude

# PHYSIOTHERAPY

## PHYSIOTHERAPEUTIC RECOVERY OF PATIENTS DIAGNOSED WITH LUMBAR HERNIATED DISC USING MC-KENZIES METHOD

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**Background:** One of the treatments used in treating patients diagnosed with lumbar herniated disc is physiotherapy. After applying diagnosis, the doctor recommends strictly individualised treatments for each patient. **Objective:** The objective of our study is to decrease the intensity of the pain by applying Mc-Kenzies physiotherapeutic treatment. **Material and methods:** In our study we applied the Mc-Kenzie method having specific exercises based on the preferred direction in the therapy under strict supervision of the specialised tutor on this method. The subjects of our study were patients diagnosed with lumbar herniated disc. There were a total of sixteen patients who have given their verbal agreement to take part in our study. All the patients were aged 30 to 40 years and the percentage of subjects was 56% male and 44% female. Patients were made an initial assessment and final assessment in the end of the study. At every evaluation we applied the VAS pain scale which belongs in fact to Mc-Kenzies method. It's valued from 0 to 10, ten indicates the maximum level of pain. **Results:** All the initial assessment we obtained a level of pain calculated in percentages at 74%, and the final evaluation we had 22%. Thus from the physiotherapy programs we obtained a decrease of the pain intensity by 52%. **Conclusions:** The objective of our study had been confirmed, pain intensity dropped by applying Mc-Kenzies method in the physiotherapeutic treatment of patients diagnosed with lumbar herniated disc.

**Keywords:** method, physiotherapy, pain

## THE ROLE OF KINETOTHERAPY IN RECOVERY OF CONGENITAL CLUB FOOT VARUS EQUIN

Străulea Denisa-Maria<sup>1</sup>, Gozar Liliana<sup>1</sup>, Papp Enikő<sup>1</sup>

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**Background:** The specialist in motor recovery, the physiotherapist is part of multidisciplinary team for recovery of diagnosed children with congenital club foot varus equin. **Objective:** We had as objective the correction of the affected articular angle. **Material and methods:** In our study participated three infants who had 3 months old diagnosed with congenital club foot varus equin. Subjects were hospitalized several times during orthopedic treatment, which have benefited so with a cast Ponseti correction and physiotherapy before each cast. In our study we used the recovery method Bobath. Subjects were evaluated at two times: one initial test and one final test using the evaluation score Dimeglio. **Results:** The results of the initial evaluation are: Subject 1 had to the right inferior member 23° and at the left inferior member 22°, Subject 2 had to the right inferior member 20° and at the left inferior member 20°, Subject 3 had to the right inferior member 17° and at the left inferior member 15°. The results of the final evaluation are: Subject 1 had to the right inferior member 10° and at the left inferior member 7°, he had an improvement at the right inferior member 13° and at the left inferior member 15°, Subject 2 had to the right inferior member 9° and at the left inferior member 9°, he had an improvement at the right inferior member 11° and at the left inferior member 11°. Subject 3 had at the right inferior member 4° and at the left inferior member 1°, he had an improvement at the right inferior member 13° and at the left inferior member 14°. **Conclusions:** In conclusion, the objective of our study has been reached.

**Keywords:** method, test, subject, inferior

## THE ROLE OF KINETOPROPHYLAXIS IN THE MOTOR DEVELOPMENT OF THE INFANT BORN BY CAESAREAN SECTION

Vegh Anca-Claudia<sup>1</sup>, Gozar Liliana<sup>1</sup>, Papp Eniko<sup>1</sup>

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**Background:** The recommendation of the specialist doctor for infants and newborns is to follow a kinetoprophylaxis programme for: growth and normal development of the body and; prevention from many affections and becoming healthy and strong adults. **Objective:** The implementation of the kinetoprophylactic activities will

carry to optimal motor development and, implicitly, at an improvement of life quality. **Material and methods:** Our study has taken place in a private retrieve center in Tg.Mures, between September 2017-December 2017. The study had 5 male subjects, borned by caesarean section, and they received the recommendation of the neonatologist doctor to follow the kinetoprophylaxis programme. The subjects age was comprised between 8-10 weeks (2 months-2 a half months). In our study we applied the Bobath method for progressive passage through all stages of development. **Results:** We chose the ALBERTA INFANT MOTOR SCALE test(AIMS), which is a method used for to observe motor development of infants with age comprised between 0-19 months. We applied 2 evaluations: an initial evaluation at the age of 8-10 weeks (2 months-2 a half months) and a final evaluation at the age of 20-22 weeks (5 months-5 a half months). After researching the evaluations, we obtained the following results: for the intial evaluation (8-10weeks) we had 43%, and at the final evaluation (20-22 weeks) we gain 84%; an improvement of 41%. **Conclusions:** The hypothesis of our research was conferred; with the help the Bobath method and our kinetoprophylactic activities.They have brought a meaningful improvement of motor development.

**Keywords:** development, kinetoprophylaxis, infant

## THE IMPACT OF RESPIRATORY EDUCATION ON BIRTH

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**Background:** Giving birth is one of the most natural physiological process which cannot be properly described by words. Nowadays future moms have shown a growing interest and demand in the process of giving birth throughout C-section. **Objective:** The aim of this study is to establish the correlation between prenatal preparation (here referring to breathing preparation) and the experience of giving birth, in order to facilitate the natural birth by reducing the intensity of inherent pain. **Material and methods:** The aimed group is composed of 82 women that filled in an online questionnaire. This questionnaire was based on questions regarding their lifestyle during pregnancy, their attendance to prenatal breathing preparation classes, type of giving birth, means of coping with pain, applying their knowledge gained throughout classes and also their perception of giving birth experience. The data collected from pregnant women were imagined by the author, their completion and participation in the study being voluntary and without material interests under the protection of anonymity. **Results:** Out of the 82 women under study, 81% are aged 25-34 years; 28% attended the "Pregnancy School"; 2% took Pilates classes and 2% took yoga classes; 15% attended classes for breathing exercises; 71% are primiparous; 78% had a vaginal birth; for 34% the pain was eased by breathing exercises; out of 48% that took prenatal breathing classes only 29% of them managed to put in practice the types of breathing they learned during classes; 22% have managed to use the specific type of breathing in expulsion; the experience of giving birth was described as painful but in the same time also pleasant, overwhelming, humiliating, traumatising, wonderful, unique, fulfilled, ecstatic, vulnerable, abandoned, supported, free, content. We can say that breathing was they key point to the synchronization between pregnant women and physician. **Conclusions:** The objective of this study was confirmed.

**Keywords:** respiration, "education", birth

## THE ROLE OF KINETOPROPHYLAXY AMONG PRACTITIONERS OF RHYTHMIC GYMNASTICS

Popa Valentina Cosmina<sup>1</sup>, Szasz Simona<sup>1</sup>, Papp Enikő<sup>1</sup>

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**Background:** Rhythmic gymnastics acquires an ever-growing field among children, especially in girls under the age of 10 years. **Objective:** Objectives are constituted by maintaining and improving joint mobility and muscle strength from the ankle joint. **Material and methods:** Subjects, 15 in number, female, with age between 7-10 years, students of a sports school in Târgu Mureş, who practice performance rhythmic gymnastics. Evaluation was done by 3 basic methods in kinetotherapy : articular and muscle testing and a stand on tiptoe balance test. **Results:** Of the total of 15 subjects, at muscle testing, with the scale from 1-5, we have obtained an average of muscle strenght 5 at 85 % from subjects and a muscle strenght 4 at 15 %, reported to the calf muscles. The articular testing for all de subjects had a value within the normal range of mobility degrees, both in the realization of the plantar and the dorsal flexion. **Conclusions:** The objective of our study has been partially achieved, we have maintained both mobility and muscle strength of our subjects, but we don't consider it a negative shadow because the study period

was limited to one month. We intend to continue the kinetic prophylaxis period further.

**Keywords:** kinethotherapy, rhythmic gymnastics, kinetic prophylaxis

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## MOTOR RECOVERY OF CHILDREN BORN PREMATURELY

Lupu Roxana<sup>1</sup>, Gozar Liliana<sup>1</sup>, Papp Eniko<sup>1</sup>

<sup>1</sup>UMF Tîrgu Mureş

**Background:** The multidisciplinary team for premature new-born prevention and monitoring includes a specialist in motor recovery. **Objective:** Maintaining and improving oxygen saturation through respiratory exercises. **Material and methods:** Our subject is a premature newborn, delivered on 18.09.2017, at a 24-week gestational age, weighing 500 g, APGAR score of 1 after 1 minute, 3 after 5 minutes and 7 after 10 minutes. The newborn was assisted by a neonatologist both during delivery and while in intensive care, as the subject had a severely influenced general state, with an axillary body temperature of 36,5 ° C and a respiratory functional syndrome with moderate bronchopulmonary dysplasia. Starting December 2017, following the neonatologist's recommendation, the subject has benefitted from physiotherapy in the form of passive, respiratory exercises. The efficiency of the therapy and the oxygen saturation has been evaluated through the permanent monitoring device. **Results:** At the initial measurement, in December 2017, the oxygen saturation was of 78-92%, while, during the final evaluation using the permanent monitoring device, on the 30th of January 2018, the value was 85-95%. **Conclusions:** The objective of the study was fulfilled, the improvement of the subject's oxygen saturation having a favorable evolution. The intention, for future research, is to extend the time span of the study and include a greater number of subjects.

**Keywords:** Premature, Oxygen saturation, Bronchopulmonary dysplasia

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## ANALYTICAL STUDY ON GROWTH, PHYSICAL DEVELOPMENT AND HEALTH IN SECONDARY SCHOOL CHILDREN - GIRLS

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**Background:** Physical activity is one of the most important aspects in the body and psycho-social development of a child in the ontogenetic period of growth and physical development. It is known that a daily sports activity, accompanied by a proper diet, reduces the risk of developing diseases, strengthening the immune system, generating a normal weight and harmonious physical development. Studies have found that one quarter of children aged 10-14 years are overweight and 5% of them are undernourished. **Objective:** The objective of our study is to identify, measure and analyze physical and functional parameters that can physically differentiate between girls in secondary school who practice sports and those who do not, followed by setting a set of exercises and developing a diet for those who suffer from undernutrition or overweight. **Material and methods:** The study consisted of establishing two groups of 30 girls from a gymnasium school in Tîrgu Mureş, the first group consisting of those who practiced a sport and the second one represented by students with lower physical activity, following physical and functional parameters: weight and body height; physical strength. Study period: January-February 2018. Other research methods were: documentation, testing, observation, analysis and statistical interpretation of the data. **Results:** As a result of this study it was found that girls who practice a sport have body development, height and weight falling within normal limits, compared to those who do not. Also, some girls who were not practicing systematic physical activity suffer from undernutrition / overweight. **Conclusions:** We want to draw attention to the importance of physical activity in a student's life, and the need for proper nutrition to avoid health problems.

**Keywords:** body weight, sports, nutrition, ontogenetic

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## INTROSPECTIVE STUDY CONCERNING THE LEVEL OF MORPHO-FUNCTIONAL DEVELOPMENT AND THE HEALTH AT CHILDREN FROM MIDDLE SCHOOL-BOYS

Herdea Razvan Stefan<sup>1</sup>, Neagu Nicolae<sup>1</sup>

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**Background:** The sedentarism is a problem of major importance which appeared in our lives. In the last years it's more present in children lives, for which exercising is not anymore a pleasure, but an obligation. From this comes their chaotic lifestyle, concerning their diet and their physical activity. Also, it's the cause of numerous endocrine and metabolic disorders. In the past 10 years, the percentage of the overweight people has increased, and the prevalence of the moment for obesity is 3/10 in children between 10-15 years. **Objective:** The objectives of this study are to inform the target audience about the risk factors appeared after sedentarism, learning to prevent them by including the subjects in daily physical activities and the proposal of directed diets. **Material and methods:** Between January 2017 - February 2018, there were randomly sampled, boys from middle school, with ages between 10-15 years, from schools in Tîrgu Mureş. Over a period of 7 days, it was recorded, quantitative and qualitative, their diet and it was investigated their physical activity. It was investigated, as well, a series of physical and functional parameters, and then it was prepared for them, personalized diets and a kinetotherapeutic program for recovering. The methods used were: documentation, observation, testing, investigation and statistic-mathematical methods. **Results:** The recorded result is in the processing phase. At an overall evaluation, they are worrying. They will be presented in detail in the plenary of the Congress. **Conclusions:** Before taking action, it's more important to, both students and adults, receive the right information about what it means the changing of lifestyle in the favor of health. We propose the introduction of activities with the prophylactic and therapeutic character in schools.

**Keywords:** sedentarism, obesity, diabetes, overweight

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## KINESIOTHERAPY AND RECOVERY PROGRAM IN CHILDREN DIAGNOSED WITH SPASTIC TETRAPARESIS

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**Background:** Kinesiotherapy and implicitly the kinesiotherapist have a very important role in conducting a neurological study and intervention, being a part of the medical group of specialists. **Objective:** The objectives of the study consist in optimizing the program of physical recovery and functional rehabilitation of motor control in children, diagnosed with spastic tetraparesis. **Material and methods:** In our research, we want to present the study case of a 6 years old girl, medically diagnosed with infantile sequelae encephalopathy with spastic tetraparesis, predominantly straight hemiparesis and severe retardation in motor and psychic deployment. The study was conducted between 1 November 2017 and 30 January 2018 in the kinesiotherapy center in Tîrgu Mureş. **Results:** The recovery evaluation program was carried out in two phases, one initial and one final, during which one monitored the stages of motor development of the child from the age of 1 month to the age of 6 years. For each stage of the child's motor development, were awarded points from 0 to 5, which is the level of development reached by the subject at the time of the evaluation. The assessment-test results were the following: on the initial evaluation, it was achieved a score of 19 points and on final assessment-test was achieved a score of 27 points. **Conclusions:** We believe that the objectives of our study have been achieved even if the evolution of the girl's motor recovery and rehabilitation is lasting. Although the study was conducted over a short period of time, it was found that the final evaluation was a positive one. The neurological study is performed on a number of eight subjects with the same medical diagnosis, spastic tetraparesis, above case being presented as a pre-research of this study.

**Keywords:** spastic tetraparesis, motor development, encephalopathy

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## RECOVERY IN SIMPLE AND COMPLICATED TALAR HEAD FRACTURES

Muntean Sergiu<sup>1</sup>, Nicolae Neagu<sup>1</sup>, Varga Margit Székely<sup>1</sup>

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**Background:** A talus fracture that does not heal properly can lead to serious complications, including significant loss of motion and function and chronic pain. A mistreated or undertreated talar fracture can affect health-related quality of life. **Objective:** Our study wants to show the recovery level that can be accomplished by physical therapy in simple and complex talar head fractures. **Material and methods:** We performed a prospective study included 8 patients with talar head fractures, 4 patients with Hawkins II (control group) talar head fracture and 5 with Hawkins III and IV (experimental group). All patients were treated surgically. The postoperative rehabilitation program was the same for both groups. We performed goniometric measurements and used the VAS scale to rate the pain severity, and Foot and Ankle Disability Index to assess functional limitations related to talar head fracture. The assessment was performed at the beginning at the middle and at the end of the 6 weeks rehabilitation programme. **Results:** There were no statistical differences between the two groups related to demographic data and the first evaluation mean values. At intermediated and final assessment no difference was found at between the level pain scores. At first evaluation, the mean value of joint mobility was 5,4° for both groups. After 3 weeks of rehabilitation, the mean range of motion was 29° for control group and 32° for experimental group, 54° and 58° at final assessment. Foot and Ankle Disability Index mean values, at first evaluation was 34 for control group and 36 for experimental group. After 3 weeks the mean values was 63 and 68, and at final assessment the means was 97 for control group and 101 for experimental group. **Conclusions:** There are minimal differences between two groups concerning the functional results obtained on the final 6 weeks of recovery program.

**Keywords:** talar head fractures, physical therapy, recovery, rehabilitation

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## THE OPTIMISATION OF POSTURAL CONTROL AND PSYCHOMOTOR LEVEL WITH, 3C THERAPY, IN CHILDREN DIAGNOSED WITH AUTISM

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**Background:** "3C Therapy" is a recente and alternative recovery method addressed to autistic children, which consists in few adapted physical exercises with the aim to support their independent motor actions and other physical daily activities. This method provides also a significant psychomotor progression of several concerned motor behaviors. **Objective:** Our basic study objective is to show the effectiveness of "3C Therapy" in awareness, concentration and coordination of 6 autistic children, aged 4 to 7 years, during two calendar months, from 20 November 2017 to 25 January 2018, within a non-profit organization from Mures County. **Material and methods:** Our applied method consisted in an application route with ten item-obstacles. The achievement of each item was noted: with two points if the child did not benefit from a therapist help, with one point if he needed a minimal help and finally with zero points if maximum help was needed. After finishing of the route, each child received a final score, resulting from the accumulation of the points obtained from each obstacle passage. **Results:** After the established period of "3C Therapy", we made a statistical comparison between initial and final individual results of subjects. We recorded an increase in the average score of the group with 6 points which was achieved by the children with high functional autism; an increase with 4 points by those with poorly functioning autism; 2 to 3 points increase by those with poorly functioning autism. **Conclusions:** In conclusion, using "3C Therapy" has yielded significant results for the recovery of autistic children and we recommend to be used in some children cases of autism, helping them to become autonomous in terms of psychomotor behaviors.

**Keywords:** Autism, 3C therapy, psychomotor, behaviors

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## INTROSPECTIVE STUDY ON THE INCIDENCE OF PHYSICAL DEFICIENCIES IN CHILDREN IN GYMNASIUM CYCLE

Man Raluca - Petronela<sup>1</sup>, Neagu Nicolae<sup>1</sup>, Papp Enikő<sup>1</sup>

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**Background:** Prophylaxis, regarding any unfavorable influence on the quality of life for a gymnasium student, is very important, especially a whole series of factors that negatively influence the growth and physical development process. An important category is that which affects the correct position of the spine, such as the weight of the backpack and its position, the position embedded in universal benches, but also spending a long time in front of the computer and the phone, namely the addiction to sedentarism. Physical therapy and physical exercise favor a correct position of the whole body and a healthy life. **Objective:** The objective of our study is to identify, measure, process and analyze some physical and functional parameters, followed by the development of some exercise proposals / recovery programs / correction of vicious positions to students in the gymnasium cycle. **Material and methods:** The study consisted in the analysis and statistical processing of the anthropometric and functional parameters pursued by a group of pupils from "Alexandru Ioan Cuza" the Gymnasium School, Tîrgu Mureş, consisting of girls and boys between 11-14 years old. The analyzed period was January-February 2018. The research methods were: documentation related to a number of diseases: scoliosis, cifosis, lordosis, the presence of diabetes, plaque and knee deficiencies. Other methods of research were: testing, observation, statistical and mathematical methods of processing, analysis and interpretation of data. **Results:** The research is currently in the phase of processing and interpreting the registered information, after which it will be detailed at the "Marisiensis" International Scientific Congress, 2018. **Conclusions:** Following the investigation, we have identified a series of morpho-functional problems, based on which we suggest to include it as extracurricular activity of rehabilitation-rehabilitation programs within the school for the identified problems.

**Keywords:** Prophylaxis, scoliosis, diabetes

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## STUDY ABOUT THE SOMATICAL AND HEALTH DEVELOPMENT OF CHILDREN- BOYS IN PRIMARY SCHOOL

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**Background:** The growth and physical development of children, is an evolutionary and sustained process until the age of 23-25 years. The external factors, with the most pointed influence for this process, are nutrition, rest and also the physical activity that is being done by the boy. The period of primary school represents a problematic issue for the development of a child, being affected, also, by numerous external factors: the posture of the pupil in his school bench, the heaviness and position of the school bag, the quality of the ingered food and, not at least, of rest and physical activity. **Objective:** The objective of this study consists in the measurement and analyze of the somatological and functional parameters, which depend very much on genetical factors, this factors being also in a relation of interdependence with the external factors: nutrition, rest and physical activity. **Material and methods:** The methods that have been used, are: the documentation relating the research question, the settlement of the followed parameters and the settlement of pattern subjects, testing method, examination and statistical method for data processing. The subjects of this examination are a number of pupils, who study in the primary schools of Târgu Mureş. **Results:** The followed parameters were: height and weight, body mass index, the correlation between rest-alimentation-physical activity. The recorded results are in the phase of being processed and analyzed in a detailed way, but at a quick interpretation, the obvious relevance of the external factors in the general ontogeny evolution of children must be stated. **Conclusions:** At the end of the carried study, we came to a first general conclusion: the level of somatic and functional development of a child's organical structure, in the first school years, depends and correlates with the relation between rest-sedentariness-systematic movement. The more accurate conclusions will be presented at the congress.

**Keywords:** body mass index, physical activity, nutrition

# NURSES

## ANIMAL-ASSISTED THERAPY

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**Background:** Animal- assisted therapy is a type of therapy that involves animals as a form of treatment, has been worked out by the American psychologist Boris Levinson, 1960. The modern movement of using companion animals as a therapy had a multidisciplinary origin, involving the fields of veterinary medicine, psychology, sociology and psychiatry. The effect of human-animal interaction showing a wide variety of physical and mental health benefits. **Objective:** The purpose of my study was to determinate how a group of elderly people perceived Animal- assisted therapy. The study show how animals can improve and help a person's emotional and physical well-being. **Material and methods:** The participants in this study were 111 elderly people half with pet and half without. We worked with target groups and controle groups, using the mixed experimental design. Each old person was evaluated before and after the intervention using objective psychological methods. Results and implications are analyzed (GraphPad, SPSS Statistics 17.0, Excel-2007) and discussed. **Results:** To test ours hypotheses, we compared pre-program with post- program scores. We find: - depression, compulsion and stress, that is the distress factors, are lower at old persons having pet than at those without pets. The statistical analysis DASS 21 : Depression:  $p=0.0003$  ( $t= 4.022$ ), Anxiety:  $p=0.001$  ( $t= 4.313$ ), Stress  $p=0.0002$  ( $t=4.045$ ) significance level a difference appears. During the study we find the physiologie effect of the animal- assisted activities is that normalizing blood tension and the pulse. **Conclusions:** In summary we can report the following result which could be valuable in the field of psychological science, that animals may be used in therapy dealing with depression, anxiety and stress. Provide opportunities for motivational, therapeutic and recreational benefits to enhance quality of life.

**Keywords:** Animal- assisted therapy, distress, physiologie effect

## THE UTILITY OF MINI MENTAL STATE EXAMINATION TEST IN THE EVALUATION OF NEUROCOGNITIVE DISORDERS ON POST-SURGERY PATIENTS

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**Background:** In the immediate postoperative period there can be observed memory and concentration deficiencies, personality and cognitive disorders and/or emotional instability. The post-surgery neurocognitive disorder must be approached multidisciplinary by Anesthesiologists, Psychiatrists, Psychologists and Nurses. There is more than one method of evaluation. **Objective:** This study aims to highlight the benefits of the Mini Mental State Examination (MMSE) test in the evaluation of patients with neurological disorder. **Material and methods:** We've conducted a prospective study between November 2017 and February 2018, at the Surgical Clinics of the Mures County Emergency Clinical Hospital. We've selected 72 patients who had undergone surgery under general anaesthesia. We evaluated each patient pre- and post-surgery in the 6th day using the cognitive test (MMSE). **Results:** The average age of the patients included in our study was  $66,3 \pm 12$  and 32 (44,4%) of them were males. The patients under 50 years old didn't manifest any neurological dysfunctions post-surgery. Patients with ages between 51 and 70 years old developed minor dysfunctions and patients over 71 years old revealed some moderate neurocognitive dysfunctions, their average score being 18,2 points. In the postoperative period 10 patients presented temporo-spatial disorientation. Diabetic patients presented moderate neurocognitive dysfunction, regardless of age, counting 12 patients (17,64%). **Conclusions:** Neurocognitive disorders is a relatively common issue but most of the time it's a minor or moderate form and it doesn't really affect the quality of life. MMSE looks to be useful in the evaluation of this patients, more studies are necessary.

**Keywords:** Mini Mental State Examination (MMSE), neurocognitive disorder, postoperative period

## PREVALENCE OF DIFFERENT FORMS OF CARDIOVASCULAR DISEASES IN PATIENTS WITH TYPE 2 DIABETES MELLITUS AND SPECIFIC THERAPIES APPLIED

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**Background:** Diabetes mellitus (DM) and coronary artery disease (CAD) are closely related, the former being considered a major risk factor and also equivalent to established CAD. **Objective:** To study the prevalence of different forms of CAD in patients with type 2 DM and specific therapies applied. **Material and methods:** We conducted a retrospective study including data from 88 patients with type 2 DM associated with cardiovascular diseases admitted in the Cardiology Department of IuBCVT, from January 1st to December 30th 2017. We analyzed clinical manifestation of CAD, associated forms of atherosclerosis, significant comorbidities and specific therapeutic approaches. **Results:** Out of the 88 patients, (27 women and 61 men, mean age 62±8,73 years), 76 (86,36%) had CAD, manifested either as acute coronary syndrome (42,65%), stable angina (23,53%), silent ischemia (20,59%) or post-infarction angina (13,24%). Forty-nine patients (55,68%) developed heart failure, 68 (89,47%) also had high blood pressure and 31 (63,27%) associated a form of secondary valvular disease. Only 9 patients had peripheral arterial atherosclerosis and 3 were stroke survivors. Apart from the specific treatment (insulin for 24 patients, oral drugs for 53 patients and combined therapy for 2 patients), medical therapy measures according to the guidelines were applied. On top of that, 36 patients (40,91%) had angioplasty with drug eluting stent implantation, 3 patients needed by-pass surgery and other 3 had both. **Conclusions:** There is a complexity of cardiovascular diseases that patients with type 2 diabetes mellitus develop, especially arterial hypertension and ischemic heart disease, and the treatment must be carefully applied based on the type and association of these.

**Keywords:** type 2 diabetes mellitus, cardiovascular diseases, therapies

## IMPACT OF ATRIAL FIBRILLATION ON THERAPEUTIC APPROACHES AND CLINICAL OUTCOMES IN PATIENTS WITH HEART FAILURE WITH SEVERELY REDUCED EJECTION FRACTION

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**Background:** Atrial fibrillation is a cardiac rhythm disorder that affects millions of people worldwide. According to the New York Heart Association (NYHA) 50% of patients in class III and IV are prone to have atrial fibrillation, thus raising therapeutic challenges. **Objective:** To estimate the impact of atrial fibrillation on therapeutic strategies and clinical outcomes for patients with heart failure with severely reduced ejection fraction. **Material and methods:** We have conducted a retrospective study including 50 patients admitted for class IV NYHA heart failure, between January 2016 and December 2017, in Cardiology Department of IuBCVT, and compared treatment strategies and outcomes for patients in sinus rhythm (SR) and for those with atrial fibrillation (AF). **Results:** Out of the 50 patients included, 31 patients (62%) had severely reduced ejection fraction (<30%) as confirmed by echocardiography, out of which 12 (38.71%) had AF and 19 (61.29%) were in SR. All patients received diuretics; beta-blockers were given in a proportion of 35% of patients (54,55% had AF and 45,45% were in SR) and ACE inhibitors were administered in proportion of 42% (84,62% to those in SR and 15,38% to those with AF). Inotropic agents were also administered to 9 patients, (6 in SR and 3 with AF). Despite complex medical treatment, mortality rate was fairly high, (57.46%), significantly higher - p. **Conclusions:** Though preserving sinus rhythm might be sometimes challenging, its importance in patients with heart failure with severely reduced ejection fraction is extremely important.

**Keywords:** medical therapies, heart failure, atrial fibrillation, reduced ejection fraction

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## THE COPING MECHANISMS OF ONCOLOGY PATIENTS VS SURGICAL PATIENTS

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**Background:** The term coping refers to an active behavioral process which involves different strategies in order to minimize psychological stress. Regarding different pathologies, stress is considered as being an image of physical, mental or emotional strain for patients diagnosed with different illnesses. **Objective:** The aim of the study is to identify and differentiate the coping mechanisms used by oncology patients and surgical patients. **Material and methods:** We've conducted a prospective study that involved 2 cohorts, 16 surgical patients of Surgical Clinic 2 of Tîrgu Mureş, aged 18 to 60 years and 16 oncology patients of Tîrgu Mureş Oncology Clinic, aged 32 to 69 years. Subjects were asked to complete the COPE inventory, (Carver, Scheier, & Weintraub, 1989) a 60-item questionnaire, which includes 15 different coping strategies. **Results:** The results indicated that is a significant statistical difference between the two samples, by the mechanism of coping *Denial* where (N=16)  $t= 3,88$ ,  $df=30$  at  $P < .001$ ,  $CI= 95\%$  and mechanism of coping *Religion approach* where (N=16)  $t=3.28$ ,  $df =30$ ,  $P < 0.05$ ,  $CI= 95\%$ . **Conclusions:** The coping mechanism *Religion approach* is used more frequently and more intense by the patients with oncological problems. Our result indicates that this mechanism contributes to the psychological adaptation of patients, facing the stress imposed by this disease.

**Keywords:** COPE, mechanism, stress, illnesses

# **PHYSICAL EDUCATION AND SPORT**

## LONGITUDINAL ANALYTICAL STUDY ON THE EVOLUTION OF RESULTS AT THE SCHOOL ATHLETIC TETRATHLON, HELD IN TIRGU MURES IN THE PERIOD 2015-2017

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**Background:** The Athletic Tetrathlon is made up of four tests: speeding, 60mp, long jump with impetus, throwing the ball and running over a distance of 800m. The tetrathlon is addressed to middle school students, grades 5th-8th, the participation in the competition requiring a polyvalent and multifaceted training, which makes it easy to approach each of the four tests. The Athletic Tetrathlon is included in the National Sports School Olympiad, an official competition, organized by the Ministry of National Education, with stages at the local, county and national level. **Objective:** The objective of our research is to highlight and analyze the manner of organization of the competition at the municipal level, the level and evolution of the results, their comparison with the national score grid and the drawing of conclusions and recommendations able to optimize the less favourable aspects. **Material and methods:** The study consisted of the analysis and statistical processing of the results of 14 teams at middle school level in Tîrgu Mures, consisting of girls and boys, aged between 12-17 years. The analyzed period was 2015-2017. The research methods were: documentary, observation, investigation method and statistical-mathematical methods of data processing, analysis and interpretation. **Results:** Of the four tests, the best results were recorded in case of speeding and the poorest in case of 800 m. We noticed a weak numerical participation: only 9 teams from the 17 middle school units in Tîrgu Mures. At the same time, we found, during the 3 years, a descending curve of the results obtained by the participating teams. **Conclusions:** The results of the teams are weak for several reasons, one of them being the inappropriate material basis for athletic training in schools, but also the reduced number of physical education hours. These negatively affect the general training of students at all disciplines in the curriculum for physical education and sports.

**Keywords:** Tetrathlon,, Athletics,, Physical Education,, Sports

## POCKET COACH APP

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**Background:** Mobile apps may encourage and contribute to a healthier lifestyle. Through their structure, mobile applications can become a well prepared and highly accessible "personal trainer". **Objective:** Our aim was to design an accessible "fitness app", destined for busy people, who desire a fair training schedule, personalized, efficient and organized, without going to a gym. The ratings offered to the coaches by the platform users aim to create a top for future customers, to create the opportunity to select the real professionals. **Material and methods:** Developing and creating an application by using Android Studio, MySQL. The menu contains the following: authentication; frequent asked questions, with authorized answers; the location of the closest gym; video tutorials with structured training according to the level of training; notifications about the personal training; monitoring caloric consumption; tutorials for finding the right place to start the training schedule; the best fitness centers; a news feed with stories, public announcements and diets. **Results:** The application will be an online community of all smartphone users. The target of this project are the people who want to follow a training program without going to the gym center. **Conclusions:** The application can be improved by addressing scalability issues. There is also the possibility of adding new features by customer recommendations. The application offers flexibility and comfort, the ability to track the evolution of the physical condition, being ideal for people with a loaded schedule who want to follow a fair, efficient and balanced training schedule. The app is accessible, available for free for Android or IOS smartphone users.

**Keywords:** Application, Coach, Fitness, Health

# **PRECLINICAL DENTAL MEDICINE**

## QUALITATIVE AND QUANTITATIVE EVALUATION OF SURFACE ROUGHNESS CHANGES OF LIGHT-CURED COMPOSITE RESINS AFTER TOOTH BRUSHING SIMULATION

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**Background:** According to scientific literature there is a threshold ( $R_a = 0.2 \mu\text{m}$ ) in surface roughness of restorative materials. Above this the accumulation of plaque increases causing the growth of caries and periodontal inflammation risk. **Objective:** The aim of study was to evaluate in vitro surface roughness changes of a light-cured restorative material after tooth brushing simulation based on the data generated by two trained operators. **Material and methods:** Thirty-four specimens of Super-Cor light-curing microhybrid composite material were prepared according to the manufacturer's instructions. In the first part of the study the average time of tooth brushing simulation realized with a custom-made device on a single sample was 3 hours, while in the second part the time was extended to 8 hours per sample. The surface roughness was measured with surface roughness tester (Surtronic 25 and MarSurf XR 1) and digital images were captured in  $0^\circ$  and  $45^\circ$  with JSM-5200 scanning electronic microscope (SEM). Statistical analysis was performed after collecting the data. **Results:** All specimens revealed changes in surface roughness after tooth brushing simulation using toothpaste but these were not statistically significant ( $p=0.95$  and  $p=0.40$ ). The arithmetic average of the roughness was above the threshold before and after the simulation. Surface changes were visualized by SEM images. **Conclusions:** Tooth brushing can cause changes in the surface roughness of the restoration materials. SEM provides qualitative area information about these changes, while roughness testers offer quantitative linear information. The initial quality of a dental restoration is decisive for the possible appearance of complications.

**Keywords:** surface roughness, restorative materials, dental composites, brushing simulation

## FORCE DEGRADATION OF ORTHODONTIC DEVICES USED FOR SPACE CLOSURE

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**Background:** Extraction in orthodontics is an important resource to achieve the best treatment results in some cases, which leads to development of multiple devices for space closure and anchorage control. Previous studies show that the most efficient teeth movement is obtained using low and continuous forces. Orthodontists can use one of several devices to apply closing force, which are: NiTi coil springs, Power chains or Active tiebacks. **Objective:** To find which one of the three devices keep most of initial force over an activation period (30 days). **Material and methods:** Orthodontic space devices were grouped as follows: first group (G1) containing 5 NiTi coil springs, second group (G2) with 5 Power chains and third group (G3) with 5 Active tiebacks. Fifteen pairs of orthodontic buttons were bonded on a plastic plate using cyanoacrylate adhesive, each facing the other one at twenty-five millimeters distance. To strain the orthodontic devices, they were applied on every pair of buttons, and the plate was immersed in saline solution at room temperature. Force levels were measured after one day, then 5, 15 and 30 days with a Leone force gauge. Data was analyzed using One-way Anova test in SPSS software v20. **Results:** NiTi coil springs showed the least force degradation over 30 days, losing only 37% of initial force, Power chains lost 70% of initial force, while the Active tiebacks lost all the initial force, ending without any elasticity. The force readings between groups were statistical significant ( $p<0.001$ ). **Conclusions:** The best choice for space closure in orthodontics is the NiTi coil spring, delivering low and continuous force over an activation period.

**Keywords:** orthodontics, active tieback, coil spring, power chain

## THE GINGIVAL SULCUS: A DENTAL IMPRESSION'S "SHADOW ZONE"

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**Background:** The gingival sulcus represents a hidden zone therefore a challenge for the realization of a correct dental impression. The preparation of this „Shadow Zone” is very important, in order to provide an accurate

impression which reproduces the terminal area of the prepared tooth and finally a well adaptable prosthesis. **Objective:** The goal of this study is to analyze the efficiency of 5 materials for gingival retraction, using a chemo-mechanical technique. We are interested in the depth and width of the gingival sulcus after retraction, the pain intensity and how the impression material interacts with each substance. **Material and methods:** The study was performed on a group of 20 voluntary patients, in the same conditions: age: 21-23, gingival inflammation index=0, gums:normal aspect , smooth curved contour, firm texture, non-smokers, simplified oral hygiene index=0. The 5 retraction materials were applied in the same zone:maxillary-incisor's sulcus (unprepared teeth). We realized 2 hard gypsum casts: before and after the removal of the retraction material /per patient, every model was cut in bucco-palatal direction so that we obtained 0,2 mm gypsum sections and with the electronic microscope we measured the gingival sulcus's depth and width. **Results:** Our results show that a displacement cord generates more pain and discomfort compared to the application of Polyvinyl Syloxan Foam. The retracted gingival sulcus using Aluminium Sulfate and Polyvinyl Syloxan offers an approximately equal width. The width of the displayed gingival ditch with Ferric Sulfate20%, ZincChloride 8% and Hexahydrated Aluminum Chloride 25 % although is narrower compared to the other agents, it is sufficient. **Conclusions:** A quality impression is directly proportional with the gingival displacement. Our 5 materials from the study produced a sufficient gingival retraction >0,2mm. The displacement of the gum with Polyvinyl Syloxan Foam appears to be the most efficient,less traumatic, but it is more expensive.

**Keywords:** gingival displacement, impression, correct prosthesis

## SEALING OF PITS AND FISSURES „IN VITRO”, TAKE-HOME MESSAGE FOR „IN VIVO”

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**Background:** The sealing of pits and fissures contributes to increasing the resistance and durability of dental structures by mechanical blockage. This is the most efficient prophylactic method, being included by the World Health Organization among the 4 main methods of caries prevention. **Objective:** The "in vitro" microscopical assessment of the efficiency of certain sealants and the formulation of conclusions with "in vivo" practical applicability, offering essential protection in cases of maximum receptivity to caries. **Material and methods:** Flow sealants were applied on a lot of 24 extracted teeth: GIC on 6 teeth, compomer on 6 teeth, resin-based sealant on 6 teeth, and resin-modified glass ionomers on the remaining 6 teeth. After the sealing, 0.25 mm sections were made near the pits and fissures, which were analyzed microscopically and photographed. We assessed the quality of sealing (marginal sealing, depth, existence of air gap), using basic fuxine or methilene blue staining and measuring with an electronic calliper under an electron microscope. **Results:** There were no differences between the "in vitro" and "in vivo" assessment of sealing; thus, the results and conclusions were considered to be valid "in vivo". The quality of sealing depends on the anatomy of the fissure and the viscosity level of the sealant, but also on the method of application (technical dependence). **Conclusions:** "In vitro" sealing represents a take-home message for "in vivo" situations. Sealing imperfections depend on the humidity of teeth, the viscosity of the sealant, as well as the mineralization, hygienization, and anatomical form of the pits. All these must be considered "in vivo" in order to enhance the durability of dental structures.

**Keywords:** sealing, negative relief, efficiency, sealing materials

## UPDATE ON POLYTETRAFLUOROETHYLENE

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**Background:** Polytetrafluoroethylene or Teflon tape is an auxiliary material that has many applications related to its properties and can also be found in dental practices. It is very versatile and can improve medical treatment greatly. There is medical PFTE tape and industrial PFTE tape that can be used for the same purpose but there are slight differences in the composition of them **Objective:** The aim of this paper is to present briefly updated information from the specialized literature about the applications of Teflon in dental medicine. **Material and methods:** Based on the indications of PFTE in dental medicine (isolation, dental floss, stamp technique, temporary filling, protection, non-resorbable membranes and sutures) as well as contraindications (it is not to be used at high temperatures due to perfluorooctanoic acid-PFOA), we tested the various uses of Teflon in modern dental

medicine. We compared different types of Teflon for dental or industrial usage and did the cost-efficiency analyze. **Results:** The efficiency of Teflon samples was identical, regardless of the PFTE type. The results could have a negative impact on medical PTFE manufacturers and encourage the industrial brands. In addition, applying PFTE tape by dentists who are beginners and don't know the technique can lead to some practical problems. **Conclusions:** Teflon is very efficient in the dental treatment, both medical and industrial tape. Dental practices are more likely to use the industrial PFTE tape due to reduced price and optimal results but they should be careful to its components.

**Keywords:** teflon, applications, PFTE

## CUT-OFF IN PHOTOPOLYMERIZATION

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**Background:** Regarding to photopolymerization of composites there are certain indications from the producers and from literature, but the stage is strictly dependent on the operator's actions, the light-curing time, the thickness of the material, the lamp compatibility, which may vary depending on the case. **Objective:** Demonstration of the existence of a cut-off (threshold value) in the efficiency of photopolymerization and the potential influence of some factors on the modification of this cut-off. **Material and methods:** Using 3 types of lamps and 4 types of composites, the photopolymerization efficiency was compared by following parameters (depth, dispersion, operator influence, lamp-composite compatibility, time, released temperature) and identification of a cut-off. Silicone matrix mold have been created with predefined diameter, with which several series of photopolymerizations were made for each composite / lamp. The 3mm, 6mm, 10mm thick composites were photopolymerized for each lamp for 20s, 40s, 60s. The temperature and its variations were measured with a special sensor using a computer program. **Results:** The photopolymerization efficiency depends on the thickness of the material layer, the ideal one being 2 mm. The process is more efficient at microfibers materials at a time of 40s because their particles are more translucent than conventional ones. Decreasing the time also requires a decrease in the thickness of the material undergoing photopolymerization. If the thickness of the material is significant (>6mm) then the increase in time (>30s) has little effect on the deeper layer, not being a solution in this case. The emanated temperature increases by up to 20°C depending on lamp type and time of use. **Conclusions:** We can conclude that there is a photopolymerization cut-off, which can be positively or negatively influenced by various factors such as: the light curing time, the thickness of the material, the correctness with which the operator performs the polymerization.

**Keywords:** cut-off, photopolymerization, errors, photo-lamp

## SEALING ABILITY OF DIFFERENT DENTAL CEMENTS USED AS ROOT-END FILLING MATERIALS

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**Background:** Apical surgery is a procedure made in order to prevent bacterial leakage from the root-canal system into the periodontal tissues. In order this result to be reached and a successful root-end surgery to be achieved, an effective apical seal is mandatory. **Objective:** The aim of this in vitro study was to compare apical sealing properties of three different dental cements when used as root-end filling materials. **Material and methods:** Seventy intact and straight roots were randomly assigned into three study groups of twenty each and two control groups of five roots each. Root canals were shaped using Protaper Next rotary file system up to file size X3, then filled with gutta-percha and Adseal sealer by cold lateral compaction technique. Root-end resection was performed 3 mm above the apex, 4 mm deep root-end cavities were prepared with Mani cylindrical diamond bur SF 41 and the root surface isolated with nail varnish. For each study group was used one dental cement: glass ionomer cement, zinc phosphate cement and mineral trioxide aggregate. Following immersion in 1% methylene blue dye for 72 hours, the roots were sectioned longitudinally and the depth of dye penetration was evaluated under magnification. Data were submitted to statistical analysis by SPSS software package. **Results:** All study groups revealed dye penetration. However, zinc phosphate cement proved the lowest sealing ability. **Conclusions:** Glass ionomer cement and mineral trioxide aggregate have proper sealing ability, but further studies are needed to prove this fact for in vivo use.

**Keywords:** root-end filling materials, dye penetration, sealing property

# CLINICAL DENTAL MEDICINE

## THE LINK BETWEEN PERIODONTAL DISEASE AND MYOCARDIAL INFARCTION

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**Background:** Periodontal disease is a chronic inflammation of the supporting structure of the teeth caused by the presence of the periodontopathogenic bacteria. Myocardial infarction is the irreversible necrosis of heart muscle secondary to prolonged lack of oxygen supply and the leading cause of morbidity and mortality in the world. Recent data have shown that bacterial infections, dyslipidemia, C - reactive protein and inflammation may also contribute to myocardial infarction and periodontal disease. **Objective:** The aim of the present study is to assess the link between periodontal disease and acute myocardial infarction (AMI). **Material and methods:** A total of 61 patients admitted in the Clinic of Cardiology for AMI or other type of cardiovascular disease (CVD) that can represent a risk factor for myocardial infarction, completed a medical questionnaire which included questions about their periodontal status: gingival issues (dental bleeding, gingival retraction and volume changes), dental issues (position changes, mobility). The analysis of these data allowed us to establish a presumptive diagnosis of periodontal disease. **Results:** A number of 35 patients had a history of myocardial infarction and 24 patients suffered from another type of CVD. After asking them if they have a form of periodontal disease, we found 5 patients with gingivitis and 8 with periodontitis. A presumptive diagnosis of periodontal disease was established in most of the patients, being present in 83.6% of the study population (n=51). At the same time, periodontal disease was recorded in a significantly higher extent in patients with AMI (n=34) as compared to the non-AMI group (n=17) (97% vs 50% p=0.005). **Conclusions:** The present study indicates that patients with current myocardial infarction or other cardiovascular disease present a form of periodontal disease most of the time undiagnosed and untreated. The association of these pathologies requires a careful monitoring of periodontal status to reduce the risk of myocardial infarction.

**Keywords:** periodontal disease, myocardial infarction, gingival bleeding, dental mobility

## EVALUATION OF IMPLANTATION PERFORMED TOGETHER WITH HORIZONTAL BONE AUGMENTATION USING TITANIUM MEMBRANE FIXED ON IMPLANTS

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**Background:** There are more methods to augment the alveolar bone in case of horizontal alveolar ridge hypotrophy. These methods usually involve two different operations. The easiest way to decrease the healing time and number of operations is to perform the implantation and the bone replacement at the same time. One of these methods is the horizontal bone augmentation with titanium mesh fixed on the implant. **Objective:** To evaluate the bone loss of alveolar bone 6-8 months after implantation performed together with horizontal alveolar augmentation used Osstem SmartBuilder® titanium mesh fixed on the implant in a retrospective study. The second objective is to evaluate the results obtained from the male and female patients. **Material and methods:** 81 titanium membranes were inserted in 53 patients (31 female and 22 male, age: 25-60, the study was conducted in a Hungarian private clinic). The titanium meshes were released and removed 6-9 months after the implantation. Implants: AlphaBio Tec® Bone replacement material: Bio-Oss® Clinical tests: Inspection, documentation of complains and complications, control of the quality of the formed bone with probing. Orthopantomogram (OP) examination: Detection and comparison of bone levels on the postoperative- and on the OP picture made at the time of titanium mesh elimination (SIDEXIS neXt Generation). Statistic: Mann-Whitney U test, and two-sample t-test (p 0,05). **Results:** Complete new bone formation: in 58 cases, partial: 18 cases, regeneration with connective tissue: 5 cases. Measurements: the average of vertical bone loss: 0,92 mm mesially; 0,58 mm distally. **Conclusions:** Horizontal bone augmentation with Smart Builder titanium mesh fixed on implants is an effective method to increase the bone volume around implants. This method decreases the healing time. The risk of complication is low. Connective tissue recovery supports the dental implant and creates thick mucosa layer. There is no difference between male and female recovery.

**Keywords:** Implantation, Titanium, Membrane

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## THE PSYCHOSOCIAL IMPACT OF DENTAL AESTHETICS AND THE ORTHODONTIC TREATMENT

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**Background:** This paper describes the relation between the PIDAQ questionnaire and the orthodontic treatment for the dentistry students. It also shows how much the students know about the functions that are affected by malocclusions. **Objective:** The aim of this study is to show that there is a psychosocial impact of dental aesthetics on the subjects who consider an orthodontic treatment as necessary. **Material and methods:** A questionnaire with more items was assessed for students from all stages of Faculty of Dentistry UMF Targu Mures. 292 students were divided in 5 groups: 1-students that are have been treated with a fixed orthodontic treatment and begun it before embarking on their university studies 2-students that are or have been treated after the university, 3-students that are sure that they will receive a treatment, 4-students that want a treatment or think about it and 5-students that haven't been treated, they aren't and they won't be. The collected data were processed with Microsoft Excel and the methods included an applied ANOVA and Turkey Cramer procedure. **Results:** There is a strong correlation between the category and the PIDAQ score. Group number 4 has a totally different PIDAQ score than group number 1 and group number 5. The awareness of the affected functions by malocclusions is not related to the stage/year the student is in. **Conclusions:** The dentistry students that are psychosocially affected by their dental aesthetics want or think about an orthodontic treatment. The students who consider they don't need a treatment and the students that have been treated before the faculty are satisfied with their dental aesthetics.

**Keywords:** orthodontic treatment, PIDAQ, dental aesthetics

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## DENTINAL ADAPTATION OF CONVENTIONAL ROOT FILLING MATERIALS: A SCANNING ELECTRON MICROSCOPIC STUDY

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**Background:** The final objective of endodontic treatment is the hermetical three-dimensional seal of the endodontic space. It has been considered as one of the most important parameters that guarantees a long-term success of root canal therapy. **Objective:** We conducted an in vitro study based on scanning electron microscopy, which aimed to compare the dentinal adaptation of gutta-percha to dentine root obtained by using three endodontic filling techniques. **Material and methods:** In 15 permanent single rooted teeth, root canal preparations were carried out using ProTaper rotary instruments. The specimens were divided in three groups and the root canals were randomly sealed by Thermafil, cold lateral condensation and continuous wave of condensation techniques. The specimens were split in half and examined under scanning electron microscope in order to evaluate the quality of interface adaptation between the gutta-percha and radicular dentin. The measurements of voids were made using RadiAnt DICOM viewer computer program and the data was statistically evaluated by SPSS software package. The level of significance was set at 5%. **Results:** The best adaptation of the root canal material was observed when warm gutta-percha was used by continuous wave of condensation, a difference that was statistically significant ( $p < 0.05$ ) compared to the other two techniques. **Conclusions:** Based on the scanning electron microscopic evaluation, the interface between radicular dentin-filling material presented the best adaptation when continuous wave of condensation was used.

**Keywords:** endodontic filling techniques, gutta-percha adaptation, Thermafil, system

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## CLINICAL-STATISTICAL STUDY SHOWING THE IMPORTANCE OF SUPERNUMERARY TEETH AMONGST A LOT OF PATIENTS FROM TIRGU MURES

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**Background:** Supernumerary teeth have got a high impact amongst isolated dental anomalies but also along

pathologist orthodontists. They can be found in all dental regions, can come out or stay inside, however complications can cause serious problems. **Objective:** The main objective of this study is the evaluation of supernumerary teeth in patients with orthodontic treatment in Tîrgu Mures, looking at demographic characteristics, location and etiopathogenesis. **Material and methods:** We have analysed a group of 145 patients with ages between 7-14 with different dental-maxillary anomalies who came at the CIMD Clinic between 2015 and 2017. Out of this lot we have diagnosed 36 patients with supernumerary teeth which meant 7.2% of the orthodontist patients. They have been clinically and radially investigated and the diagnosis was based on an OPT, a mock study/exam (intra -orally and extra -orally ). **Results:** Out of our 36 patients we have identified 56 such problems. On average, there has been 1.55 supernumerary tooth per person: 66,6% present a supernumerary tooth, 19,44% present 2 supernumerary teeth, 11,11% present three supernumerary teeth, 2,77 present 6 supernumerary teeth and other 2,77% have presented a surplus, with a frequency on the frontal area. Supernumerary teeth can coexist without dental bud, however on a lower percentage - 1% - and this complicates orthodontic therapy. **Conclusions:** Although there is reduced frequency, dental surplus can cause multiple problems with neighbouring teeth and its presence can cause a very un-aesthetic look.

**Keywords:** supernumerary theet, inclusion, orthodontist, anomaly

## ANALYSIS OF BOLTON'S TOOTH-SIZE DISCREPANCY FOR THE ORTHODONTIC POPULATION IN MURES COUNTY

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**Background:** There has always been a concern for the aesthetic and functional issue of malocclusion. One of the tools which help orthodontists in making a treatment plan is the Bolton Index, which helps to determine the inter-arch tooth-size discrepancy. **Objective:** The aim of this study is to examine the applicability of Bolton's ratios by comparing the Bolton's anterior and overall ratios among males and females in the orthodontic population of Mures County. **Material and methods:** A total of 70 pairs of dental study casts (35 male and 35 female) were selected from patients treated in the Orthodontics Department of University of Medicine and Pharmacy Targu Mures. The mesio-distal widths of each tooth from the first molar to the first molar for overall ratio and canine to canine for anterior ratio were measured using a digital caliper. The ratios were calculated using Bolton's analysis. A two-sample Student's t-Test analysis was carried out to compare the means of the index between sexes of the anterior and the overall ratio with the level of statistical significance set at  $p < 0.05$ . **Results:** For the anterior ratio, the mean value was 77.32 for females and 79.13 for males, and for the overall ratio 90.83 for the female group and 91.64 for the male one, which showed a small difference, but not a significant one ( $p=0.08$  for the anterior ratio and 0.2 for the total ratio). These ratios are comparable to the Bolton values with no significant difference. **Conclusions:** This study has indicated that there is no statistically significant difference when comparing Bolton values of females and males anterior and overall ratios, but the evaluation should be tested on a larger population. The ratios are comparable to the Bolton Index, which concludes that the analysis can be applied to this population irrespective of gender.

**Keywords:** Bolton's analysis, anterior ratio, overall ratio

## THE DENTAL IMPRESSION: A DIGITAL APPROACH

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**Background:** Digital impressions represent the virtual replica of both the soft and hard tissues in the mouth, taken by using an intraoral scanner with 3D laser technology. **Objective:** The purpose of the study was to expose the difference between the learning curves of both new and more experienced generations of dental practitioners regarding intraoral scanning and digital dentistry. **Material and methods:** To fulfill the purpose of the study, after a brief introduction and "how-to" course, both generations of dental practitioners were asked to complete the scanning and basic chairside CAD (computer aided design) routine in order to get to the final step of the process, a ceramic crown or an inlay. There were 10 different cases and for each case there was measured both the time required for scanning and the correctness of the occlusal adjustment, the efficiency of file processing and the

accuracy of the marginal adaptation. Subsequently, the digital impressions (STL files) were sent to the laboratory for a comparative and qualitative analysis. **Results:** The younger generation representative performed correctly all the stages of the scanning and digital design process from the first attempt, while the older, yet more experienced generation representative encountered difficulties in marking the edges of the preparation and correctly positioning the occlusion. Also, the time required for scanning was on average 15 minutes shorter among younger dentists. **Conclusions:** The younger generation, taking this device as a gadget, has a shorter learning curve with lower initial costs. For the senior generation representatives of dentists, the curve of learning is higher, and the initial costs directly proportional to it. The young dentists, less experienced, have developed their digital scanning abilities much faster and have been more flexible and adaptable, while seniors needed much more training in digital literacy.

**Keywords:** digital, impression, CAD/CAM

## GREEN DENTISTRY “WAYS TO BE ECO-FRIENDLY”

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**Background:** Nowadays it is extremely important to understand the significance of being eco-friendly in every aspect of our daily life. Moving towards 'Green dentistry' should not be an option, but a necessity. **Objective:** The main purpose of this study is to compare the rate of implementing the 'Green Dentistry' concept in Romania versus other countries in Europe and the whole world. We want to highlight the importance of being eco-friendly and also to show how far is Romania from being Green in the dentistry field. **Material and methods:** According to the worldwide literature 'Green Dentistry' reduces the environmental impact of dentistry. There are some simple steps which must be followed to achieve and maintain a green future. The Eco-friendly dentistry idea encourages dental practitioners to implement new strategies. For example, introducing the principal of 4 R's (Re-think, Reduce, Re-use, Recycle) is a big step for being eco-friendly. **Results:** Green Dentistry is a revolutionary eco way of dental practice which is totally environmentally friendly. At the same time, this concept was created to reduce the waste, to conserve energy and to decrease the pollution by using the latest technology and procedures. In Romania, dental offices which claim that they are eco, they are simply not using amalgam and using economic bulbs instead. **Conclusions:** Even if we succeeded in following and implementing all eco friendly principles and the green recommendations, we would not be able to create a total 'Green Dentistry' office. Unfortunately in Romania this concept is still a long way from being applied not only because of the fact that this subject it is not a priority, but also because the lack of unitary involvement in this field.

**Keywords:** eco-friendly, environment, waste, Green dentistry

## DENTAL IMPRESSION OF A FULLY EDENTULOUS PATIENT WITH UNILATERAL FACIAL NERVE PALSY

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**Background:** Facial paralysis is defined as a temporary or a permanent loss of function. It has a multitude of etiologies such as immune or viral diseases, trauma or ischemia of nerve. In the prosthodontic management of complete edentulous patients with this neuromuscular disorder, the general principles of complete denture design are basically the same. The disorder does affect the design of particular surfaces or parts of denture and it may be difficult to make a dental impression. **Objective:** The purpose is to describe the „special” dental impression and management of complete edentulous patients suffering from unilateral facial paralysis. **Material and methods:** Preliminary impressions were made with a normal set irreversible hydrocolloid (alginate). This impression technique is a special one because there is no collaboration from the patient. The selective-pressure impression technique was used. Custom trays were fabricated using a photopolymer resin. The final impression was made with light condensation silicone with a normal set. In this particular case, the muscular zone record is obtained by the doctor: to make specific muscular movements of the lips, cheeks, tongue and jaws (open/closure and lateral). For the final impression a combined impression technique was used. The complete denture was done with classic acrylic resin. **Results:** Impressions were analyzed through inspection and comparison. The custom tray required a specific adaptation to facilitate the dental impression. The final impression contributes to the integral prosthesis base so it

was necessary to carefully and conscientiously scroll the steps to the special impression technique. **Conclusions:** In special cases of fully edentulous patients, the impression technique is a specific one (combined impression technique) because the patient cannot perform physiologic movements. The doctor needs to register the mucosal resiliency and functional margins of the denture, so it is difficult to get a functional impression. In this cases of prosthetic treatment, the complete detachable denture needs to be individualized.

**Keywords:** unilateral facial paralysis, dental- impression, edentulous

## EVALUATION OF GAP DEFECTS AT TOOTH - COMPOSITE RESIN INTERFACE OF CORONAL RESTORATIONS: A SCANNING ELECTRON MICROSCOPIC STUDY

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**Background:** An important factor that influences the clinical performance of resin-based composite restorations is the volumetric contraction after polymerization. This leads to postoperative pain, marginal gap formation, discoloration and often to replacement of restorations. **Objective:** The aim of our study was to evaluate the interface between dentine and five resin-based composites usually used for the restoration of coronal defects, by measuring the gaps width on Scanning Electron Microscopic images. **Material and methods:** We used 30 freshly extracted lateral teeth in which class I and V cavities were prepared and randomly selected in order to be restored with one of these resin based composite materials: Dentsply Sirona Ceram.X, Kerr Herculite XRV Ultra, Kerr Herculite XRV, SDI Wawe, Dentsply Sirona SDR. After completion of the restorations, all teeth were longitudinally sectioned at coronal level and the interfaces between dental hard tissues and materials were examined by SEM. The widths of the defects observed in each group were measured using Image Pro Premier Computer program and the results were statistically analyzed with Graph Pad Prism 7 program by one-way ANOVA and Turkey's multiple comparison test; the level of significance was set at a value of  $p < 0.05$ . **Results:** The gap formation was noticed in the majority of specimens, with differences between groups regarding the number and size of the defects. The best adhesion of the composite resin was noted when SDR bulk-fill flowable composite (Dentsply Sirona) was used; it showed less gap formation compared to the other materials used, with a statistically significant difference ( $p < 0.001$ ). **Conclusions:** None of the materials tested could totally prevent gap formation at the interface with the dentine. SDR composite showed a significantly less marginal gap formation, with reduced width values. This is of utmost importance in clinical situations, as one of the treatment goals is to prevent marginal microleakage.

**Keywords:** Microleakage, Gap Formation, Composite Resin, SEM Observation

## THE AESTHETIC ROLES IN DENTISTRY REGARDING DENTOFACIAL AND CONSTITUTIONAL CORRELATIONS

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**Background:** The aesthetic equilibrium means the balance between dentofacial and constitutional aspects. **Objective:** The aim of this study is to analyse the correspondence between the morphology of the teeth, the facial contour and the constitutional type and the use of these data not only in dental aesthetics and orthodontics but also in forensic medicine and in the therapy of total and partial edentation. **Material and methods:** We had 28 volunteers: dentistry students, 14 males, 14 females, 20-25 years, with intact upper-central-incisors. We did individual photographic analyzes and measurements: separate frontal photos of the face and upper-central-incisors. We made correspondences between the facial contour in frontal norm and the constitutional type. Also, we made connections between the aesthetic perception of the "patient" and the obtained correlation. **Results:** In the study group there is a great dentofacial and constitutional variation. The patients' aesthetic perception over their smile was not related only to the ideal measurements (upper-central-incisors-facial contour), but also other aspects of aesthetic interest (position of mouthpieces, oral corridor, shape, position of upper lip). Thus, an ovoid upper-central-incisors correlated with a square face in women is considered aesthetic, whereas in men is unaesthetic. Also, in women, even if the measurements had "ideal" results, the assessment of aesthetic self-esteem was not considered harmonious. Measurements can be used as benchmarks in total edentation therapy, direct mock-up, wax-up, aesthetic restorations. **Conclusions:** The morphological variants of the upper-central-

incisors can fit into the general shape of the face and can be correlated with the constitutional type, but the existence of ideal proportional values does not necessarily mean fitting into the dental aesthetics norm for patients. The aesthetic review should also consider other individual aspects. The vestibular surface of the upper-central-incisors should be correlated with both the surface morphology and the axis of the arched tooth.

**Keywords:** upper-central-incisors, facial contour, aesthetic, morphological variants

## STRANGE PARTICULARITIES IN TEETH MORPHOLOGY

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**Background:** Permanent teeth represents a great morphological variability which, most of times, may be surprising. **Objective:** We have tried to demonstrate the existence of some particular morphological elements. In addition to the well-known elements, there are also tuberculum or "no name" morphological aspects that can be often encountered when it comes to practice. **Material and methods:** We have identified such "no name" positive relief formations on dental impressions made for didactic purposes, when working with Dental Medicine students volunteering for the study. We have clinically identified and analyzed these formations, we have photographed them both clinically and on study models as well. We have not included in the study the wisdom teeth, which have an extremely variable and unpredictable morphology. We have also watched the evolution of these teeth with particular elements from the clinical point of view. **Results:** Five such "no name" formations have been found within a number of 83 students, located at the side teeth level, with variable forms, position and dimensions, both on the vestibular and the oral side. These formations never reach the occlusal plane. Even if they are exclusively made of tooth enamel, we have noticed some mineralizing faults, enamel hypoplasia at that particular tooth and tooth enamel fragility. Some formations have the shape of miniature teeth, which may be interpreted as a morphological strangeness. **Conclusions:** There is a great dental morphological variability. Even though they are not involved in mastication, the eponym ("no name") formations are waiting for their name. The presence of these morphological elements may determine the appearance of some pathological dental problems and dentin hypersensitivity strictly located within that proper tooth. The teeth that present such elements need to be attentively supervised from the clinical point of view.

**Keywords:** positive relief, teeth-morphology, variability

## CASE REPORT: THE COMPLETE DENTURES-“PURELY STUDENT MADE”

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**Background:** The complete denture involves the replacement of the lost natural dentition, which is often an extremely difficult task for the dental technician and the prosthodontist. **Objective:** The study aimed at presenting the clinical case of a total edentation that was successfully accomplished through purely student's collaboration. The aim of this study was to compare complete dentures made by two techniques: a traditional and a modern technique and to demonstrate theoretically and practically the advantages. **Material and methods:** The research was carried out on a clinical case, a total edentulous patient with a difficult prosthetic field. The updated technique involves classic impression of the total prosthesis layout with silicone for laboratory use and the use of an adapted acrylate injection technique. Considering the particularities of the case, under the guidance of a teacher, it was established the application of a special, updated conduct, by a fourth year student of Dental Medicine (who did the clinical part) and a third year student of Dental Technology (who made the technical part of the case). **Results:** The result was a special one, both functional and aesthetic, representing the sum of the effort of the two students and the guiding teacher. There are many advantages to this technique which include reduced treatment time, increased patient acceptance especially for the elderly who may not adapt so well to a new prosthesis, maintenance of tooth position and vertical dimension, the fitting of the teeth was individualized in order not to trace the existence of the complete denture. **Conclusions:** The complete dentures can be a treatment solution even in young edentulous patients. For achieving better quality of denture was used a new technique. The team-work between students of various study programs of the Faculty of Dentistry is a necessity to the benefit of the patient.

**Keywords:** Complete dentures, Advantages, Team-work

## ORAL SELF MUTILATION IN INSTITUTIONALIZED CHILDREN: REPORT OF A CASE WITH ANALYSE OF LITERATURE

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**Background:** Self mutilation is defined as a behavioural disorder that consists of intentional damage to body tissues but is not associated with a conscious intent to commit suicide. Oral self mutilation in institutionalized children occurs amid emotional, behavioral or even organic disorders. Common to these children is the lack of basic feelings, fundamental for their normal mental development and those who occupy their place (neglect, loneliness, isolation, inner void or lack of connections with the world). **Objective:** The purpose of this study is to make an analysis of literature, on this subject, and to support the found ideas through one case of oral self-injury in an 15 years old infant. **Material and methods:** I have studied a number of 45 articles about self injuries in institutionalized children, which brought to light cases like superior and inferior members, neck, head and hair, genital organs or multiple organs self-injuries. A 15-year-old girl was referred to the Pedodontics Department from the Integrated Dental Medicine Center, in the University of Medicine And Pharmacy, Târgu Mureş with a superior lip lesion, self made by repeated biting with her frontal inferior incisors. **Results:** From the review of literature, it resulted that self harm among abandoned children is frequently encountered. The examination of 10 abandoned children, with ages between 10 and 16, brought to light just one case of self mutilation. **Conclusions:** Early detection of these lesions is important, so that they do not get worse or malign. Also, for preventing the need for self mutilation, these children need the help of a psychiatrist or a doctor.

**Keywords:** oral, self injury, children, behaviour

## BIOHPP VS TRINIA FOR METAL-FREE SUBSTRUCTURES IN PROSTHODONTICS

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**Background:** The apparition of reinforced polymers, such as BioHPP and Trinia, used for core in non-metallic prosthetic restorations, was determined by the development of new classes of dental materials. **Objective:** The aim of the study was to present our results in the use of BioHPP and Trinia resins as core in fixed prosthetic rehabilitation. **Material and methods:** The research was performed on 33 patients which we rehabilitated with 71 fixed prosthetic restorations. In this research, we used six evaluation criteria over two and a half years period, in biannual monitoring meetings for registrations of comparative results in the use of these two biopolymer cores. **Results:** The results of the study demonstrated that both type of biomaterials exhibit a certain degree of elasticity and present many advantages. **Conclusions:** This study represents a beneficial acquisition in patient's oral prosthetic rehabilitation.

**Keywords:** BioHPP, Trinia, Prosthetic restorations, Comparative evaluation

## TRINIA BIOPOLYMER AS CORE FOR IMPLANT SUPERSTRUCTURES

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**Background:** The development of new classes of dental biomaterials determined the apparition of Trinia, a Computer-Aided Design/Computer-Aided Manufacturing (CAD/CAM) reinforced polymer, used as core in non-metallic prosthetic restorations, including implant superstructures. **Objective:** The aim of the study was to present the results in the use of the Trinia polymer as non-metallic core on the abutments of Bicon implants. **Material and methods:** 15 patients were selected, 9 females and 6 males, aged between 31 and 50 years old. Six evaluation criteria were used over 18 months, for the registration of the results in the use of the Trinia Biopolymer as core for

implant superstructures. **Results:** The patients did not complain about inconveniences related to the oral rehabilitation with this biopolymer. **Conclusions:** We ascertained that Trinia reinforced polymer had a very good behavior in the oral cavity.

**Keywords:** Oral rehabilitation, Dental implants, Trinia reinforced polymer

# PHARMACY

## EATING DISORDERS CAUSED BY STRESS IN RATS. CORRELATIONS WITH THE HUMAN SPECIES

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**Background:** Despite many scientific data referring to eating disorders caused by stress, the results of these publications remain contradictory due to multiple factors involved in the control of alimentary habits. Stress can lead to an orexigen or, on the contrary, anorexigen effect, depending on the individual, on the type and duration of stress. Even if experimental studies on animals can be extrapolated to the human species, with the limitations caused by the differences between species, behavioral studies are difficult to perform because animals react instinctively, unlike humans, who consciously can control their cravings. **Objective:** Establishing the main factors involved in the appearance of qualitative and quantitative eating disorders caused by stress. **Material and methods:** A study of scientific databases PubMed, Science Direct, Toxnet, using as key words: stress hyperphagia, junk food, chronic overnutrition, obesity, overfeeding. **Results:** This study proves that a correlation between stress and eating disorders exists. Among the chemical mediators involved in the induction of these disorders, an important role is assigned to adrenaline and dopamine. Although, theoretically, dopamine decreases the appetite, as a mediator of the reward centre it can determine the animal to consume junk food, in stressing conditions. Regarding the chronic stress, the released cortisol is responsible for the modifications of metabolic parameters such as glycaemia, total plasma cholesterol, triglycerides. **Conclusions:** Just as in the human species, chronic stress can lead in some cases to hyperphagia, but it was evidenced not only an increase in the quantity of consumed aliments, but also a change of alimentary preference, in favor of aliments with high glycemic index or lipids content.

**Keywords:** stress hyperphagia, junk food, chronic overnutrition, obesity

## WOOD BARK AS VALUABLE RAW MATHERIAL FOR COMPOUNDS WITH BIOREGULATOR EFFECT IN LEMON BALM (MELISSA OFFICINALIS L.) PLANTS

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**Background:** In the last time, biomass has attracted research and commercial interest of industries to find new solutions to a sustainable economic growth. In these circumstances, special attention was given to biomass biorefinery valorisation. **Objective:** It consists in the evaluation of the effect of some global extracts rich in polyphenols (spruce bark phenolic extract-SBPE and beech bark phenolic extract-BBPE), on the growth and development of lemon balm (*Melissa officinalis* L.). The extracts have been obtained from the classic method of aqueous extraction using spruce (*Picea abies* L.) and beech (*Fagus sylvatica* L.) bark as raw materials. These extracts have been previously characterized in terms of quality and quantity, regarding their content in polyphenols. **Material and methods:** For the effect evaluation on the germination it has been determined the germinative capacity. For the result assessment on growth and development of lemon balm it has been determined elongation and biomass accumulation, photosynthetic pigments content and also histological and anatomical changes that occur in the plant. **Results:** It has been noticed an increase of elongation and biomass accumulation in the plants treated with BBPE and also an increase of photosynthetic pigments content. The SBPE had a stimulatory effect on the germination but inhibiting the growth and development of lemon balm. On histological and anatomical levels it has been observed that the BBPE treated plants show an improved development of the vascular system and mechanical tissue in plants compared to the control sample. Regarding SBPE treated plants it has been noted an amplified lignification. **Conclusions:** The results highlight the bioregulator effect of the SBPE and BBPE. This results can contribute to the development of the aromatic plant in ecological crops. Future research is needed in order to identify potential qualitative and quantitative changes in the essential oil of aromatic plants previously treated with the tested solutions.

**Keywords:** lemon balm, extract, bark, polyphenol

## STUDY REGARDING THE USE ANOREXIGENIC AMPHETAMINES IN THE TREATMENT OF OBESITY.

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**Background:** Obesity is currently one of the most problematic pathologies, being a consequence of a sedentary life style or genetic disorders. In order to combate this pathology which can lead to various health consequences or to correct aesthetic defects due to excessive fat deposition in various areas of the body, the use of anorexigenic amphetamines has become a controversial issue. **Objective:** Amphetamines are excitants of central nervous system, antagonists of sympatholytics, that are also called awakening amines. Two of the main effects of amphetamines are the psychomotor stimulation and the anorexic effect that is going to be presented in this paper. **Material and methods:** The anorexigenic effects of these substances can be explained by a combination of noradrenergic, serotonergic and dopaminergic mechanisms which produces a fast and effective removal of the excessive adipose tissue. At the hypothalamic level, anorexigenic amphetamines inhibit the center of hunger and stimulate the center of satiety. **Results:** The effectiveness of these substances is limited by the concomitant follow-up of a hypocaloric diet. The major drawback of these substances is the psychological dependence which can appear after a short time since the initiation of the treatment. A current issue is also the illegal adulteration of some food supplements and drugs with anorexigenic substances. All the amphetamines, are classified as controlled substances due to the abuse and dependence potential. In recent years, several anorexigenic drugs, have been withdrawn from the market because of their adverse effects. **Conclusions:** The paper highlights the toxicological effects resulting from the long-term administration of these psychotropic substances. In addition, the effects and safety of the medications available for the treatment of obesity including the ones that were withdrawn from the market are being presented and discussed.

**Keywords:** amphetamines, anorexigenic, obesity, substance abuse

## TEHNOLOGICAL ASPECTS OF ORODISPERSABLE FILMS IN PEDIATRIC ADMINISTRATION

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**Background:** Orodispersable films (ODFs) are a group of therapeutic drugs which are commonly used for patients that manifest swallowing difficulties, children and elder. This pharmaceutical form do not require any amount of water to be administered, being dissolved on the tongue. Their version can be improved by adding excipients for taste masking, thus offering more compliance regarding children. **Objective:** The pharmaceutical industry from Romania, or even Europe offers a highly restricted range of pharmaceutical substances administrated as orodispersible films, furthermore a product which is meant exclusively for children. In addition to this, the aim of this paper consists in an elaborate research of the possibilities which come along with this form of administration, that facilitate the intake of many commonly used active substances with antiinflammatory, antiemetic or antiallergic action. **Material and methods:** To produce the ODFs by solvent casting method are frequently used HPMC, HEC or Povidone K90 as hydrophilic polymers which serve as film formers. Sorbitol is known as sweetening agent; citric-acid, malic-acid, ascorbic-acid are known as saliva stimulating agents; glycerol, for its plasticizer properties and water or ethanol as solvents. Control tests are insured by organoleptic evaluation, mechanical and swelling properties, transparency, contact angle, content uniformity, disintegration time, in vitro dissolution test, visual inspection and surface pH. **Results:** Studies have shown that ODFs having an area from 5-20 cm<sup>2</sup> disintegrate faster, also active pharmaceutical ingredients and excipients must be used in limited concentrations for maintaining their flexibility and optimal physical properties. Various substances with different actions were incorporated into ODFs like salbutamol-sulphate, verapamil, indomethacin **Conclusions:** Pediatric therapy has always demanded a more certain attention, accurate administration playing an important part in this circumstance. ODFs can be a future alternative to conventional pharmaceutical forms and being unitary doses they exclude administration errors.

**Keywords:** orodispersable films, pediatric therapy, innovative pharmaceutical form

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## POLYPHENOLS, FLAVONOIDS AND VOLATILE OILS FROM AERIAL PART OF ARTEMISIA ANNUA L.

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**Background:** *Artemisia annua* L. (sweet wormwood) is a herbaceous plant belonging to the Asteraceae family. Originating in the temperate Asia, it was used a long time as a febrifuge. In 1971, a priceless discovery was made, the *artemisinin*. The chinese scientist Tu Youyou observed the antimalarial effect of the plant extract by testing it on primates. The plant contains polyphenols: flavonols (artemetin, kaempferol), flavones (apigenin, luteolin), coumarins (coumarin, aesculetin), phenolic acids (chlorogenic acid, quinic acid) and volatile oil with sesquiterpente lactones (artemisinin). **Objective:** The aim of this study is to determine the presence of volatile oils, flavonoids and polyphenols qualitatively and quantitatively from *Artemisia annua* herba. **Material and methods:** The aim of this work is to determine with the thin layer chromatography the presence of volatile oils, flavonoids and polyphenols. The total flavonoids (expressed through quercetin (CVE)) and the total polyphenols (expressed through gallic acid (GA))/100g of vegetal product coming from plants cultivated in Romania and Germany with (M+) or without (M-) mycorrhiza was determined spectrophotometrical by *Cynarae folium* monography from the Romanian Pharmacopoeia Ed. X. **Results:** The volatile oil, flavonoids and polyphenols were present in each sample with many fractions on chromatographic plate. The concentration of active principles from plants cultivated in Romania was higher [(M+) 350mg% CVE, 360mg% GA; (M-) 575mg% CVE, 700mg% GA] than the concentration of active principles cultivated in Germany [(M+) 170mg% CVE, 167mg% GA; (M-) 352mg% CVE, 111mg% GA]. **Conclusions:** The plants cultivated in Romania contain a higher concentration of active principles than the plants cultivated in Germany. In addition, it seems like the mycorrhiza affects the volatile oil, polyphenol and flavone synthesis in *Artemisia annua*.

**Keywords:** *Artemisia annua*, polyphenols, flavonoids, volatile oils

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## CHROMIUM TOXICITY AND HUMAN HEALTH

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**Background:** Chromium (III) is a widely used food supplement recommended for weight loss and decrease of sugar craving. The health effects depends of the oxidation state of the metal, chromium (VI) being a known toxicant and a health hazard. **Objective:** The propose this work is to highlight the difference between the chromium (III) and chromium (VI) and to show the health risks associated with the contamination of chromium (III) food supplements with chromium (VI) **Material and methods:** Study of the scientific literature and international regulations regarding the toxic effects associated with chromium (VI), as cancer and other health issues. **Results:** International regulatory agencies and scientific literature highlight the health risks associated with chromium (VI) exposure. Being sold as food supplement, there is no regulations about the contamination of chromium (III) with chromium (VI). **Conclusions:** Regulations about food supplements and especially those containing chromium (III) should be enforced because the lack of laws in this field can lead to severe health hazard if chromium (III) food supplements are contaminated with chromium (VI).

**Keywords:** chromium, public health, food supplements

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## THE NEUROENDOCRINE SIDE EFFECTS OF SSRI'S - GOOD OR BAD?

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**Background:** SSRI's are used for more than 30 years to treat depression and affective disorders in which serotonin plays an important role. This etiological factor was called "monoaminergic theory" and has the disadvantage that it is too simplistic and not fully explains the mechanism by which these compounds have the ability to produce a clinical effect only after a period of latency to onset of administration (3-4 weeks), although the

level of serotonin increases significantly after the first administration. **Objective:** The purpose of this paper is to highlight both beneficial hormonal changes and the destructive endocrine effects that these antidepressants can have, along with the possible mechanisms involved. **Material and methods:** The literature review of scientific data from platforms like ScienceDirect, PubMed, Toxnet. **Results:** Chronic administration of SSRI's can affect the hypothalamic-pituitary-adrenal (HPA) axis and effectively reduces cortisol level. But, impairment of the HPA axis is implicated in the etiology of depression and this particular effect may explain their therapeutic action. By stimulating the suprachiasmatic nuclei, SSRI's increase also melatonin levels, in depressed patients lower plasma melatonin levels being identified. Hyperprolactinemia was identified in patients receiving escitalopram or sertraline that negatively influence the libido, the arousal and induce anorgasmia. These sexual side effects can be explained also by elevated oxytocin levels in the brain. In-vitro studies demonstrated that SSRI's have weak estrogenic effect at lower concentrations and antiestrogenic effect at higher concentrations and can affect steroidogenesis and fertility. **Conclusions:** Depression is a complex disorder. Increasingly number of studies demonstrate that the effects produced by SSRIs are mediated by other complementary mechanisms, and that, starting with the enhancement of serotonergic transmission, over time, a series of complex adaptive modifications are produced. These changes often affect the endocrine system, but not all of these side effects are harmful, on the contrary, some contributes to their therapeutic effect.

**Keywords:** SSRI, melatonin, estrogen, hyperprolactinemia

## POSSIBILITY OF USING EXTENDED RELEASE MORPHINE TABLETS FOR RECREATIONAL PURPOSE

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**Background:** It was discovered that the speed of entrance in the central nervous system is the most important factor that influences the euphoria associated with opioid use. Therefore, extended release tablets were developed with the purpose of a longer analgesia and to minimize the risk for the patient to feel the euphoric effects of morphine and to develop addiction to this substance. **Objective:** We intended to study the effect of grinding, on the dissolution profile of morphine extended release tablets and the possibility to recreationally use such tablets. Forums written by drug users advice the grinding process as a way to increase the speed of absorption and therefore, the euphoric properties of this type of medication. **Material and methods:** The speed of dissolution of extended release morphine tablets were measured for grinded and whole morphine tablets. A modified dissolution test and an HPLC-UV method was used for measuring morphine concentration. **Results:** Significant increase in the dissolution speed was observed for the grinded tablets. **Conclusions:** Our results suggest that grinding extended release morphine tablets is a way that can turn a medicinal product into a recreationally usable product.

**Keywords:** morphine, recreational use, extended release tablets

## TO BE THIN OR NOT TO BE FAT, THAT IS THE QUESTION!

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**Background:** Nowadays, for most people, life is a permanent struggle between the desire to consume energy-dense and tasty food, such as junk-food, and achieving that beauty standard imposed by the society. In this continuous struggle, psychiatric disorders such as bulimia and anorexia nervosa often prevail and predispose to deviations from normal BMI through overeating or malnutrition. **Objective:** The aim of the present study was to identify the causes of mortality and morbidity in the general population in relation to BMI, among patients with different weight categories (i.e. underweight, normal weight and overweight/obese). **Material and methods:** We summarized and analyzed the published literature data on the metabolic advantages and disadvantages between overweight and underweight patients. The analyzed data were obtained through biomedical search engines such as ScienceDirect, Pubmed, Google Scholar, etc. **Results:** Studies revealed that the number of obese people worldwide now exceeds those who are underweight. According to WHO (World Health Organization) worldwide obesity has nearly tripled since 1975. In 2016 39% of adults aged 18 years and over were overweight and 13% were obese while the percentage of underweight people decreased slightly since 1975 from 10% to 8%. As expected, the incidence and mortality from cardiovascular cause (cardiac failure) is higher for obese people, but

paradoxically Kaplan-Meier curves show that in case of survival, people with BMI above 30.1 kg/m<sup>2</sup> had a better recovery and better long time prognosis. In underweight patients, low bone mineral density predispose to higher risk of hip fracture, the 6-month mortality risk being double in underweight men compared to women. Fertility assessment studies revealed an increased estrogen/testosterone ratio in obese young men. **Conclusions:** Not only the eating habits (restrictive diets or rather, diets with optimal balance between proteins, carbohydrates and lipids) but also the lifestyle, physical activity levels and resistance exercise can positively reduce the risk of chronic disease.

**Keywords:** obesity, cardiovascular, food, osteoporosis

## FUNCTIONAL FOODS WITH OMEGA-3, PERKS OF USING SWINE BRAIN IN HUMAN DIET

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**Background:** The European's diet is poor in Omega 3 fatty acids, and often Omega-3/Omega-6 ratio is less than 1 (the real ratio it's approximately 1:12-15 in favour of Omega-6 fatty acids), except the mediterranean countries, where the fish meat is more consumed. **Objective:** Extracting data from the scientific literature regarding the content of Omega-3 fatty acids in different sources of meat and checking the omega-3/omega-6 ratio of the alimentary source that is considered the most eligible for human consumption from the point of view of the EPA and DHA content reported to arachidonic acid, except fish meat. **Material and methods:** Through sources of information on the internet, using searching engines (Pubmed, ScienceDirect, Toxnet), it has been proved for being the most eligible alimentary source according the omega -3 content, reported to price, the swine brain. To determine the omega-3(EPA+DHA)/omega-6 (AA) ratio, we performed a HPLC-UV method using as a mobile phase an isocratic mixture (A:B - 5:95) with the mobile phase A - 25% acetonitrile in water and mobile phase B, acetonitrile. Separation was made with a Phenomenex C8 150x4.6 mm, 5 µm chromatographic column. **Results:** The swine brain contains a EPA+DHA/AA ratio of 0.572±0.451, that even if it is inferior from the fish meat, it is superior than the vegetal sources of omega-3 where polyunsaturated fatty acids are present as forerunners, which in the human body need more steps such as catene unsaturation and elongation. This Omega-3 content can be made by feeding the pigs with swine food improved with fish meal. **Conclusions:** Omega-3 fatty acids play an essential role in reducing the cardiovascular diseases in humans and improving seric lipids profile (TG, HDL, Total Cholesterol), so the swine brain can be a good alternative in the areas where fresh fish meat is harder to be procured.

**Keywords:** Functional food, Swine brain, eicosapentaenoic acid, docosahexaenoic acid

## THE INFLUENCE OF SOME CHEMICAL AND PHYSICAL CHEMICAL PARAMETERS ON THE ENZYMATIC ACTIVITY OF DETERGENTS ON THE ROMANIAN MARKET

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**Background:** The overpopulation and exhaustion of energy reserves of planet determines the modern society to search for alternative, ecological solutions for simple, current household activities. **Objective:** Although the use of enzymatic detergents has been signaled since the beginning of the last century, the chemical industry has invested a lot recently in the production of detergent compatible enzyme, with low allergenic potential, with increased efficacy at low temperature (below the optimal *in vivo* temperature of 37 °C) and low sensitivity at high temperature (over 60°C). **Material and methods:** Determination of amylolytic, proteolytic, lipolytic activity was performed using U1-Ultra Thermostatic Water Bath with adapted method from the European Pharmacopoeia 7th Edition for pancreatin powder. Water samples of different hardness were obtained from different counties and enzymatic detergents were selected from those available on Romanian market. **Results:** In contrast with the active enzyme *in vivo*, those from enzymatic detergent are less sensitive at extreme temperature values - the optimum temperature in case of enzymatic detergents for amylolytic activity was 34°C, lipolytic 33 °C, proteolytic 27 °C and the enzymatic activity is maintained even in case of temperatures over 60 °C. The hardness of water was determined through the complexometric method, the values obtained being between 2.82-22.81°dH. Four levels of hardness were selected: low, medium low, medium high, high. In the case of amylase there were no significant differences in enzymatic activity with the change in water hardness. The lipolytic and proteolytic activity in the

presence of divalent ions (even if the enzymatic detergents contain chelating agents in the composition) increases directly proportional with the water hardness. The difference between the values of enzymatic activities at the extreme hardness is statistically significant ( $p < 0.01^*$ ). **Conclusions:** Our study shows that the use of enzymes in detergents is beneficial by reducing the electricity consumption, shorter washing cycles and low water consumption.

**Keywords:** Enzymatic detergent, water hardness, amylase, lipase

## TRANSDERMAL FILMS WITH MELOXICAM. STRATEGIES TO IMPROVE SKIN PENETRATION OF DRUG

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**Background:** Skin barrier function links with some limits in drugs transdermal absorption, the penetration being significantly influenced by their physico-chemical properties. The incorporation of NSAID like meloxicam is justified by its pharmacological action and the need to reduce adverse reactions which occur with oral administration. **Objective:** The purpose of this study was to describe some bioadhesive films that could provide an optimal therapeutic effect through prolonged contact with the skin. The biofilms are characterized in terms of in vitro diffusion/penetration capacity of the drug through the synthetic membrane. One of the methods to increase the flow of drug through skin is iontophoresis. Thus under the influence of a low voltage current, the drug molecules are transported through skin with an electroosmotic flow. **Material and methods:** The biofilms were prepared by casting method. Meloxicam biofilms have been formulated using HPMC 15000 as matrix-former and propylen glycol in different ratio (10 and 30%) as penetration enhancer. The in vitro diffusion/penetration study of meloxicam was performed using Franz cell. **Results:** The data obtained from determination of the viscoelastic properties has shown an influence of the absorption promoters on them. The determination of then in vitro penetration of meloxicam showed an increase of concentration of propylen glycol from 10% to 30% has reduced the flow through synthetic membrane, but it had a favorable influence on the amount of drug release per cm<sup>2</sup>. **Conclusions:** The physico-chemical properties of biofilms and penetration of meloxicam are positively influenced by polymers matrix composition patches makers. A possibility of increasing transdermal absorption of a drug is the use of iontophoresis with low intensity electrical current. ( $< 0,5\text{mA/cm}^2$ )

**Keywords:** biofilms, meloxicam, transdermal penetration, iontophoresis

## CUMULATIVE MOISTURIZING EFFICACY OF TWO COMMERCIAL CREAMS AT USE ON DIFFERENT SKIN TYPES WITH DIFFERENT DEGREE OF SENSITIVITY

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**Background:** The hydration level of the superficial layers of the skin is an important factor in maintaining the barrier function and preserving the health of the skin. As a result, the moisturizing creams are common products in the daily skin care routine. **Objective:** Starting from the premise that the Natural & Organic product is better tolerated by the skin, this study aims the comparison of hydration efficacy of two different moisturizing commercial creams (PC1 - "Natural & Organic" and PC2, respectively) - commercial products intended for normal skin, in order to highlight possible differences when applied to other skin types. **Material and methods:** 1) Each volunteer of the group (female aged 20-30 years) was individually examined regarding the level of hydration, sebum, sensitivity, granulation, turgor and elasticity, in order to identify the volunteers' facial skin type, by visual examination under natural light, ultraviolet light (Wood's lamp) and the palpation methods. 2) Instrumental assessment (corneometer test) of the cumulative moisturizing efficacy. 3) Statistical analyzes significance at  $p \leq 0.05$ . **Results:** 1) Identified types of skin: light sensitive normal skin, sensitive dry skin, light sensitive oily skin, oily skin, and sensitive and light sensitive combination skins. 2) The degree of hydration at 4 points of the right face side (treated area - PC 1) and the same 4 points of the left face side (treated area - PC 2) was measured at the beginning of the study (control - C) and after 14 days of daily application (2x/day). 3) The statistical data were interpreted as follows: PC1 vs C1, PC2 vs C2, PC1 vs. PC2 (paired t-test), PC1-C1 vs. PC2-C2 (Anova test, unpaired data). **Conclusions:** The product certified as 'Natural & Organic' can be an alternative to be considered especially for the sensitive daily skin care. Limitations: the small number of cases considered in study.

**Keywords:** Natural & Organic cosmetic, moisturizing efficacy, corneometry

## THE LABELLED COSMETIC INGREDIENTS AND THE MICROBIOLOGICAL QUALITY OF A "NATURAL & ORGANIC" MOISTURISING CREAM VS. A MOISTURISING CREAM

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**Background:** A product labelled "Natural & Organic" is certified to be made up of only, or at least almost only natural ingredients which are obtained from controlled organic cultivation by manufacturing with appropriate processes to maintain the ingredients purity. Such compositions provide in principle greater tolerance and compatibility. **Objective:** As part of a larger study, this study aims to compare in terms of ingredients content and microbiological quality two different commercial products (PC 1 - "Natural & Organic" and PC 2, respectively), both presented in form of moisturizing cream with a durability of 6 months after the first opening of the package. **Material and methods:** 1) Comparative analysis of the ingredients listed on the labels of the studied products in order to identify their common ingredients. 2) Determination of the degree of contamination with pathogenic bacteria by the method of inoculating on specific culture media. **Results:** 1) The common cosmetic ingredients found in the both studied products were following: Glycerin, Simmondsia Chinensis (Jojoba) Seed Oil, Cetearyl Alcohol (moisturizing ingredients); Tocopheryl Acetate and Tocopherol. Their different position in the two labelled lists suggests different quantities for these ingredients in the products compositions. 2) The obtained negative results showed the absence in both products of the following categories of bacterial germs: unpretentious microorganisms (blood-agar medium), Staphylococcus aureus (Chapman medium), Enterobacter spp. (lactose-agar medium) and fungi (Sabouraud medium). **Conclusions:** The two analyzed cosmetic creams have different formulations and contain three common ingredients that are known as moisturizing ingredients. Both products have the ability to maintain free of pathogenic bacteria for at least four months after the first opening of the package.

**Keywords:** Natural & Organic cosmetic, moisturizing ingredients, microbiological quality

## LIPOSOMES - VACCINE DELIVERY SYSTEMS

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**Background:** Liposomes contain specific antibodies or antibody fragments on the surface of the phospholipid bilayer in order to increase binding to the target site. Although liposomes have been studied for various therapeutic applications, the main interest has been targeting of antitumor agents. These liposomes have the property of inducing humoral and cellular immunity in vivo, this fact representing the reason why they can be used as vaccine vehicles. **Objective:** This study aim is to highlight the benefits that liposomes can have if they are used as adjuvants in vaccines. **Material and methods:** Liposomes work as adjuvants, being a vital part of vaccines. Unfortunately only the humoral response is stimulated by these adjuvants. The adjuvants also include the production of Ig E antibody which may conduct in some cases to allergic responses. New and improved adjuvants may be needed for clinical use. Pattern recognition receptors are critical to native immune response, although they are considered a key target for producing a next effective vaccine generation. Mostly, these vaccines are created by entrapping antigens inside the hydrophilic central hollow. Anyhow, it is well known that encapsulated and surface-linked liposomal antigens induce both humoral and cellular immune responses. **Results:** The key benefits of using liposomes as a vaccine delivery system are: preventing antigens from degradation carry both hydrophilic and lipophilic antigens and control the release of antigens and cellular absorption enhancer. Liposomes can be modified in size, charge and membrane fluidity to improve their properties of target antigen presenting cells. **Conclusions:** Results indicate that vaccine based on liposomes may activate specific paths in the immune network.

**Keywords:** liposomes, vaccines, delivery systems

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## GLUTAMATE: FRIEND OR FOE? NEW BIOCHEMICAL METABOLIC ASPECTS

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**Background:** Glutamic acid (Glu) is a proteinogenic-aminoacid with an important role in the transport of ammonia in the organism as glutamine, which is a donor of nitrogen in the synthesis of purines and pyrimidine. Glu can be catabolized to  $\alpha$ -ketoglutarate or it can be used in glucose synthesis (glucogenic-aminoacid). Glutathione ( $\gamma$ -glutamyl-cysteinyl-glycine) takes part in the defense system of the organism which protects it from free radicals. **Objective:** Literature study to underline new benefic or detrimental metabolic implication of Glu in the organism. **Material and methods:** Review of literature articles (PubMed, DirectScience, GoogleScholar) involving the association of Glu in pathology and pathogenesis of some chronic and acute diseases. **Results:** Studies show that a deficit in glutamine, characteristic to neoplazic diseases, leads to cellular resistance to chemotherapy and it reduces tolerance in healthy tissues to cytotoxic side effects. In liver encephalopathy caused by hyperammonemia, Glu is used in intravenous perfusion in doses of 5.7g/L in order to transport ammonia in glutamine form. Second phase studies for innovative substances target metabotropic receptors for glutamate show that their activation produces the lowering of dopaminergic efflux at the dorsal striatum, which can lead to benefic effects in schizophrenia. Some negative effects of glutamate can be exitotoxicity through modifying the fraction between the excitatory and inhibitory neurotransmitters, Chinese Restaurant Syndrome or the modification of thyridian secretory follicular cells functions, with influences on energetic metabolism adjustments. In ischemic stroke, the level of extracellular amount of glutamate increases up to 3 times by modifying the re-uptake of the glutamate through the sodium dependent transporters. The reset of the values to the base level occurs shortly after removal of the occlusion which will permit the therapeutically efficiency monitorization. **Conclusions:** For the majority of the population the consumption of aliments with Glu could threaten their health, but in some demonstrated pathologically cases the Glu had beneficial effects.

**Keywords:** glutamate, cancer, ischemic stroke

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## UNDERSTANDING FLAVONOID-DRUG INTERACTIONS

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**Background:** Flavonoids are a large group of polyphenolic compounds from plants, with a broad panel of metabolic effects. Because of their widespread occurrence, flavonoids are frequently used by many people. They are using different extracts and food supplements based on flavonoids during their chronic treatment not knowing the risks to which they are exposed. Flavonoid components may affect or produce undesirable effects on the metabolizing enzymes and drug transporters, which flavonoids modulate. It is well known that the response can vary among individuals because of their different genetic polymorphism. **Objective:** The aim of the study was to highlight the type of interactions that frequently appear in therapy and to raise awareness of the importance of pharmaceutical counseling. **Material and methods:** An analysis of scientific literature was conducted to assess the most frequent interactions between common flavonoids and various drugs. Data sources such as PubMed and ScienceDirect were searched. The articles were evaluated regarding the type of interaction between flavonoids and drugs and the type of study. All *in vitro* and *in vivo* studies which assesed these interactions were included. **Results:** Scientific studies have demonstrated that flavonoids interact with several proteins and could interfere with the pharmacokinetics of drugs. *In vitro* and *in vivo* studies showed the possible interactions between flavonoids and several drugs and the effects of co-administration of flavonoids with drugs. **Conclusions:** The safety of herbs has become a concern because of the development, increasing use and consumption of different herbal extracts along with prescription drugs. These interactions should be carefully studied because they represent an important clinical concern, due to the self-medication of the people in nowadays.

**Keywords:** flavonoids, interactions, herbal extracts, pharmaceutical counseling

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## SUBJECTIVE EVALUATION OF SENSORY AND SOME OTHER COSMETIC QUALITIES OF TWO MOISTURIZING (COMMERCIAL) CREAMS WITH DIFFERENT FORMULATIONS AND GLYCEROL CONTENT

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**Background:** The sensory perceptions belong to the user of the cosmetic product so the sensory characteristics usually improve the consumer acceptability. In the case of moisturizing creams, emollients that also function as moisturizing agents (e.g., glycerol) are directly involved in creating the pleasant sensations when the product is applied on to the skin. **Objective:** This study aims a comparative assessment of sensory effects and some other cosmetic qualities of two different moisturizing creams (PC 1 - "Natural & Organic" and PC 2, respectively), and also the quantitative determination of glycerol as one of the five common labelled ingredients. **Material and methods:** 1) Clinical descriptive study on 7 female volunteers (age of 20-30 years), by questionnaires method and assessment with hedonic type scales. Standard deviation and Anova test were applied for statistical analysis with statistically significant difference set at  $p \leq 0.05$ . 2) The glycerol content was determined by oxidation with sodium periodate 6% in aqueous solution, followed by titration of the formed formic acid with NaOH 0.1 M in the presence of phenolphthalein. **Results:** 1) The following characteristics were subjective assessed and comparatively analyzed for the two studied products: sensation at and after application; the ease of application; product firmness and skin adherence; residual fat film; and skin penetration ability. 2) A content of 45% glycerol was determined in PC 1, and 24.5% in PC 2. **Conclusions:** The topical application of the two studied products determines differences in the user's sensory perceptions. Their significantly different content in glycerol could be one of the factors that determine these differences, as this cosmetic ingredient is known for its emollient and moisturizing effects on the skin.

**Keywords:** Natural & Organic cosmetic, emollient ingredients, skin sensory effects

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## DRUG-INDUCED SEXUAL DYSFUNCTION IN MEN

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**Background:** Literature data suggest that the number of people with sexual dysfunction increased in the last 10 years due to cronic medication. Men are usually the most affected, the treatment of various pathologies causing the decrease or the loss of libido, impotence or ejaculation disorder. **Objective:** Highlighting the main classes of drugs that influence libido and sexual function in male gender. **Material and methods:** The scientific articles published in databases like PubMed, Science Direct and Web of Science in the last 5 years have been consulted. **Results:** Central nervous system inhibitors (analgesics, anesthetics, sedatives, classical antipsychotics, antiepileptics) or stimulants (antidepressants, hallucinogens) modify gonadotrophin and prolactin levels. Antihypertensives such as calcium channel blockers decrease sperm viability and motility, selective alpha-1 blockers used for the treatment of prostate adenoma produce retrograde ejaculation, beta-blockers lead to impotence due to blockade of beta-2 receptors in blood vessels. Certain antifungal (ketoconazole) and antihistamine H2 blockers (cimetidine) have antiandrogenic effects, by decreasing androgen hormones level. Chemotherapeutic agents, especially anticancer drugs, can cause reversible or irreversible infertility. The drugs that have a beneficial effect on libido and sexual function are: drugs used to treat Parkinson's disease (L-DOPA), androgenic hormone replacement therapy, clomiphene (for hypogonadism in men) or phosphodiesterase type V inhibitors (sildenafil, tadalafil). **Conclusions:** Sexual dysfunctions induced by chronic drug administration may affect patient adherence to the treatment. These side effects are usually dose-dependent, lowering the dose may improve the quality of sexual life. If lowering the dose is not possible, changing to an alternative drug is recommended.

**Keywords:** sexual function, libido, drugs, men

## COMPARISON BETWEEN THE NITROGEN OXIDES INHALED WHEN USING REGULAR CIGARETTES VERSUS IQOS CIGARETTES (HEETS)

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**Background:** Smoking has been proved to be a significant health hazard and a leading cause of malignant tumor formation. Nowadays, methods to reducing the health risks associated with smoking are appearing on the market, as electronic cigarettes and the IQOS system. The IQOS system is promoted as a safer way to smoke than the regular cigarettes due to the fact that eliminates the process of burning. **Objective:** In the present work we measured the amounts of nitrogen oxides inhaled by a smoker using regular cigarettes versus using the IQOS system. Also the occurrence of substances with absorption in the visible domain was compared. **Material and methods:** Smoke resulting from using the two smoking devices was absorbed in an alkaline solution. Measurement of nitrogen oxides was made by using a diazotation - coupling method available in the scientific literature. The measurement of colored substances was made by reading the absorbance of the solution at 520 nm. **Results:** Significant differences were observed regarding the presence of nitrogen oxides between the two ways of smoking. Regular cigarettes produced between 7-37 ug nitrogen dioxide/cigarette while in the case of the IQOS system the amount of nitrogen dioxide that was formed fell under the limit of detection. Regarding the occurrence of colored substances, a 10 times decrease was observed in the case of the IQOS system ( $p < 0.0001$ ). **Conclusions:** Our results show that significant reduction in the formation of toxic substances can be achieved by using the IQOS system compared with the regular smoking. Measurement of other toxic species should be made in order to obtain more clear information about the health risk differences between the two smoking ways.

**Keywords:** IQOS, cigarettes, smoking, nitrogen oxides

## DEVELOPMENT OF NEW MOLECULES FOR THE TREATMENT OF MULTIDRUG-RESISTANT TUBERCULOSIS

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**Background:** Tuberculosis resistant to common treatment (MDR-TB) is a serious problem for the current society. Thereby, the complications caused by this pathology and the lack of treatment focused researchers to synthesize new molecules to fight against Mycobacterium tuberculosis multidrug-resistant species. **Objective:** The purpose of this study is to emphasize the necessity to obtain new effective molecules for the treatment of the MDR-TB. The emergent need to synthesize new active drugs designed to eradicate resistant Mycobacterium tuberculosis species occurred because of increasing difficulty to manage the therapy of MDR-TB. **Material and methods:** The inefficiency of classical molecules in the treatment of MDR-TB led to the discovery of new classes of compounds such as diarylquinolones and respiratory chain antagonists, inhibitors of the enzyme decaphosphoryl- $\beta$ -D-ribose 2'-epimerase 1, mycobacterial membrane protein inhibitors and mycobacterial enoyl reductase inhibitors. **Results:** The production of new compounds such as bedaquilin, Q203, BTZ 043, PBTZ 169, TCA1, NITD-916, BM 12, SQ 109 is ongoing being in very different stages. In addition, the study of the relationship between chemical structure and biological activity, including mechanisms of action, can lead to the discovery of new effective MDR-TB treatment. **Conclusions:** This study highlights the challenges and difficulties on discovery of new classes of compounds designed to fight against Mycobacterium tuberculosis resistant species. In the last decade, new promising molecules are tested both in preclinical and clinical stages.

**Keywords:** tuberculosis, MDR-TB, drug discovery, new molecules

## QUALITATIVE ANALYSIS OF THREE VARIETIES OF HONEY THROUGH SPECTRAL AND ELECTROCHEMICAL METHODS

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**Background:** Honey is used both as food and medicine since ancient times. As a natural food it represents an important secondary metabolism product of plants produced by honeybees and has important biological properties like antioxidant, antibacterial, emollient and healing functions. Botanical source of honey influences the chemical composition, which is extremely complex, and their curative properties. **Objective:** The purpose of this study was to investigate, from a qualitative point of view, the differences of chemical composition of three honey varieties by the magnitude of differences of some physico-chemical properties and the hydroxymethylfurfural content. **Material and methods:** The all honey investigated solutions were prepared in distilled water. Electrochemical analyses were performed on a Consort Multiparameter Analyzer C833 with a combined glass electrode for pH investigation and a platinum cells for conductivity measurement. The UV-VIS spectra were recorded using a Spectrophotometer UV-VIS T70+ (PG Instruments Ltd). Honey quality was determined by measuring the hydroxymethylfurfural content by using a spectrophotometer technique. **Results:** The pH values of honey samples were for all honey varieties between 3.1 □ 4.1 and the lowest pH value was found in the case of polyfloral honey. The electrical conductivity is even higher as honey is richer in mineral substances and depends on the color intensity of the honey. The highest value of electrical conductivity was recorded in the raspberry variety. All honey varieties show maximum absorptions in the UV spectra, the differences of recorded spectra indicating a different composition of the organic compounds in samples. **Conclusions:** Based on the obtained results, it can be concluded that a combination of simple analytical techniques represents a rapid and an efficient tool for the qualitative assessment of honey varieties.

**Keywords:** honey, mineral content, chemical composition, qualitative analysis

# **MILITARY MEDICINE**

## THE ANGEL SITS ON SOLDIER TACTICAL VEST-IFAK

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**Background:** The modern warfare changed the concept of medical care in a military operation because of the high number of victims. Two of the biggest issues in a combat zone are the lack of medical supplies and the transportation capabilities. The reality of the red zone it is that you can't afford a hospital in the first line because it is a bad strategy. What you can do is to send specialized personnel who will try to stabilize the victims and transport them back to base for medical attention. This strategy was implemented during the World War II, giving birth to the Aid Man, a combatant tasked to offer medical care on the field. But since the transportation of the medical supplies across the battlefield was very hard, the idea of a IFAK or Individual First Aid Kit came up.

**Objective:** In this presentation I want to exhibit the main medical materials contained by IFAK and their impact in a life threatening circumstance when the procedure is respected. **Material and methods:** As a case study I analyzed a standard IFAK which is being used by the US army and the complementary information from the TCCC(Tactical Combat Casualty Care) program. **Results:** Analyzing the capabilities of this kit we deduce that its main purpose is to ensure the need for medical supplies within the 3-5 minutes following a trauma, a critical time to save a life. **Conclusions:** The IFAK is a significant technological step in modern operations theaters. What we must not forget is that it is just a small piece of a complex puzzle and works are still being made towards achieving more complex health care procedures on the battlefield.

**Keywords:** IFAK, TCCC, Tourniquet

## MILITARY MEDICINE - INCURSION THROUGH THE HISTORY

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**Background:** Military Medicine seems to have a fundamentally status in creating of the medicine itself, accordingly to the fact that the first evidences of treated injuries after battles had been dated from the Paleolithic, period which coincides with the appearance of the Homo Sapiens. By analogy, thousands years later - in the XIX century AD, in Romania is founded the first medical school - a military medical school, by the officer-doctor Carol Davila. Only later years this school will form also civilian doctors. **Objective:** The purpose of this paperwork is to dignify some aspects of the Romanian military medicine importance, starting from the origins and ending in actuality. **Material and methods:** This research draws upon mostly primary sources including expertise books and websites. **Results:** Most prior research on Romanian military medicine focuses on the chronologically evolution, pleading especially on the contemporaneous era with all its matters. It reveals the meaning of being a doctor besides being an officer in the army and the multiple possibilities which are given to him for serving his country with honor and grace. **Conclusions:** In conclusion, the military medicine exists since the beginning of human beings experience and it continues to be one of the most extraordinary and indispensable career for the world itself, in its fight for supremacy.

**Keywords:** military medicine, history, war, peace

## THE PERCEPTION OF THE FIRST YEAR AT UNIVERSITY AS A MILITARY MEDICAL STUDENT

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**Background:** The study target is to highlight the phase of psychological maturity of a medical student in the first year. We are focusing on the ways to which they are starting to adapt and develop methods of approaching studies in order to achieve success. The paper work also takes into account the ideas and visions of the future that come to the students mind within the first university year. **Objective:** The complex development of a military student was

examined while analyzing social life, accommodation in the military university environment and the future perspective regarding the medical career. **Material and methods:** For our investigation the following psychological methods were used: conversation, explanation and questionnaire. **Results:** The questionnaire that contains 8 items was applied to several military medical students from the first year and pursued their view regarding the following ideas: social life (37% - prefers spending their spare time with friends, in society), accommodation (88 % have found themselves in the major change that is represented by the changing of the environment in which they activate), future perspective (64% want to work as a military doctor in a military hospital). **Conclusions:** The paper emphasizes the importance of a permanent study of a military medical student as well as self-knowledge, in order to eliminate the syncope that can occur during the 6 years of college and that all of the students will be successful in their future as a military doctor.

**Keywords:** student, military, preclinical, searching

## HEMORRHAGE MANAGEMENT IN A BATTLEFIELD SETTING

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**Background:** Recently published studies state that nearly 25% of deceased troops in Iraq or Afghanistan between 2001 and 2011 could have been saved under ideal conditions. Also, 90% of casualties died before reaching a medical facility. These facts justify our interest in studying the current approaches in pre-hospital care. Because this topic is too broad, we decided to approach hemorrhage management as this remains the number one cause of death on the battlefield (and one of the most preventable causes of death). **Objective:** This paper aims to present different alternatives in primary treatment of battlefield hemorrhagic shock, which includes controlling the life-threatening bleeding and restoring normovolemia. **Material and methods:** Data analysis of scientific papers presenting latest recommendations and Tactical Combat Casualty Care Guidelines for Medical Personnel. **Results:** Regarding the first phase of treatment, it is acknowledged that application of tourniquet associated with hemostatic dressings (e.g. Combat Gauze) is the gold standard. We want to briefly present junctional tourniquets, developed later than limb tourniquets. These novel gadgets are used to control junctional hemorrhage, which surpassed extremity hemorrhage as the most important cause of death. The next procedures aim to correct blood volume and restore normal tisular perfusion. Damage-control resuscitation (DCR), the early care of a serious injured soldier, emphasize a blood and coagulation factor resuscitation strategy, using whole blood or blood components in a 1:1:1 ratio for plasma: platelets: RBC units. Crystalloid resuscitation is usually avoided. There are several adjuncts to hemostatic resuscitation: tranexamic acid, lyophilized plasma, fibrinogen concentrates. If vascular access is not quickly obtainable via the intravenous route, intraosseous access is indicated. **Conclusions:** Fast and precise care under fire and tactical field care are crucial in case of a hypovolemic patient as hemorrhage is a preventable cause of death. Medical personnel should keep their knowledge up-to-date because there are multiple, continuously improving recommendations.

**Keywords:** hemorrhage, tourniquet, DCR

## DEPLETED URANIUM PROJECTILES- CONSTRUCTIVE PARTICULARITIES AND THE EFFECTS ON HUMAN FACTOR

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**Background:** The paper is about depleted uranium and the influence on the human factor. The first part presents general information about radioactivity and uranium. The second part is about uses of depleted uranium in military actions. The third part is speaking of the impact of using ammunition in military actions and also about the influence on human factor. **Objective:** With this paper we want to present the risks of leading military actions in radioactive contaminated areas. For this to be shown we used a program that shows the level of contamination for miners. We replaced the general situations of the miners with theoretical situations of the contamination with

depleted uranium in military actions. **Material and methods:** In order to show the risks of leading military actions in radioactive contaminated areas we made a case study about radioactivity and military ammunition with depleted uranium. Also to show the impact on human factor we used an algorithm, named Jacobi Algorithm which was used in Germany to show the influence of radioactivity on miner's human body. **Results:** The results that came after we did the case study about leading military actions on radioactive areas shown: the radioactive, chemical effects on human body, the effect of depleted uranium on the environment and also the biological and physical impact of using depleted uranium projectiles in military conflicts. **Conclusions:** After we ran the Jacobi Algorithm in military situation the results shown us that the most likely case is that the people who leads military action in radioactive contaminated areas risk to develop a serial number of cancer. The most likely case is to develop pulmonary cancer. Also is not to neglect the risk of developing other types of cancer which have a probability of appearance of 10%.

**Keywords:** Uranium, Mmilitary ammunition, Jacobi Algorithm, Radioactivity

## MODERN WAR WOUNDS IN COMBAT OPERATIONS - THE IMPORTANCE OF VASCULAR TRAUMAS DURING CASUALTY EVACUATION

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**Background:** Wounds in modern war are not well-defined due to inevitable complications and challenging traumas caused particularly by improvised explosive devices and gunshots. Medical treatment facilities were defined by NATO doctrine as a level-structure from ROLE 1 to ROLE 4 with better management of total battle casualties from first aid to damage control resuscitation (DCR) and damage control surgery (DCS). **Objective:** The aim of this study is to point out that, even if the problem of protecting vital organs was apparently solved by wearing armour, the lethal potential of vascular injuries is still a concern. Their identification and severity degree are priorities in management of war wounds until soldiers are stabilized and evacuated. **Material and methods:** This study is a retrospective analysis of casualties that came from military operating theatres for full recovery in Central Military Hospital 'Carol Davila' Bucharest. Experiences with NATO medical troops from Military Hospital (Ulm, Germany) and operational sequence MASCAL (part of Saber Guardian 2017 in military air-base 'Mihail Kogalniceanu', Romania) completed the documentation. **Results:** There were identified 3 conditions that contributed to a significant benefit towards increased survival rate, decreased mortality and better recovery of body functions. These conditions are: unitary professional training of NATO troops, adequate technical equipment from medical treatment facilities and the professionalism of military personnel, who performed primary assistance especially in stressful conditions. **Conclusions:** Extremities vascular injuries represent almost 80% of total vascular traumas. Temporary prompt control of haemorrhage is a main priority because of their lethal potential and military-specific requirements.

**Keywords:** vascular traumas, modern war wounds, casualty evacuation

## A HEALTHY LIFE IN THE 21ST CENTURY - MILITARY STUDENTS VS. CIVILIAN STUDENTS -

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**Background:** For most people a healthy life represent a combination between physical and mental health. If a problem arises, both, physical and mental health are affected. It is important to have a healthy lifestyle because it is necessary to find a balance between physical and mental health. But what means a healthy life for military or civilian students? **Objective:** In the literature there are more studies on healthy lifestyle in the military environment. But there is no conclusive data about it among military or civilian students. The purpose of this study is to evaluate the lifestyle chosen by military students compared to civilian students. **Material and methods:** A questionnaire will be used to be administered to military and civilian students. The data resulted will be processed using the statistic program. **Results:** A total of 50 civilian students and 50 military students will fill out questionnaires showing whether they are moving, sports, having regular meals, and the number of meals a day, consuming fast food and energy drinks, and at what frequency, if it consumes vegetables and fruits and with what frequency, how much

water it consumes, if it smokes and when, as long as they sleep through sleep. Also, in each question, the questionnaire seeks to respond to the causes that make students not have a healthy lifestyle or not. The data obtained after processing will determine how many students have a healthy life and identify the main causes of non-compliance for such a lifestyle in order to correct them. **Conclusions:** As far as the conclusions are concerned, they will be presented at the conference plenary after the study is completed.

**Keywords:** healthy life, military students, civilian students

## JUST A MINOR UNPLEASANTNESS OR SOMETHING MORE?

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**Background:** Arthralgia is a common presentation in any clinical practice as a general symptom that has many causes. **Objective:** We present the case of a 58 years old woman with arthralgias localized at the small joints of the hand and lumbar region that began a few months ago and worsened gradually. The patient also complained of having intermittent dry eye sensation. **Material and methods:** During the hospitalization the patient was investigated both clinically and paraclinically using the following methods: laboratory, ophthalmological, immunological and radiological exams. **Results:** The clinical exam revealed a low back pain exacerbated with antalgic position without any other significant joint change. The laboratory exams showed hyperfibrinogenemia, with minor lumbar degeneration on the radiologic scans suggestive for osteoarthritis. A positive Schirmer test obtained by the ophthalmological consult confirmed the dry eye syndrome. The ultrasonographic scan of the parotid and submandibular glands displayed a reticular pattern, highly suggestive for an infiltrative disease. An immunological panel was performed which revealed a high titer anti Ro and anti La antibodies, positive rheumatoid factor, positive antinuclear antibodies, normal CRP and negative anti-dsDNA and anti Sm antibodies. Thus the diagnosis of primary Sjogren syndrome and lumbar osteoarthritis was confirmed and a treatment with hydroxychloroquine and topical NSAIDs was initiated. **Conclusions:** Sjogren syndrome is an autoimmune disease characterized by inflammation of the exocrine glands, usually the salivary and lacrimal glands. It can be associated with other diseases like systemic lupus erythematosus, rheumatoid arthritis, or it can occur as an isolated, primary syndrome. An early diagnosis is essential for initiating a long term follow up of the patient for the high risk conditions associated with this pathology like non Hodgkin lymphomas. In our case its clinical manifestations were overlapped with those of a secondary rheumatological disease.

**Keywords:** Arthralgias, Dry eye, Sjogren syndrome, Schirmer test

## MEDICAL DEVICES AND TREATMENTS USED BY THE ROMANIAN ARMY

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**Background:** Since ancient times, the Romanian Army has held financial and human resources that allowed its development and growth in terms of the Romanian health system. **Objective:** The paper aims to highlight the contribution of medical doctors and pharmacists to the evolution of the health system and to present the organization of the Romanian Armed Forces sanitary service. **Material and methods:** Specialty literature mentions that during World War I, Janette syringe, Record syringe and regimental surgical kits were used, as some of the most modern medical devices at the time. In World War II they Pupinel oven and the autoclave were used for sterilization, and wafers and gauze compresses were used as care materials; treatments were done with 1% novocaine (for local anesthesia), chloroform or kelen (for narcotics) and morphine (to relieve unbearable pain). **Results:** In the 20th century, the Romanian Armed Forces were equipped with modern medical devices and treatments as were in developed countries (for example, Great Britain), which is also beneficial to the civilian health system. **Conclusions:** Given that the Romanian Army possessed human and material resources, most of the treatments and medical devices being tested on soldiers in different theaters of operations, it has in time determined their development and their application to the treatment of the civilian population. Integration of the Romanian Army into N.A.T.O. and participation in different theatres of operations alongside strategic partners, is a continuous challenge to provide a level similar to those in terms of endowment with state-of-the-art medical equipment.

**Keywords:** Romanian Army, World War II, Treatment, Medical devices

## MILITARY MEDICINE DURING CAROL DAVILA'S TIME

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**Background:** From its origins to nowadays, Military Medicine has seen various changes, being strongly influenced by Carol Davila, regarding its structure and organization, status within the army and logistic cover. **Objective:** The aim of the paper is to highlight the contribution Carol Davila had both in stating a specialized element to provide medical care for the army as well as in the development of medical education in our territory. **Material and methods:** Several historical events and evidences testify the imprint Davila had upon the Military Medicine during 1853-1884, summarizing a sequence of changes that lead to the Institution as we know it today. **Results:** Being mainly preoccupied in developing the medical education, in 1857, Carol Davila had founded "The National Medicine and Pharmacy School", the first Romanian faculty of medicine which had trained Romanian medicine-officers, pharmacists and veterinarians for the army and medical staff for the civilian hospitals, with recognized diplomas in France and Italy. In 1859, the Army's Hospital became "The Central Military Hospital", in which Davila had performed the first blood transfusion in the country. In the same year, the first 10 military doctors born and schooled in Romania were recorded. In 21.08.1862, "Army's Sanitary Officers Corp" appeared, certifying that the military medicine was a specialized structure that provided health care for the army. Its name changed in 1869 to "Faculty of Medicine of Bucharest", which did not belong to the Ministry of War anymore. Between 1877-1878, during the Russian-Turkish war, "The Army's Sanitary Service" had notable results in caring wounded soldiers, mobile and territorial military medical assistance being provided by approximately 100 hospitals and centers for more than 11000 Romanians, 1500 Turks and several hundreds of Russians. **Conclusions:** Davila had a unique contribution in the development of the Military medical system, improving its education, organization and equipment.

**Keywords:** Military Medicine, History, Carol Davila, development

## MANAGEMENT OF POSTTRAUMATIC PSEUDARTHROSIS OF TIBIA WITH FREE ANTERIOR ILIAC CREST GRAFT: A CASE REPORT.

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**Background:** Posttraumatic pseudarthrosis of tibia is a well known complication of tibial fractures in adults, usually occurring after high velocity injuries in different scenarios. One treatment option is excision of sclerotic fracture fragments, angulation correction and ipsilateral free anterior iliac crest graft harvest and placing it in between the proximal and distal parts of tibia by fixation with orthopedic screws and plates. **Objective:** We aim to present the case of a 33-year-old female patient who sustained a major trauma in December, 2016 after a car crash. The patient was admitted with angulated, highly deformed, shortened, pseudarthrosis of the junction of middle 1/3 and distal 1/3 of tibia, in order to correct the defect. **Material and methods:** The profile X-ray imaging showed significant malpositioning of tibial fragments. Surgical correction was taken in consideration as only way of treating the patient. A decision was made to excise the sclerotic tissue fragments, angulation correction followed by anterior iliac crest grafting augmented with orthopedic screws and plates for mechanical stabilization. Lateral approach was preferred to expose the pseudarthrosis. Pseudoarthrosis was identified, sclerotic tissue was excised, angulation corrected. About 3 cm of ipsilateral anterior iliac crest was dissected subperiosteally, osteotomised and prepared to perfectly fit the defect created by sclerotic tissue excision. Mechanical stabilization was achieved using orthopedic screws and plates. Control profile and antero-posterior X-ray was taken during the procedure in order to ensure perfect alignment of bone fragments. Incision was closed in layers and procedure went uneventful. **Results:** Sutures were removed after two weeks. Serial radiographs were taken and monthly followup of the patient done. Patient was asked to do vigorous knee and ankle range of motion exercises to prevent stiffness of knee and ankle. The patient is expected to make a full recovery. **Conclusions:** Even though the lesion was severe and amount of

sclerotic tissue removed was high, the patient is going to recover well.

**Keywords:** Posttraumatic pseudarthrosis, Posttraumatic injury, Blunt force trauma

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## POSTTRAUMATIC STRESS SYNDROME

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**Background:** The fact that mental stress results in somatic disorders has recently attracted the interest of researchers. Thus, the complex interaction between the immune system, CNS, following the onset of stress was observed. Whatever the stress agent, the CNS compensatory response occurs through the hypothalamic-pituitary-supranuclear axis. **Objective:** Exposure to the main causes of PTSD and management of this pathology. **Material and methods:** Studying the diagnosis of PTSD by analyzing the Pathophysiology, Neuroendocrinology and diseases associated with PTSD. **Results:** Areas in the brain whose functionality can be altered in case of development of PT stress disorder are: 1. The prefrontal cortex, 2. Amygdala, 3. Hippocampus. Binomial diagnosis - anti-stress therapy must integrate: stress system disorders, disruption of the hypothalamic-pituitary-adrenal axis, amplification of stress through stress, oxidative stress with common etiopathology in neuro-psycho-biological dissection-wear-> Cerebral senescence (insoluble proteins, lipofuscin (wear pigment and aging in the neuron). **Conclusions:** Post traumatic stress is associated with an increased risk of major depressive disorder, panic, agoraphobia, obsessive-compulsive disorder, generalized anxiety, specific or social phobia, and bipolar disorder. The understanding of this disorder should be promoted. I consider that there is a need for psychology / psychiatry specialists in the workplaces to perform the early detection of this type of disturbance.

**Keywords:** stress, risk, disorder

# POSTER - SURGICAL

## BILATERAL POSTERIOR FRACTURE - DISLOCATION OF THE SHOULDERS CAUSED BY ELECTROCUTION INDUCED TRAUMA: A CASE REPORT

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**Background:** Only 15 cases of bilateral shoulder dislocation associated with the fracture of the upper end of the humerus have been published in the literature. Most of these cases were caused by trauma, seizures or electrocution, being also known as the triple E syndrome. **Objective:** The aim of this presentation is to discuss the uncommon causal mechanism of the bilateral fracture and also its approaching difficulties. **Material and methods:** A 41-year-old male engineer presented to the emergency department having suffered electrocution, reporting pain in the shoulder joints and loss of function. The X-ray highlights bilateral comminuted fractures of the proximal epiphysis of the humerus. Bilateral posterior fracture - dislocation of the shoulders was confirmed by computed tomography. Immobilizing Dessault bandage were complementarily applied to both shoulders. **Results:** Clinical stabilization was achieved. Open reduction internal fixation surgery with proximal humerus locked plates will be taken into consideration if conservative therapy is not successful. **Conclusions:** Bilateral posterior fracture dislocation of the shoulders are very rare. Blackstone evoked the triple E syndrome to be the primal causal factor in which these lesions occur, as we also reported in our case. □

**Keywords:** Bilateral posterior fracture - dislocation, triple E syndrome, electrocution

## CLINICAL RESULTS AFTER MEDIAL PATELLOFEMORAL LIGAMENT RECONSTRUCTION

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**Background:** The most important structure that stabilizes the patella and helps prevent patellar subluxations or dislocations is the medial patellofemoral ligament. MPFL reconstruction is a surgical procedure indicated for patients with severe lateral patellofemoral instability and recurrent patellar dislocations. Ellera Gomes firstly described the procedure in 1992 and since then, various approaches have been discussed with diverse results. **Objective:** The objective of our study was to evaluate the short-term clinical results of patients that underwent MPFL reconstruction. **Material and methods:** The study included the first 18 cases of MPFL reconstructions performed in the Orthopaedics and Traumatology Clinic II, in Tîrgu-Mureş, during 2012 - 2017. Ten females and eight males aged between 14-43 years with recurrent patellar dislocations were included. All patients underwent MPFL reconstruction using the double bundle technique with gracilis tendon autograft. All the patients were operated using the same technique and by the same surgeon. Kujala score and Tegner-Lysholm knee scoring scale were used pre and post-operatively (at 6 months) to assess the clinical outcomes. **Results:** At 6 months follow-up, no patellar subluxations or dislocations were reported. Full range of motion was achieved by all patients after following a standard physiotherapy program. Mean Kujala score changed from  $61.8 \pm 14.2$  pre-operatively to  $92.1 \pm 5.1$  ( $p < 0.05$ ). Mean Lysholm score improved from  $60.8 \pm 17.7$  pre-operatively to  $92.5 \pm 5.1$  ( $p < 0.05$ ). Mean Tegner activity score decreased from  $5.9 \pm 1.0$  pre-operatively to  $5.5 \pm 0.7$ . **Conclusions:** Our results show significantly improved knee function and physical activity and confirm the results of similar studies. In order to clearly state long-term results, the learning curve must be perfected and larger cohort studies are required.

**Keywords:** MEDIPATELLOFEMORAL LIGAMENT RECONSTRUCTION, severe lateral patellofemoral instability, patellar dislocations

## ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION USING THE ALL-INSIDE TECHNIQUE

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**Background:** Anterior cruciate ligament (ACL) reconstruction is the most common performed surgery in the sports orthopaedics departments. It is widely considered as the gold standard in restoring knee function and stability after ACL ruptures. The all-inside technique implies the use of only two portals - anterolateral and anteromedial, without the use of an accessory portal as in the classical techniques. The working portal is the lateral one while the medial portal is used as a viewing site. In the current literature, this novel technique only had few authors analysing its outcomes. **Objective:** Analyse the clinical outcomes of the all-inside procedure used for ACL reconstruction. **Material and methods:** A prospective study was conducted at the Orthopedics and Traumatology Clinic no. 2 in Tîrgu Mureș. Twenty-one patients matched our inclusion criteria and were operated using the all-inside technique for ACL reconstruction. Outcome assessment was performed using the Knee injury and Osteoarthritis Outcome Score (KOOS), the Lysholm score and the Tegner Activity Scale. **Results:** All of the included patients underwent single-bundle ACL reconstruction semitendinosus grafts. Out of 21 patients, 8 had associated meniscus lesions and 5 collateral ligament injuries. Mean graft diameter was 8.2 mm and mean length 61.4 mm. KOOS values were significantly increased at 12 months after the surgery regarding the mean baseline score:  $56.1 \pm 5.1$  vs.  $91.1 \pm 4.6$ , ( $p < .0001$ ) Lysholm score improved from a mean of  $53.3 \pm 4.3$  to  $88.7 \pm 5.1$ , ( $p < .0001$ ) at the final follow-up. Tegner activity scale ranged from  $3.6 \pm 1.8$  to  $5.7 \pm 2.2$ , ( $p < .0001$ ) at the final follow-up. **Conclusions:** The presented technique provided results that are encouraging by being able to quickly restore knee function and stability. Larger cohort studies are required to determine its superiority compared to other techniques.

**Keywords:** Anterior cruciate ligament reconstruction, all-inside technique, accessory portal

## TRANSPOSITION OF GREAT ARTERIES WITH SINGLE CORONARY ARTERY- A TECHNICAL CHALLENGE IN ARTERIAL SWITCH OPERATION

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**Background:** Transposition of Great Arteries (TGA) makes up about 10% of all congenital heart defects. The gold standard of therapy, the Arterial Switch Operation (ASO), is associated with low postsurgical and long-term mortality (2-5%). However any additional coronary artery anomaly has been associated with almost doubled mortality after ASO. In single coronary patterns any kinking or stretching of the coronary artery after its translocation can have a profound effect on myocardial blood supply. **Objective:** We present the case of a male newborn with TGA and a single right coronary artery, born in January 2018 with a weight of 2800 grams. After birth a Patent Ductus Arteriosus was maintained by intravenous administration of Prostaglandins, additionally Rashkind maneuver was needed on the second day of Life. Echocardiography confirmed the diagnosis of TGA and indicated a coronary artery anomaly. **Material and methods:** ASO was performed on the 14th day of life. The pulmonary artery and aorta were transected just above the ventricles, reversed and anastomosed to their correct ventricles. The single coronary artery was translocated to the neo-aorta. The defect of the pulmonary artery after excision of the coronary artery was resolved with the use of Cormatrix. The procedure was performed at 24°Celsius. Duration of total cardiopulmonary bypass was 120 minutes, the aortic clampage time was 76 minutes. Custodial cardioplegia was used to stop the heart. **Results:** The patient remained in pediatric Intensive Care Unit for 6 days and was discharged after another 7 days in very good condition. **Conclusions:** The TGA with single coronary artery is a very rare finding. Avoidance of torsion or obstruction of the coronary artery is essential for adequate maintenance of the sole source of myocardial blood supply. With careful attention to the coronary artery transfer technique, the most delicate step of the ASO, a good prognosis was obtained. Regular checkups should follow.

**Keywords:** Tranposition of Great Arteries,, Single Coronary Artery,, Arterial Switch Operation

## RECONSTRUCTION OF THE POSTEROLATERAL CORNER OF THE KNEE WITH ACHILLES TENDON ALLOGRAFT – CASE REPORT

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**Background:** Posterolateral corner injuries can cause significant disability, and usually occur in association with other ligament injuries. The most frequently seen are the posterior cruciate ligament injuries associated. **Objective:** We present a case of a 33 year old male, without any previous personal or family medical history, who was admitted to our department diagnosed with posterolateral corner injuries, with posterior cruciate ligament lesions associated at the level of the left knee. The injury mechanism was produced by direct trauma with antero-medial to postero-lateral direction, full leg length hyperextension and external rotation. **Material and methods:** The physical examination of the patient revealed a decreased range of motion, increased varus, external rotation, and recurvatum laxity. Both posterior drawer test and varus stress test were positive. The dial test revealed increased external rotation at both 30° and 90°, which suggested a PCL lesion is associated. MRI pathological findings: fusion in small quantity at the level of the suprapatellar bursa, lateral knee recesses, infrapatellar bursa, gastrocnemius bursa and intraarticular. Grade III injury at the level of posterior horn of the medial meniscus and fibrous lesions at the level of the proximal insertion of the posterior cruciate ligament. Grade I injury at the level of internal collateral ligament. Partial torn of the lateral cruciate ligament. **Results:** For this case we decided to use Larson technique for the PLC reconstruction associated with posterior cruciate ligament reconstruction. After PLC reconstruction, the patient used an orthosis and mobilize partial-weight bearing for 6 weeks, and non-weight bearing for the rest of the recovery period. **Conclusions:** Posterolateral corner injuries result in significant instability and have poor outcomes when treated nonoperative. In order to achieve the optimal patient's outcome, in this particular case, we used the modified Larson technique.

**Keywords:** posterolateral corner injury, posterior cruciate ligament, modified Larson technique

## COMPLEX ACCIDENTAL WOUND WITH MULTIPLE SOFT PARTS LESIONS

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**Background:** The wounds that appear in case of polytrauma patients that includes the abdomen and the lower limbs are produced by a trauma with high energy discharges. The identification and the management of these lesions quickly prevents the alteration of the patient's health. **Objective:** The objective of this study is to present the complexity of an accidental wound. **Material and methods:** We report the case of a 68 years old man that arrives into an emergency setting with a foreign body (wood) lodged at the base of the inferior left limb with a presumed lesion to the great saphenous vein and a localized hematoma. Emergency surgery is performed consisting of the following procedures: incision, extraction of four fragments and multiple small ones, hemostasis, lavage, wound drainage and closure. **Results:** The patient presents a favorable postoperative evolution with bowel movement resumption on the 2nd postoperative day, normal urinary output, clean surgical wound. The patient is discharged at 5 days following surgery in general good health. **Conclusions:** The surgical treatment applied as quickly as you possible in the case of a trauma patient will reduce the time of medical recovery.

**Keywords:** soft parts lesions, polytrauma, foreign body

## A RAT MODEL OF ISCHEMIC STROKE IMPLEMENTED BY THE UNIVERSITY OF MEDICINE AND PHARMACY FROM TÂRGU MUREȘ

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**Background:** Stroke is the one of the most common cause of morbidity. The majority of experimental stroke models that have been described targeted the middle cerebral artery occlusion. **Objective:** The aim of our study was to implement a suitable protocol for ischemic stroke induction in rats using the middle cerebral artery occlusion (MCAO) technique. **Material and methods:** The study was approved by the Ethical Committee of the University of Medicine and Pharmacy Tîrgu Mureș. A number of 12 rats were enrolled. All animals were prepared for the surgery and then were fixed to the stereotaxic table. The midline neck skin was incised, and the common carotid arteries (CCA) were carefully separated from the vagus nerve. A microvascular clamp was placed on each CCA. The craniotomy was performed with a laboratory drill, the dura-mater was removed and the MCAO was performed for 90 minutes using a micromanipulator. **Results:** The average time of the procedure was 3 hours which consist mainly in 20-30 minutes preoperative preparation, 30 minutes surgical procedures for CCA occlusion and craniotomy, 90 minutes MCAO and 20-30 minutes postoperative procedures. One rat died after the MCAO. The overall survival at 30 days was 100% and all the rats presented the locomotor deficiency. **Conclusions:** With a low mortality rate and high successful percentage of rats with stroke our study indicate the utility and the future benefits of the newly experimental model implemented.

**Keywords:** ischemic stroke, middle cerebral artery occlusion, rat, locomotor deficiency

## DIFFICULTIES IN DIAGNOSIS AND TREATMENT OF NEUROENDOCRINE TUMOURS – CASE PRESENTATION

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**Background:** Neuroendocrine tumours constitute a heterogeneous group of rare neoplasms, originating from the neuroendocrine cells of the embryological gut. **Objective:** Our aim is to present the surgical management and diagnostic challenges of a neuroendocrine gastric carcinoma. **Material and methods:** A 58-year-old male patient, with significant weight loss (15kg in 1 month), asthenia, slow intestinal transit and progressive dysphagia for solids of approximately 10 days, was admitted in the Gastroenterology Department of "Sfântul Spiridon" Emergency Clinical Hospital. The superior digestive endoscopy revealed a tumour of approximately 3cm in the vertical part of the stomach and the subsequent biopsy diagnosed a neuroendocrine carcinoma. The patient was transferred to the Surgery Department and the following operation facilitated the detection of the gastric lesion. The exploration of the peritoneal cavity noted 3 additional tumoral nodules in the body and tail of the pancreas, as well as adenopathies situated in the peripancreatic area and at the site of the lesser gastric curvature. The elected surgical procedures were total eso-gastrectomy with a T-L eso-jejunal anastomosis, corporeo-caudal pancreatectomy and splenectomy, along with segmental resection of the transverse colon with a L-L colo-colic anastomosis. **Results:** Postoperatively, the patient had a favourable evolution and was discharged after 2 days from the Intensive Care unit. 7 days after the surgery an eso-jejunal gastrografen examination was performed, revealing a normal aspect of the anastomosis. The patient presented a pancreatic fistula with a small debit of approximately 50ml/24h, which had spontaneous closure. The patient was discharged 14 days postoperative with good general state, normal oral alimentation and normal gastrointestinal transit. **Conclusions:** Neuroendocrine tumours represent a rare clinical entity, which are frequently diagnosed in the metastatic stage. In our case, even if the primary gastric tumour had reduced dimensions (3cm), the pancreatic metastases were detected only intraoperative. Nothing but extensive surgical resections associated with selective chemotherapy offers favourable long-term results.

**Keywords:** neuroendocrine tumours, gastric carcinoma, pancreatic metastases

## INCIDENTAL FINDING OF A CONGENITAL MALROTATION DURING A GIANT INCISIONAL HERNIA SURGERY

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**Background:** Midgut malrotation refers to a spectrum of congenital anomalies of the position of the intestine resulting from inadequate rotation of the primitive intestinal loop around the axis of the superior mesenteric artery during the 6th - 11th weeks of fetal life. According to current research, the incidence of this condition in adulthood is 0.2%. Intestinal malrotation occurs in between 1 in 200 and 1 in 500 live births, from which 30-62% of them have an associated congenital anomaly. **Objective:** We will speculate on the best therapeutic attitude - letting the intestines in the same position, positioning them anatomically or resecting them. **Material and methods:** In this report we describe the case of a 66-year-old female patient admitted in the First Surgical Clinic of Tîrgu-Mureş Emergency County Hospital for surgical treatment of an incisional hernia following a caesarean delivery on a midline incision. Intraoperatively a giant multilocular hernia was discovered. Its sac contained the right colon and a seldom met malrotation of the duodenal and colonic quadrant with a common mesentery. A mesh repair of the incisional hernia was performed, and the colon and small intestines were left in their original non-anatomical position. **Results:** Postoperative evolution was uneventful, with bowel movement resuming on the 3rd day following surgery. The patient was discharged 6 days after the surgery. Follow up at 3 months showed normal bowel movement without constipation or diarrhea. **Conclusions:** Intestinal malrotation remains a challenging diagnosis for both surgeon and radiologist and knowledge of the embryologic development is mandatory in understanding the radiographic features of malrotation and its complications. There are no specific protocols for this condition to stipulate a specific course of action, the diagnosis being made in most cases intraoperatively.

**Keywords:** incisional hernia, malrotation, congenital

## THE PREVALENCE AND ANATOMIC CHARACTERISTICS OF THE FABELLA EVALUATED BY MAGNETIC RESONANCE IMAGING

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**Background:** The function and clinical consequence of the fabella, a sesamoid bone found in the posterolateral area of the knee joint, are still a reason of intense debate in the scientific literature. Its prevalence was reported to range between 20-87% and the presence of this small bone has been usually associated with persistent pain in the posterolateral region of the knee, known as the fabella syndrome. **Objective:** The aim of our study was to measure the prevalence and anatomic features of the fabella in a consecutive series of patients examined by Magnetic Resonance Imaging. **Material and methods:** From October 2016 to May 2017, a consecutive series of 50 patients (27 women and 23 men) with a mean age of 38.5 years, who presented to the Clinic of Orthopaedics and Traumatology II Tîrgu Mureş has been evaluated. Following complete examination, including Magnetic Resonance Imaging, the patients were scheduled for knee arthroscopy. The presence and anatomic measurements in two dimensions of the fabella have been assessed using RadiAnt DICOM Viewer. **Results:** Based on the collected data, the frequency of the fabella was 12%. A higher value was noted in women, as from a total of 6 cases, 4 were identified in female patients. The size of the bone ranged from 8.30-8.85 mm length (with a mean of 8.46 mm) and 4.26-4.78 mm width (with a mean of 4.38 mm). **Conclusions:** The prevalence of the fabella in our study group was lower than previously reported data. The computer program used proved to be extremely efficient and suitable for data processing by a less experienced researcher. The anatomic characteristics could be helpful in differentiating this sesamoid bone from calcifications or loose bodies located in the knee joint region.

**Keywords:** fabella, knee joint, sesamoid bone

## EXTRA-ANATOMIC BILATERAL AXILLOFEMORAL BYPASS IN MAJOR ABDOMINAL TRAUMA - CASE REPORT.

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**Background:** Extra-anatomic axillofemoral bypass (AFB) replaces aorto-iliac reconstruction in critical patients. Amongst the operative indications are aorto-iliac obstruction in patients with high cardiovascular risk and infection of a previous aortic graft (AG) or intra-abdominal sepsis. **Objective:** Outlining the successful surgical management in a severely polytraumatized patient. **Material and methods:** A 28 years old male patient, transferred from Tg. Jiu Hospital, was admitted with hemorrhagic shock (HS), perianal and retroperitoneal wound, rectal perforation, post-splenectomy necrotic pancreatitis and plastic peritonitis (PP). An aortoplasty with autologous peritoneal patch, rectosigmoid and segmental enteral resection and pancreatic necrosectomy were performed. After one week, the patient presented HS due to aortic suture dehiscence (ASD) for which a repair with a Dacron patch was performed. The next day, he presented ruptured Left Common Iliac Artery (LCIA) and ASD, repaired by suturing the LCIA and performing an aortoplasty using bovine pericardial patch. 10 days later, an enteral fistula occurred, along with PP, splenic lobe abscess and blocked evisceration with subocclusive syndrome, for which he underwent an enterorrhaphy and enteroplication. The intraoperative specimen's bacteriologic exam revealed *Pseudomonas Aeruginosa* and *Klebsiella Pneumoniae*. A HS occurred two days later due to AG failure, for which a temporary emergency hemostasis was achieved by aortic endoluminal obstruction, via right femoral access, using a Fogarty catheter. A segmental infrarenal aortic resection and bilateral AFB were then performed, followed by a Vivano device application. **Results:** Postoperatively, the patient developed bronchopneumonia with acute respiratory distress syndrome, from which he recovered. The postoperative 3-months CT-scan revealed an occluded right AFB with preserved circulation in the lower right limb and a patent left AFB. The patient was discharged after a total of 6 surgeries. **Conclusions:** The perioperative management in polytraumatized patients is extremely important. AFB is a "last resort", life-saving, non-definitive procedure which showed favorable outcome in a severely polytraumatized patient.

**Keywords:** Axillofemoral bypass, Segmental aortic resection, Polytrauma, Vivano

## BIDIRECTIONAL GLENN ANASTOMOSIS AS FIRST-STAGE PALLIATION IN A COMPLEX CONGENITAL CARDIAC MALFORMATION - CASE REPORT

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**Background:** Double outlet right ventricle (DORV) is a group of complex congenital cardiac malformations (CCM) with a wide spectrum of variations, in which both great vessels arise from the right ventricle. The surgical management has always been challenging and it differs with the anatomical variation. Most times, a biventricular repair can be achieved, but in some severe cases, a univentricular (UV) repair is required. The UV repair pathway consists of 3 stages, in this case, the first being a modified Blalock-Taussig shunt (mBTS), followed by a partial cavo-pulmonary connection (PCPC) - Bidirectional Glenn anastomosis (BGA), and ending with a total cavo-pulmonary connection (TCPC/Fontan procedure). **Objective:** Efficacy of Glenn anastomosis as first-stage palliation in a patient with complex UV physiology. **Material and methods:** A 6 years old male patient, diagnosed at eight months with complex cyanogen CCM, DORV, transposition of great arteries, moderate infundibular and valvular pulmonary stenosis, hypoplastic main pulmonary artery (MPA), non-restrictive ventricular septal defect, moderate mitral stenosis, hypoplastic left ventricle and moderate tricuspid regurgitation. He was hemodynamically stable with an oxygen saturation (SO<sub>2</sub>) of 92%, but did not present for periodic follow-up reevaluations. He was readmitted with hypoxic crisis, loss of consciousness, generalized hypotonia and an SO<sub>2</sub> of 70%. Echocardiography revealed a severe infundibular and valvular pulmonary stenosis and the diagnostic catheterization showed adequate pulmonary hemodynamics for BGA. **Results:** Having clear indication for surgery, the patient underwent a BGA, associated with atrial septectomy and MPA ligation. Postoperative echocardiography

showed a patent BGA, and the  $SO_2$  increased to 85%. The patient was then discharged, hemodynamically stable. **Conclusions:** The neonatal period in children with UV physiology is critical and requires first-stage palliation early in life, as well as continuous monitoring. This case shows the favorable outcome of the first BGA performed as first-stage palliation in Romania and highlights the importance of continuous monitoring of these patients.

**Keywords:** Double outlet right ventricle, Univentricular repair, Glenn anastomosis, First-stage palliation

## LITTLE HEART, BIG WINDOW: AORTOPULMONARY WINDOW- CASE REPORT

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**Background:** Aortopulmonary window is a rare anomaly, occurring in only 0.1-0.2% of the patients with congenital heart diseases. It results from an incomplete development of the conotruncal septum and in at least 50% of cases it is associated with another anomaly. **Objective:** The aim of this presentation is to address the matter of surgical management in a rare congenital heart disease and how important is to early diagnose these cases. **Material and methods:** We present the case of a 25 days old patient, gestational age 34 weeks, with aortopulmonary window, pulmonary hypertension, atrial septal defect, ostium secundum and right pulmonary artery stenosis. The premature newborn weighed 2290g at birth with a 8/1 APGAR Score, with altered general condition and signs of congestive heart failure. The newborn was diagnosed after ecocardiography and CT-angio. The case was discussed in the cardio-surgical colloquium at IBCvT Tîrgu Mureş and the surgery was performed in the same day of the admission. **Results:** We used a classic surgical technique which consists of closing the aortopulmonary window with a patch of heterologous pericardium and suturing the atrial septal defect in total cardiopulmonary bypass at 32 degrees. After the surgery, the newborn stayed in ICU for 5 days. Postoperative evolution was favorable, the ecocardiographic examination of the heart revealed a good global contractility without a residual shunt. The patient was discharged after 21 days with a generally good condition, afebrile, hemodynamically stable, weight 2520 g. **Conclusions:** Patients with complex cases of associated congenital heart defects have very high death rates due to congestive heart failure in the first year of life, therefore it is vital to establish an early diagnosis in order to solve the anomalies in the same surgical intervention whenever possible.

**Keywords:** aortopulmonary window, rare anomaly, early diagnosis

## CYSTO AND RECTOSIGMOIDOPEXY WITH AUTOADEZIVE MESH

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**Background:** Pelvic organ prolapse represents the sliding of pelvic organs into the vagina often accompanied by urinary, sexual, bowel or local pelvic symptoms. These may affect the quality of life in these patients. **Objective:** The aim of this study is to present a clinical case with cystoectocele who benefit a double fixation with two autoadezive independent mesh. **Material and methods:** We report the case of a 56-year-old woman, who was diagnosed with a recurrent grade III pelvic organ prolapse after hysterectomy with bulky cystoectocenterocele that had been previous treated with an abdominal colpocystopexy using suture threads. The patient had undergone an anterior cystopexy one autoadezive mesh and posterior rectopexy with an other mesh. **Results:** The postoperative evolution was favorable, without surgical complications, good fecal and flatus continence (Wexner score 10), and good urinary function (urinary catheter was removed on the 3th postoperative day). The patient was discharged on the 7th postoperative day. Out-patient follow-up was favorable, no recurrence or other complications at 1 and 4 weeks following surgery. **Conclusions:** Autoadezive mesh can be useful in this borderline surgical and gynaecological pathology and sometimes remains the only choice.

**Keywords:** autoadezive mesh, cystopexy, rectopexy

## DUODENAL DIVERTICULUM- DIAGNOSTIC TRAP

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**Background:** Duodenal diverticulum are outpouchings from the duodenal wall. They may result from mucosal prolapse or the prolapse of the entire duodenal wall and can be found at any point in the duodenum although are by far most commonly located along the medial wall of the second, or superior wall of the third part of the duodenum. **Objective:** The aim of this study is to present a clinical case of a patient with duodenal diverticulum who was diagnosed as a hydatid paraduodenal cyst. **Material and methods:** We report the case of a 24-year-old woman, who was admitted in the First Surgical Clinic, Emergency County Clinical Hospital Tg Mures, between 18.09-26.09.2017 with paraduodenal hydatid cyst. The diagnosis was based on: radiological examination (Abdominal ultrasound and Computer tomography) and parasitological examination (Positive Echinococcus antigens). From the patient's personal background we found out that she had a surgery for removal of a hepatic hydatid cyst located in segment VII. **Results:** Intraoperative diagnose showed a first part duodenal diverticulum extended to the root of the mesentery and transverse mesocolon. We performed a diverticulectomy with mechanical duodenoraphy by conventional surgery. The postoperative evolution was favorable, without surgical complications and with the discharge of the patient in the 7th postoperative day. Endoscopic follow up was favorable showing a normal suture, without stenosis. **Conclusions:** Duodenal diverticulum represents an important differential diagnosis for all the patients with hydatid disease and sometimes are intraoperative traps.

**Keywords:** hydatid cyst, duodenal diverticulum, diverticulectomy

## SLEEVE GASTRECTOMY AND GASTRIC PLICATION FOR TREATMENT OF MORBID OBESITY

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**Background:** Nowadays bariatric surgery is evolving and represents the most efficient therapy for morbid obesity. The state of the art is represented by sleeve gastrectomy and gastric bypass. New procedures emerged like gastric plication as well as mini gastric bypass. However, there is a debate regarding the gastroesophageal reflux disease (GERD) and sleeve gastrectomy. Gastric plication is used mostly in developing countries. **Objective:** The aim of the study was to compare 2 bariatric procedures and their outcomes after a 2 years follow-up. **Material and methods:** We studied a series of 50 cases of sleeve gastrectomy (SG) and 65 cases of gastric plication (GP) operated in our department. 90 patients were women and 25 were men. The mean BMI was 44 in the SG cases and 40 in the GP cases. All patients had comorbidities. **Results:** The 2 years follow-up showed an excess weight loss (%EWL) of 70% (SG cases) and 62% (GP cases) with alleviation of comorbidities. In 5 cases of SG, GERD symptoms reappeared (10%) and needed medication. Major complications encountered in SG patients were leaks in 2 cases (4%) and 1 gastric outlet obstruction in GP cases (1,53%), all needed reintervention. In 20 cases of GP (30,7%) there were minor complications like nausea and vomiting. **Conclusions:** Both procedures had a good result in terms of %EWL, more visible after SG (70% versus 62%). GP is a cheaper operation, suitable for patients that are concerned about removing a part of their stomach. After GP and fundoplication for obese patients with GERD there was no recurrence of reflux symptoms while in the SG cases there were 5 patients with recurrence of reflux. Major complications were more severe in SG cases.

**Keywords:** sleeve gastrectomy, gastric plication, morbid obesity, gastroesophageal reflux

## TOUPET FUNDOPLICATION AND GASTRIC PPLICATION FOR TREATMENT OF OBESE PATIENTS WITH GASTROESOPHAGEAL REFLUX DISEASE

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**Background:** Gastroesophageal reflux (GERD) has a higher incidence among obese patients than in normal weight patients and is considered obesity related comorbidity. In these patients fundoplication alone (as an established operation) has been reported with poor results. In patients with morbid obesity and GERD, gastric bypass has the best results. The results after sleeve gastrectomy are under debate. But in patients with BMI under 40, gastric bypass is not indicated. In obese patients with BMI<40 and GERD, a novel approach was reported: Fundoplication and gastric plication of the rest of the stomach. **Objective:** The objective of the study is to determine the role of fundoplication and gastric plication in the treatment of obese patients with GERD. **Material and methods:** We present a series of 25 obese patients (BMI<40) with GERD proven at endoscopy, that underwent Toupet fundoplication and gastric plication of the rest of the stomach. These patients did not meet the inclusion criteria for a major bariatric procedure or didn't want to undergo gastric bypass or sleeve gastrectomy procedures. **Results:** All of the 25 operations were performed laparoscopically. No major complications were encountered. After 1 year follow-up all patients were free of reflux symptoms and the excess weight loss was 60%. **Conclusions:** Toupet fundoplication and gastric plication is a treatment option in obese patients with BMI under 40 and with GERD that are not candidates for major bariatric procedures. The results are very good in terms of weight loss and alleviation of reflux symptoms.

**Keywords:** obesity, gastroesophageal reflux, fundoplication

## THERAPEUTIC APPROACH IN EMERGENCY THORACOABDOMINAL TRAUMA

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**Background:** Trauma care for thoracoabdominal injuries is dated and developed far back to ancient Greece. In modern societies trauma care of the patients utilizes operative and non-operative management in emergency situations. **Objective:** The objective of the study is to evaluate the emergency therapeutic approach for patients that are diagnosed with thoracoabdominal trauma. **Material and methods:** We conducted a retrospective study in which we included all the patients with thoracoabdominal trauma enrolled in the First Surgical Clinic in Tîrgu Mureş Emergency County Hospital between January 2016 and December 2017. For each patient the following data were recorded: age, gender, diagnosis, surgical interventions, imagistic/paraclinical investigations and type of sustained trauma. **Results:** We recorded a total number of 94 cases. The average age of the patients was 61 years old, ranging from 19 to 93. We observed a male predominance (71%) with only 29% female patients. The main type of trauma sustained was from car accidents and same-level falls followed by hetero-aggression and high-level falls. All patients received complete blood count (CBC), routine radiography while 50% underwent advanced imaging investigations (CT scans). The diagnosis results show that thoracic trauma is the most common with 72%, thoracoabdominal trauma 24% and only 4% pure abdominal trauma. Only 4 patients required surgical intervention (3 pleural drainage and one inguinal hematoma evacuation) the rest receive non-operative management. **Conclusions:** Therapeutic approach in thoracoabdominal trauma care may prove to be a challenge. The vast majority of associated injuries and complications can lead to difficulties in treatment. Good diagnosis of the injuries can lead to a fast recovery and avoid unnecessary costs and surgical interventions.

**Keywords:** TRAUMA, EMERGENCY SURGERY, THORACO, ABDOMINAL

## GIANT HYDATID CYST OF THE LIVER - DIAGNOSIS AND TREATMENT: A CASE REPORT

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<sup>2</sup>

**Background:** Hydatidosis is a disease caused by the infection with *Echinococcus granulosus*, which affects the liver in 50-70% of the cases. If not diagnosed and treated on time, liver hydatidosis can lead to complications such as its rupture into the biliary tract or peritoneum that can result in dissemination or anaphylactic reaction.

**Objective:** The purpose of this report is to describe a case involving a giant hydatid cyst of the liver. **Material and methods:** A 78 years old female was admitted to our department, complaining of pain in the right upper quadrant, nausea and accelerated intestinal transit, with no significant pathological antecedents. The physical examination revealed the presence of an asymmetrical right upper quadrant enlargement, which initially led to the diagnosis of a liver tumor. The results of the laboratory tests showed an elevated alkaline phosphatase level (279 U/L), while the CT scans of the abdomen confirmed the diagnosis of a giant hydatid cyst (measuring 196/188/250mm) with daughter cysts that were occupying most of the right hepatic lobe. Secondary diagnoses revealed by the paraclinical explorations are dyselectrolytemia, chronic hepatothopathy, vertebrobasilar insufficiency, cachexia and chronic venous insufficiency. A surgical intervention was performed in order to inactivate and evacuate the cyst, in association with quasi total pericystectomy and multiple peritoneal drainage. During the exploratory laparotomy, peritoneal adhesions were also discovered. **Results:** The postoperative evolution was gradually favorable, requiring hydroelectric and acid-base rebalancing. The patient was recommended a balanced hygienic-dietary regimen and to avoid intense physical effort for at least three months, while wearing an abdominal containment belt. She was prescribed Fraxiparine, Prestarium and Lagosa. **Conclusions:** Hydatid cysts can reach an extremely large size without any additional symptoms or activity limitations, hence the occurrence of complications. Even so, we can say that no matter the size, a hydatid cyst can have a good outcome when applying the proper care.

**Keywords:** giant hydatid cyst, liver, right hepatic lobe, pericystectomy

## PROXIMAL GASTRECTOMY WITHOUT LIGATURE IN SUBCARDIAL NEOPLASM. CASE REPORT.

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**Background:** More than 90% of gastric tumors are represented by adenocarcinoma and those with proximal localization have the worst prognosis. Superior polar gastrectomy can be used as treatment only in T2 tumor stage (muscularis propria invasion). **Objective:** The purpose of this paper is to present a patient with subcardial neoplasm that underwent surgical treatment with superior polar gastrectomy without ligature with mechanical tubularization in an Orringer-Sloan manner. **Material and methods:** We present the case of a 61 year old male who was admitted at the Surgery Clinic nr.1 of the Tîrgu Mures Emergency County Hospital complaining about gastric pain. We know from the history of the patient that following an episode of epigastric tenderness and diffuse abdominal pain, the patient was admitted at the Gastroenterology Clinic in Iasi, where he was diagnosed with poorly differentiated gastric adenocarcinoma with signet-ring cell component located at subcardial level. We intervened surgically by medial xifo-umbilical approach followed by exploratory laparotomy and proximal gastrectomy without ligature with gastric mechanical tubularization in Orringer-Sloan manner and termino-terminal mechanical anastomosis. We also performed D1+ lymphadenectomy. **Results:** The patient's postoperative progression is favorable under treatment with antibiotic, blood thinner, antacids, analgesic, anti-inflammatory and hydroelectrolytic rebalancing and parenteral nutrition therapy. After 10 days, the patient is discharged in good general condition. **Conclusions:** In conclusion, gastric tubularization in the Orringer-Sloan manner is a viable alternative for the classical intervention of proximal gastrectomy by the lower rate of stricture and esophageal reflux.

**Keywords:** Orringer-Sloan manner, Proximal gastrectomy, Without ligature, Mechanical anastomosis

## BOERHAAVE SYNDROME WITH LEFT ESOPHAGEAL PLEURAL FISTULA

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**Background:** Boerhaave's syndrome was first described by Hermann Boerhaave, in 1724. It is also known as spontaneous esophageal rupture or effort rupture of the esophagus. Even though it usually occurs after forceful emesis, other causes include weightlifting, defecation, epileptic seizures, abdominal trauma, all of which can increase the pressure in the esophagus and cause its rupture. **Objective:** The purpose of this report is to describe a case involving a late diagnosed Boerhaave Syndrome. **Material and methods:** We present the case of a 59 years old female patient who was admitted to the Thoracic Surgery Clinic, with chest pain and showed signs of dyspnoea and right pleurisy. This case has the particularity of being late diagnosed. The radiological examination revealed the presence of an esophageal rupture, with left esophageal pleural fistula. Her clinical status worsened, thus she was urgently admitted to the Surgery 1 Clinic, 48 hours later. At the operating room was performed surgical drainage, consisting in: esophagostomy, left thoracotomy, jejunostomy and was necessary a Kehr tube insertion. The usage of transpleural exteriorized Kehr tube is also a special technique, performed for the late diagnosis of Boerhaave Syndrome. **Results:** Postoperative evolution was favourable, so that removal of Kehr tube and closure of the esophagostomy was possible. The patient was discharged, with the recommendation of avoiding physical effort and following an alimentary regime. Furthermore, the patient was required to take care of the jejunostoma and come back to the department for clinical reevaluation. **Conclusions:** The presented case revealed a positive outcome of one of the most lethal diseases of the gastrointestinal tract, with a mortality rate up to 40%. Without treatment, survival of Boerhaave's syndrome is in days. Management relies on rapid recognition and intervention, which in many cases saves the patient's life.

**Keywords:** Boerhaave Syndrome, esophagostomy, transpleural exteriorized Kehr tube, esophageal pleural fistula

## RHEGMATOGENOUS RETINAL DETACHMENT ASSOCIATED WITH A MACULAR PSEUDOHOLE

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**Background:** A rhegmatogenous retinal detachment (RRD) occurs when a tear in the retina leads to fluid accumulation with a separation of the neurosensory retina from the underlying retinal pigment epithelium (RPE). The symptoms of a retinal detachment can include: a sudden increase in size and number of floaters usually accompanied by flashes of light, decrease of visual acuity, the appearance of a shadow in the periphery (side) of your field of vision, seeing a gray curtain moving across the field of vision. **Objective:** The aim of this paper is to present a case of a patient with a retinal detachment associated with a macular pseudohole. **Material and methods:** This is a case presentation of a 62 years old female who noticed the presence of floaters 4 months before coming to the ophthalmology center. The patient was known with HTA and OU hyperopia (OD +0.50 dsf, OS +0.75 dsf) and she was referred to us with a marked decrease in visual acuity. The symptoms started two days before, with a progressive character. The ophthalmologic examination revealed decrease in visual acuity in the right eye, intraocular pressure within normal limits, and in the examination of the posterior pole OD we noticed the retinal detachment with a retinal tear in the superior temporal area and a macular pseudohole. In was performed in local anesthesia, pars plana vitrectomy on 27G, endolaser coagulation and gas tamponade. **Results:** One month postoperative, visual acuity was 0.1 BCVA, TOD= 16 mmHg, retina is attached, atrophy pigmentation scars post laser photocoagulation in the superior quadrant. The biomicroscopic examination revealed OD posterior capsule opacity. Two month postoperative, the patient reports a decrease in visual acuity. **Conclusions:** Postoperatively, by anatomically point of view, the results are very good but the visual results are not in line with the patients expectation.

**Keywords:** retinal detachment, macular pseudohole, vitrectomy, floaters

## SUBHYOID ECTOPIC THYROID WITH A SOLITARY COLLOID NODULE - A NOVEL DIAGNOSTIC ENTITY

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**Background:** Ectopic thyroid is a rare clinical entity and the overall prevalence reported of is 1 per 100,000-300,000. Moreover, thyroid nodules are less frequent in children, and recent studies based on ultrasound evaluation have detected prevalence ranging from 0.2-5.1%. **Objective:** A 7-year old girl had initially presented to paediatric endocrine clinic as an asymptomatic midline neck-swelling noticed one year prior to presentation. She was growing according to her target height. Tanner stage was pre-pubertal. Local examination revealed a solitary midline swelling 2.5x2.5cm in anterior region of the neck which did not move with deglutition or protrusion of tongue. **Material and methods:** Thyroid-function-tests were within normal limits. Antithyroid antibodies were negative. Ultrasound-neck showed well-defined hypoechoic subhyoid tissue measuring 2.8x2.2x0.8cm in midline which is a nodule measuring 2.1x0.9x2.8cm. Thyroid fossa was empty. 99Technetium-per technetate scan showed an ectopic thyroid at subhyoid level with no uptake noted in region of thyroid. Findings were confirmed by CT-neck. FNAC of swelling revealed thyroid follicular cells filled with colloid with no evidence of atypical or malignant cells. She was lost to follow-up and presented at 10-years of age with failure to gain adequate height and increase in size of neck-swelling. Repeat ultrasound and serum-thyroglobulin levels were done. On thyroid-function-tests, she was found to be hypothyroid. She was started on levothyroxine. After ensuring euthyroid status, surgical extirpation was done. Postoperatively, her symptoms were relieved. **Results:** We report a case of subhyoid ectopic thyroid in 10-year-old girl, the youngest age at which it is being reported in literature, and its course over span of 3-years. **Conclusions:** A differential diagnosis of ectopic thyroid should be considered in all cases of a midline neck swelling. Careful monitoring for height velocity, swelling-size, associated symptoms, and response to medical management should be assessed regularly, so that surgical intervention can be done at an appropriate time if required as in case described.

**Keywords:** Subhyoid ectopic thyroid, Solitary colloid nodule, Failure to gain adequate height, Hypothyroidism

## FINDING THE PEANUT! FOREIGN BODY ASPIRATION-CASE REPORT.

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**Background:** Aspiration of foreign bodies by children can turn into a life-threatening emergency if the aspirated object is not immediately located and the airways are not repermeabilized in time causing severe respiratory distress, hypoxic brain damage or death. The most common causes of accidental deaths in kids are aspirated objects often food stuffs like peanuts, seeds or bones. **Objective:** Good coordination and collaboration in an interdisciplinary team is vital to correctly assess the airways management. **Material and methods:** A 3 years-old patient without any other comorbidities is thought to have aspirated a peanut at home, developing sudden respiratory distress. The patient was taken into ENT clinic where a rigid tube bronchoscopy was made. Immediately, the patient's condition deteriorated, the saturation decrease developing subcutaneous emphysema on thorax and cervical regions. The patient needed orotracheal intubation, mechanical ventilation and was transferred to pediatric ICU. The CT detected right pneumothorax and a 1/1/1 cm foreign body in the right main bronchus that created a near-total obstruction and bronchial wall injury was suspected. The patient was hemodynamically stable but with mechanic ventilation difficulties-high pressures, low volumes. An interdisciplinary team formed by a thoracic, cardiac, pediatric surgeons gathered to establish the next step in patient treatment. They made another bronchoscopy trying to reach the object in the right main bronchus but its extraction failed. After performance of a right thoracotomy with exposure of the bronchus whose injury was confirmed right under carina, the foreign body (a peanut) could be visualized. **Results:** After peanut extraction, the bronchial wall was reconstructed with pericardial patch. The patient was mechanically ventilated for an hour and extubated with a good respiratory function and neurological status integrity. After 7 days the patient is discharged in safe conditions. **Conclusions:** In extreme situations, forming a multidisciplinary team to establish the therapeutic course is

lifesaving.

**Keywords:** Aspiration, Children, Foreign body, Interdisciplinary team

## THE IMPORTANCE OF NEUTROPHILS TO LYMPHOCYTES RATIO AND THROMBOCYTES TO LYMPHOCYTES RATIO AS PROGNOSTIC FACTORS FOR PATIENTS WITH RECTAL CANCER

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**Background:** Recently, many doctors have been studying the importance of the peritumoral and systemic inflammatory reactions as prognostic factors for neoplastic patients. It was demonstrated the fact that systemic inflammatory reaction can represent a negative factor in the prognosis of the operated patients for different types of cancer. **Objective:** The purpose of the study is the importance of some inflammation markers as prognostic factors. **Material and methods:** We analyzed an observational retrospective study on a period of four years. We involved in the study 273 patients with rectal cancer hospitalized and operated in the Surgical Clinic I from the Mures County Emergency Clinical Hospital. As markers of inflammatory syndrome, we studied the serum level of neutrophils to lymphocytes ratio and also the serum level of thrombocytes to lymphocytes ratio of the selected patients. We tried to establish correlations between the existence of the systemic inflammatory reaction and the next anatomical and clinical factors: the presence of the tumoral stenosis, the occlusive character of the tumor, neoplastic vascular and perineural invasion and the stage of the tumor. **Results:** The statistical analysis of the database demonstrated a direct correlation of the serum level of neutrophils to lymphocytes ratio with the differential stage of the tumor and also the presence of the occlusive character. It was also demonstrated the correlation between the thrombocytes to lymphocytes ratio and the presence of the occlusive character. We did not obtain a direct correlation statistically significant with the vascular, perineural invasion or the stage of the tumor. **Conclusions:** Our study demonstrated the fact that in some of the selected cases the serum levels of neutrophils to lymphocytes and also thrombocytes to lymphocytes ratio can be considered prognostic factors in rectal cancer.

**Keywords:** inflammation, rectal, cancer

## PARTICULAR ASPECTS OF ARRHYTHMIA TREATMENT USING AMIODARONE IN A PATIENT WITH MULTIPLE HEART DISEASE

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**Background:** Cardiac arrhythmias are caused by abnormal impulse generation, conduction or both simultaneously. It is often difficult to establish the implicated mechanism for many clinical arrhythmias. Structural cardiac disorders, such as hypertrophy and left ventricular aneurysm can delay ventricular repolarization and lead to abnormalities secondary to repolarization. Electrolyte disorders and drug treatments can amplify the existing anomalies. **Objective:** Our aim is to present the implications of medical and surgical cardiac treatments in the development of arrhythmias in a patient with various cardiac disorders. **Material and methods:** The patient is a 69-year-old female with a history of recent anterior myocardial infarction, left ventricular aneurysm, coronary lesions, hypertension, persistent atrial fibrillation(AF), under amiodarone treatment which has been admitted to the emergency health services. The clinical evaluation report concluded a long QT syndrome (LQTS) and atrial fibrillation. The patient stayed for extended monitoring until the surgical treatment could be applied. Amiodarone and diuretic treatment were used, successfully converting the AF, but maintaining the LQTS. She underwent aortocoronary bypass and left ventricle geometric reconstruction. The amiodarone treatment continued postoperatively and the LQTS disappeared. 48 hours after the surgery the patient developed multiple episodes of pulseless ventricular tachycardia but it was converted to normal sinus rhythm through defibrillation and amiodarone, without ischemic lesions. Lidocaine proved to be ineffective in this case. **Results:** The Holter monitoring highlighted ventricular extrasystoles and supraventricular tachycardia, that indicated permanent cardiostimulation. The implantable cardioverter-defibrillator surgery took place 10 days after the aortocoronary bypass surgery with favorable evolution. **Conclusions:** The left ventricular aneurysm repair determined the

apparition of a reentry circuit which made amiodarone the drug of choice against arrhythmias.

**Keywords:** long QT syndrome, amiodarone, ventricular aneurysm

## HEART TRANSPLANT. A LIFE-SAVING PROCEDURE

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**Background:** Cardiac transplantation is a therapeutic indication for patients with terminal heart failure with one-year life expectancy exceeding 50%. Among the cardiac transplant indications are included: significant functional limitation (NYHA IV heart failure) despite maximum medical therapy, refractory ischemia with inoperable coronary artery disease and left ventricular ejection fraction <20%, recurrent symptomatic ventricular arrhythmias. Specific contraindications are represented by: old age (>65 years), severe pulmonary dysfunction, pulmonary vascular resistance >5 Wood units, active infection. The left ventricular assist devices (LVADs) are miniaturized implantable pumps that offer circulatory support. LVADs should be used as a bridge to transplantation for patients with heart failure (HF) that are unresponsive to maximal medical therapy. **Objective:** Our main goal is to emphasize the fact that cardiac transplantation is a complex surgical procedure that offers a chance for a better quality of life. **Material and methods:** A 55-years-old patient has been diagnosed with dilated cardiomyopathy of undetermined etiology that led to severe mitral and tricuspid regurgitation, limiting his quality of life. Echocardiography revealed secondary pulmonary hypertension and severe impairment of the global ejection fraction by 20%. The clinical and paraclinical investigations were in accordance with the transplantation guidelines. The heart transplant was performed in 2016 using the BI-CAVAL technique in extracorporeal circulation, having the advantage of maintaining the right atrium intact, preventing arrhythmias. **Results:** The transplanted cord was normal on ultrasound, observing a major improvement in hemodynamics. Temporary early bradycardia required external cardiostimulation. No other early and mid-term complications were observed. **Conclusions:** The only therapeutic method that can increase life expectancy and improve its quality in patients diagnosed with terminal heart failure is cardiac transplantation.

**Keywords:** heart transplant, dilated cardiomyopathy, luBCvT

## BENTALL PROCEDURE FOR AORTIC ROOT ANEURYSM

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**Background:** The most frequent etiologies of aneurysm are: untreated arterial hypertension, hypercholesterolemia, extracellular matrix disorders or genetic predisposition (Marfan, Ehlers-Danlos, Loyes-Dietz Syndromes). Surgical treatment is required to prevent rupture of the aortic wall. **Objective:** Our main goal is to demonstrate the benefits of Bentall procedure in case of an aortic root aneurysm. **Material and methods:** A 62 years old male patient accusing non-specific chest pain, was diagnosed on echocardiographic examination with ascending aortic aneurysm (60 mm) with severe aortic valve regurgitation, with morphologic valve alterations, dilated aortic annulus (25 mm) affecting also the sino-tubular junction. No other comorbidities were registered. Thoracic AngioCT examination confirmed the presence of aortic root dilation. These pathological findings directed the surgical plan to aortic root replacement including ascending aorta and aortic valve with a valvular conduit and coronary ostial reimplantation, surgical technique known as Bentall procedure. **Results:** The patient had favorable evolution without postoperative complications and the echocardiographic examination confirming that the valvular conduit is normofunctional. **Conclusions:** Bentall procedure is the gold standard surgery to replace the aortic root aneurysm correlated with morphological aortic valve disorders, restoring the aortic valve function and prevents rupture of the aortic root, improving the quality of life.

**Keywords:** aneurysm, aortic insufficiency, Bentall procedure

## CERVICAL ADENOCARCINOMA - A CHALLENGING SURGICAL APPROACH

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**Background:** The distinction between cervical and endometrial adenocarcinoma can sometimes encounter difficulties, especially due to small bioptic specimens, leading to a burdensome therapeutic decision. **Objective:** The objective of this case report is to emphasize how important the corroboration between clinical exam, imaging studies and multidisciplinary approach could be, confronting with a complex case of gynecologic cancer. **Material and methods:** We present the case of a 46-year-old woman, gravida 1, para 1, who was admitted in our Clinic with the histopathological diagnosis (ex domo) of cervical adenocarcinoma. Being considered an advanced stage of disease, with parameter invasion (FIGO II B), the patient was advised to begin chemotherapy. The gynecological exam and the imaging studies revealed minimal changes of the cervix, without marks of parameter infiltration and also absence of any metastasis. Since the incidence of cervical adenocarcinoma is no more than 15%, we could not exclude neither the concomitant existence of an endometrial cancer, nor the extension of the tumor process to the cervix. **Results:** We approached effective laparoscopic surgery: radical hysterectomy with bilateral adnexectomy, sentinel lymph node dissection, pelvic lymphadenectomy, peritoneal lavage and extended parametrial and peritoneal biopsies. The surgical procedure went good, without any complication, the postoperative evolution was favorable and the patient was discharged in the fourth postoperative day. Histopathological examination indicated: endometrial adenocarcinoma staged T1aN0M0 (G1) and concomitant cervical adenocarcinoma in situ. The patient was considered surgically recovered with a good long-time survival and a low risk of relapse. Yet follow-up examinations need to be provided regularly, without requiring hereafter adjuvant chemotherapy or radiotherapy. **Conclusions:** Cervical adenocarcinoma still remains a challenging diagnostic and a therapeutic problem for the modern Gynecology. Only early detection, correct diagnosis and staging, adequate therapy and multidisciplinary approach could lead to the decrease of the mortality and morbidity.

**Keywords:** cervical adenocarcinoma, endometrial adenocarcinoma, surgery approach

## GIANT RETROPERITONEAL MALIGNANT TUMOR – CASE REPORT

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**Background:** The retroperitoneum may host various pathologies, including benign and malignant tumors for which the surgical management can be a difficult task. The leiomyosarcoma represents approximately 16% of the soft tissue sarcomas in adults, most commonly affecting the females aged between 50 and 70. The management of this type of neoplasm is strenuous because the signs and symptoms the patients report are not specific and that, at the moment of diagnosis, the leiomyosarcomas are typically considerably large. **Objective:** This study aims to emphasize the difficulty in the surgical management of a patient with a giant, fast growing, retroperitoneal neoplasm. **Material and methods:** A 61-year-old patient operated in 2009 for an inflammatory intestinal pseudotumor (11/10/6cm), accusing abdominal pain, constipation and weight loss (10kg in 2 months). Imagistic examinations, June, 2017 – tumoral mass occupying the left lumbar region (82/66mm), the right lumbar region (100/58mm) and the left kidney (26 mm) and superior mesenteric adenopathy; the patient was administrated 2 sequences of chemotherapy; October, 2017 – a tumor measuring approximately 30cm, axial plan diameter 19cm. The patient also presented modifications in the haemoleucogram and biochemical analysis. The patient was operated in December 2017 with the aim of removing the neoplasm but because it was occupying the left quadrants, the epigastric and umbilical regions and the right lumbar and iliac regions, including the mesentery, the great vessels and the transverse mesocolon and its mobilization apart from the organs was impossible, there was performed an exploratory median laparotomy and the tumoral biopsy. **Results:** The histopathological examination revealed the tumor was, in fact, an epithelioid leiomyosarcoma. Although there were no short-term complications of the intervention, the long-term prognosis is poor. **Conclusions:** The diagnostic progress may be delayed because of the non-specific symptoms and that some varieties of tumors are fast growing; this makes the surgical approach more difficult and even incompletely successful.

**Keywords:** Retroperitoneum, Leiomyosarcoma, Inextricable

## SPLENECTOMY OF NECESSITY, OPPORTUNITY AND COMFORT IN THE CASUISTICS OF THE 2ND SURGICAL DEPARTMENT OF EMERGENCY COUNTY HOSPITAL TARGU MURES

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**Background:** Splenectomy is an important part in the activity of surgical services. In the past few years has been reported an increase in the number of laparoscopic splenectomies and a decrease in classic surgical procedures. **Objective:** The aim of our study was to evaluate and demonstrate the habits and trends of splenectomies between 2006 and 2017 performed in the 2nd Surgical Department of Emergency County Hospital Targu Mures. **Material and methods:** A retrospective study was carried out across a 12 year period (2006-2017) during which 402 splenectomies were performed. Data was taken from the hospital records from observation sheets. **Results:** Our splenectomized patients were divided into three categories: The first category included 219 patients with necessity splenectomies; the second category included 143 patients with splenectomies of opportunity; in the last category we included 3 patients with splenectomy of comfort. Between 2006-2017 49 patients underwent laparoscopic splenectomies and 80 were splenectomized in emergency conditions. The annual number of splenectomies performed under emergency conditions remained relatively constant at 6-8 cases per year. The frequency of splenectomies performed for hematologic diseases shows a downward trend in the recent years: in 2007 we identified 12 patient, while in 2017 we had only 6 patient splenectomized for hematologic disorders. Also we noticed a decreasing trend in the surgical approach, if in the past years splenectomies for hematologic disorders were performed by the classic approach, the tendency in recent years is to use laparoscopic splenectomy. **Conclusions:** Spleen surgery is still an important segment of surgical interventions, within which we observed an important decrease in the number of classical splenectomies performed for hematologic diseases, and an increasing trend of laparoscopic splenectomies for these disorders. Laparoscopic splenectomies are gaining ground in the present.

**Keywords:** classic splenectomy, laparoscopic splenectomy, trend

## EVOLUTION OF PORTOSYSTEMIC SHUNTS IN THE TREATMENT OF PORTAL HYPERTENSION IN THE CASUISTICS OF THE 2ND SURGICAL DEPARTMENT OF EMERGENCY CLINICAL COUNTY HOSPITAL TARGU MURES

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**Background:** An important element of the complex algorithm in the treatment of the portal hypertension is represented by the surgical portosystemic shunts. Due to the development of minimally invasive procedures in the department of gastroenterology and interventional radiology, the use of these surgical shunts has decreased. **Objective:** The objective of our study was to evidenciate the evolution in time of these surgical interventions and to show their actual place in the surgical treatment of portal hypertension. **Material and methods:** Observation sheets of the 2nd Surgical Department of Emergency County Hospital Targu Mures between 2006-2017 were analysed retrospectively. We identified 25 patients with surgical portosystemic shunts. **Results:** From a total of 25 patients who underwent surgical porto-systemic shunting, 4 had proximal Linton splenorenal shunts, 5 had distal Warren splenorenal shunts, and the rest of 16 patients had troncular shunting interventions. These troncular shunts were divided in two categories : 10 patients presented portacaval shunts and 6 were identified with mesenteric-caval shunts. We noticed a decrease in the number of patients with portosystemic shunts ,for example :if in 2006 and 2007 we had 5 respectively 3 patients with portosystemic shunts , in 2016 we identified none while in 2017 we had 2 shunted patients. **Conclusions:** Recently ,in the era of liver transplantation and because of the development of minimally invasive procedures like the ligation of bleeding esophageal varices and the transjugular portosystemic shunts(TIPS), the number of surgical portosystemic shunts are decreasing . However in well documented situations these shunts are still keeping their importance, remaining a solution of few surgical departments with experience with this procedure.

**Keywords:** porto-systemic, portal hypertension, shunt

## INTERRUPTED AORTIC ARCH: A COMPLEX CONGENITAL CARDIOVASCULAR ANOMALY- CASE REPORT

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**Background:** Interrupted aortic arch (IAA) is a very rare congenital anomaly, representing 0.5-1.5% of all congenital heart disease. It is defined as the loss of luminal continuity between the ascending and descending aorta. Isolated IAA is exceedingly rare, often being associated with other cardiac anomalies. **Objective:** The aim of this presentation is to address the surgical management in a rare congenital heart disease and to discuss how important early diagnosis in these cases is. **Material and methods:** We present the case of an 13-days-old patient diagnosed two days after birth with a severe congenital heart disease, with ductal-dependent systemic circulation: interrupted aortic arch, type B, confirmed by CT-angio, congestive heart failure NYHA IV, high outlet VSD, ASD, patent ductus arteriosus. The case was discussed in the cardio-surgical colloquium at IBCvT Târgu Mureș and accepted for surgery. **Results:** The surgical management of this patient consisted of aortic arch reconstruction and closure of the VSD with heterologous pericardial patch, suture of the ASD and ligation of the patent ductus arteriosus (in extracorporeal circulation, at 18°C). Postoperative evolution was turbulent, hampered by complications (upper right lobe atelectasis, tonic-clonic seizures, right hemidiaphragm paralysis- which imposed surgery). The postoperative echocardiographic examination revealed a good global contractility without a residual shunt, no pleural-pericardial fluid collections. The patient was discharged after 36 days in a generally good condition, afebrile, hemodynamically stable. **Conclusions:** IAA associated with other complex cardiac malformations represents a neonatal surgical emergency. Therefore, it is vital to readily diagnose and solve the anomalies, ideally during the same surgical intervention.

**Keywords:** interrupted aortic arch, early diagnosis, rare anomaly

## THE PRINCIPLES OF TREATMENT IN A CASE WITH AN OPEN FRACTURE OF THE RIGHT UPPER LIMB

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**Background:** An open fracture is a fracture with direct communication to the external environment. This wound is caused by a fragment of bone breaking through the skin at the moment of the injury. **Objective:** Our purpose in this case is to preserve viable tissues and to prevent the complications, even if the situation requires amputation of the limb. **Material and methods:** We have a patient of 58 years old who suffered an upper extremity trauma while manipulating a machinery in his workplace. The patient was presented in our emergency department with the diagnosis of traumatic amputation in the middle of the right forearm, crushing trauma and acute ischemic syndrome in his right forearm. He was directed to the Orthopedic Department. The doctor had a careful examination of the wound and fracture, checking for damage to soft tissues, nerves and circulation. An X-Ray examination showed the extension of the fracture and the number of the broken bones. After an appropriate preoperative preparation the team of doctors began the surgery with the chemical and mechanical toilet of the wound, then the excision of the devitalized soft tissues. Because of the forearm trauma, the reconstruction could not be done and the next step was amputation of necessity in the middle of the right forearm. **Results:** The postoperative evolution was positive with surgical wounds in process of healing, without other complications. **Conclusions:** The most common and severe complication of an open fracture is infection and osteomyelitis. The patient must respect the doctor recommendation: functional rest, antiinflammatory treatment and orthopedic control after 4 weeks. The choice of a prosthesis is an optional decision but it also depends on several socioeconomic factors.

**Keywords:** open fracture, amputation, prosthesis

## EMBOIALIZATION AND CHEMOEMBOLIZATION TREATMENT IN ADVANCED GASTRIC CARCINOMAS

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**Background:** Digestive cancers are number 1 in malignant tumor pathology, with over 3 million new cases detected annually, responsible for 2.2 million deaths. In a population of 21.361.000 residents, there is a number of 70.300 new cases annually and 46.300 deaths from gastric cancer, being on the 4th place. Currently, 3 factors are considered to bear the responsibility of gastric cancer occurrence: helicobacter pylori infection, genetic susceptibility and ambient factors. **Objective:** The purpose of this study was to analyze the chemoembolization treatment in gastric cancer. **Material and methods:** We included a number of 25 patients with gastric cancer, treated with chemoembolization in Surgical Clinic no.1, Tg Mures, in the period of April 2012 - December 2012. The treatment was associated with invasive techniques, used as therapeutic arsenal. **Results:** Chemoembolization was performed in all cases once (2 exceptions). Surgery was performed in every case. There was a total of: 17 gastrectomy, a transgastric polypectomy, two gastro-jejunoscopy and in 5 cases the intervention was limited to a simple exploration with biopsy sampling, (inoperable case). In one of these cases was required reintervention because the patient showed signs of severe stenosis. We recorded an unfavorable evolution in a patient aged 64, that postoperative developed a progressively worsening heart failure, dying at 25 days postoperatively. **Conclusions:** Supraselective chemoembolization of left gastric artery and gastroduodenal artery is a great way of treatment, constantly expanding. It is very well-tolerated by all categories of patients (with heart disease, lung disease, advanced age) and can be performed in emergency conditions with immediate results. By lowering the blood supply, it decreases the flow of venous blood and decreases the dispersion of the tumor cells. It is a method of great insight and it must be combined with open surgery and adjuvant chemoradiation, obtaining a significant reduction of the tumor.

**Keywords:** embolization, gastric, carcinoma

## A POLYTRAUMATIZED PATIENT FROM AN ORTHOPAEDIC SURGEON'S POINT OF VIEW - CASE REPORT

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**Background:** In case of a polytraumatized patient, the medical intervention must be immediately performed by an experienced multidisciplinary medical team, based on precise protocols. The basic of these protocols includes first of all the treatment of the traumatic injuries with vital risk. **Objective:** Our aim is to inform about the importance of the multidisciplinary team in the case of a polytraumatized patient. **Material and methods:** Patient D.L., aged 49, male, presents in the emergency department after suffering a car accident which resulted in left femoral subtrochanteric fracture, left femoral neck fracture, posterior acetabular cup fracture, left radius and ulna fracture, 1/3 medium left humerus fracture, wounds on the left forearm, left iliac crest fracture and toraco-abdominal trauma. Surgery was performed for the treatment of the closed fracture and osteosynthesis with Gamma large pin of the left femur, reduction of the opened fracture and osteosynthesis with screws and plate of the left ulna and radius, reduction of the closed fracture and osteosynthesis with Ender elastic pin of the left humerus. A toraco-abdominal CT examination which shows a massive pleural effusion in the left lung and a medium pleurisy in the right lung was carried out. That is the reason why the intervention of the surgery team was necessary. **Results:** Postsurgical evolution was favourable, with healed surgical wounds and a secondary intention wound. The patient was discharged with improved status. **Conclusions:** We all have to understand the importance of the multidisciplinary team work, which can lead to better healing and recovery of the patient.

**Keywords:** femur fracture, humerus fracture, ulna fracture

# **POSTER - NON - SURGICAL**

## INFECTIONS IN PATIENTS WITH OBESITY - CLINICAL-THERAPEUTICAL AND EVOLUTIVE ASPECTS

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**Background:** The literature indicates that people with obesity have increased susceptibility to infections and present a risk of more severe evolution. **Objective:** The aim of our study was to analyze the infections variety in obese patients as well as clinical, biological, therapeutic and evolutionary aspects. **Material and methods:** A retrospective study performed on a group of 83 obese patients from The Clinical Hospital of Infectious Diseases in Brasov, hospitalized in 2017 for the diagnosis and treatment of various infections. The types of infections, the changes of some laboratory values, chronic associated diseases, antibiotic treatments and patient evolution were all analyzed. **Results:** In 2017 the proportion of obese patients admitted in the adult ward was 4,43% from all the admissions. The admissions were more frequent for females (63%), in age groups 56-65 years (38,55% cases) and over 65 years (36.14% cases). The picture was dominated by acute diarrheal disease of various etiologies (36.14% cases), acute respiratory infections, especially pneumonitis (31.32% cases) and cutaneous infections, especially cellulite (27.71%). Patients had associated comorbidities in 83,13% of cases, of which 63,85% cardiovascular ones and 55,42% diabetes cases. 89.16% of the patients received antibiotic treatment, the most frequently used were the second generation and third generation of cephalosporins (39.19%) and fluoroquinolones (18.92%). Deaths were seen in 2.41% of cases. **Conclusions:** The hospitalizations for patients with obesity were rare but with a varied clinical spectrum, requiring antibiotic treatment for most of the cases. The evolution was favorable for the majority of patients. Patients had commonly associated comorbidities, which have increased the risk of severe evolution, requiring adequate treatment and permanent medical surveillance.

**Keywords:** infection, obesity, comorbidities

## ACUTE DIARRHEAL DISEASE AND SECONDARY DYSPEPTIC SYNDROME IN THE CHILD

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**Background:** Acute diarrheal disease is one of the most frequent gastrointestinal disease in children. It is defined as a decrease in stool consistency and/ or an increase in the frequency of evacuations. Etiology may be infectious or non-infectious. **Objective:** The aim of paper was the analysis of cases of acute diarrheal disease (ADD) in the child in comparison with secondary dyspeptic syndrome (SDD). **Material and methods:** We performed a retrospective descriptive study on a group of 53 patients between the ages of 0 and 14, admitted to the Pediatric Clinic I between May and October 2017, comparing cases of acute infectious diarrheal disease with those who had diarrhea secondary to other pathologies. A database was created, and statistical analysis was performed using Graph Pad software. **Results:** There were 22 cases of ADD (41.5% of the group) and 31 cases of SDD, mentioning that 5 patients with ADD had multiple localized and/ or septic infections, and SDD cases were mostly secondary to an acute respiratory infection. Of the analyzed cases, 66% were infants, 18.86% were toddlers (1-3 years), the rest (15%) being older than 3; analyzing the age of children with ADD compared to SDD cases, there was no statistically significant difference (p=0.17). Although the group included more boys (56.6%) and children from rural areas (73.54%), there were no statistically significant differences regarding the gender (p=0.53) or the area of origin (p=0.72) in patients with ADD versus those with SDD. The number of days of hospitalization was 6±0.6 days, with no differences on sublots (p=0.7). **Conclusions:** The present study has detected acute diarrheal disease in a higher percentage of infants, predominant males and patients from rural area. By comparing ADD and SDD cases we did not identify statistically significant differences in the studied parameters.

**Keywords:** acute diarrheal disease,, child,, gastroenteritis,, secondary dyspepsia

## POSSIBLY SPORADIC MEDULLARY THYROID CARCINOMA AT AN ASYMPTOMATIC PATIENT - CASE REPORT

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<sup>2</sup>

**Background:** Medullary thyroid carcinoma is a rare form of thyroid cancer, which originates from parafollicular cells (C cells), which produce calcitonin hormone. They make about 4-5% of all thyroid cancers. **Objective:** The purpose of this case report was to present an uncommon case of medullary thyroid carcinoma diagnosed in the Endocrinology Clinic of Tîrgu Mureş. **Material and methods:** We present the case of a 58 years old male, who was diagnosed after a routine thyroid echographic examination with multinodular goiter. The patient had no previous endocrinological medical history. The patient was admitted in the endocrinology department of Tîrgu Mureş and the physical examination demonstrated a dominant thyroid nodule at the right base of the neck, without palpable cervical lymphadenopathy. Following the clinical and paraclinical evaluation, the established presumptive diagnosis is medullary thyroid carcinoma due to a high level of calcitonin hormone: 274 pg/ml. It was performed a fine needle aspiration biopsy of thyroid nodules, which raises suspicion of medullary carcinoma. Metanephrines and normetanephrines were used as screening tests to exclude the possibility of a MEN (Multiple Endocrine Neoplasia) Syndrome. The risk was eliminated, because the results had been negative. Surgery remains the standard treatment for medullary thyroid carcinoma, therefore it was performed a total thyroidectomy with central compartment lymph node dissection, in order to prevent lymph node metastasis. **Results:** Postoperative patient's paraclinical evaluation showed a level of calcitonin hormone of 4.05 pg/ml. The patient has to follow the hormonal substitution treatment and it is highly recommended to reevaluate calcitonin values after the total thyroidectomy. He has to return for regular medical advice, to reassure the lesion did not spread outside the cervical region. **Conclusions:** The outcome depends on the extent of disease and the nature of tumor. An earlier diagnosis will improve the management and the treatment of thyroid carcinoma. The patients' children have to do thyroid ultrasound and screening tests for familial medullary thyroid carcinoma.

**Keywords:** Medullary thyroid carcinoma,, Total thyroidectomy,, Lymph node dissection,, Calcitonin hormone

## THE ANALYSIS OF DEMOGRAPHIC ASPECTS AS PREDISPOSING FACTORS OF CONSTIPATION IN CHILDREN

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**Background:** Constipation is a common disease among children and can be defined as the delay or difficulty of the process of defecation. **Objective:** The analysis of constipation cases in children highlighting the relationship between patients demographic data (age, gender, environment) and the type of constipation. **Material and methods:** This retrospective descriptive study was conducted on a group of 40 children hospitalized with constipation in the Pediatric I Clinic during 05.2017-10.2017 using diagnostic criteria according to the Protocols for diagnosis and treatment in Pediatrics, 2017 and GraphPad software for statistical analysis. **Results:** Demographic data showed a higher prevalence of patients from rural area 67,5% than urban area, most cases (65%) included males patients. Out of 40 cases, 60% were under 4 years old. We identified the main cause of constipation as functional (75%) rather than organic, without significant differences between genders ( $p=0,71$ ), environment ( $p=0,85$ ) or age ( $p=0,46$ ). Although functional constipation occurs more frequent in patients under 4 years old (79,16%) compared with older children (68,75%), we found the difference not statistically significant ( $p=0,48$ ) (odds ratio 0,578; 95% confidence interval: 0,136-2,46); similar situation was also observed in the analysis by sex (odds ratio 0,74; 95% confidence interval: 0,158-3,465,  $p=1,00$ ) and environment (odds ratio 0,857, 95% confidence interval: 0,181-4,04,  $p=1,00$ ). The most common symptoms were abdominal pain 74,19%, rectal bleeding 16,12%, encopresis 9,67%. **Conclusions:** Constipation is a condition that affects younger age groups, with an increased prevalence in rural areas, in most cases functional constipation is encountered. On the studied lot, sex, environment, and age could not be considered risk factors for a certain type of constipation.

**Keywords:** Constipation,, Child,, Abdominal pain

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## ARE SPONDYLOARTHRITIS RISK FACTORS FOR STROKE – A META-ANALYSIS

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**Background:** Spondyloarthritis (SA) are a group of diseases characterized by inflammation of spine and sacroiliac joints as main musculoskeletal manifestations. Inflammation is known as a risk factor for cerebrovascular disease. **Objective:** The objective of our study was to outline the higher risk for stroke in patients diagnosed with spondyloarthritis. **Material and methods:** A meta-analysis was performed in order to find out if SA are coming with a risk for stroke. PlosOne and Medline were the platforms used for our analysis. The searching terms were: stroke, spondyloarthritis, Crohn's Disease, ulcerative colitis, psoriatic arthritis, ankylosing spondylitis. 14810 results were listed. After applying the inclusion and exclusion criteria (full access to data, risk for stroke adjusted with age, gender and co-morbidities such as: diabetes, atrial fibrillation, smoking etc.) only 6 studies were finally analyzed. **Results:** Due to the heterogeneities of the studies a forest plot using the random effect was used. 210 out of 64450 patients diagnosed with SA had at least one episode of stroke. Except for one study, the risk for stroke compared with control group was present in all the other studies. The final result showed that stroke can be an outcome of SA (p: 0.012). **Conclusions:** AS might represent an outcome factor for stroke presumably in patients with active disease, despite the statistical's results. Prospective epidemiological studies are to be performed in order to state the risk for stroke properties in patients with AS.

**Keywords:** Stroke, inflammation, Spondyloarthritis, cerebrovascular

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## COMORBIDITIES INDUCED BY THE MEDICINES USED IN THE TREATMENT OF SCHIZOPHRENIA

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**Background:** Schizophrenia is a chronic brain disorder, which affects about one percent of the population. If treated adequately, the quality of life of these patients will be significantly improved. At the same time, foreign studies have shown that the most commonly used atypical antipsychotic drugs such as Risperidone, Olanzapine, Clozapine are less likely to cause comorbidities than the typical antipsychotic ones. Although these comorbidities appear less often, they have not been completely eliminated. These include obesity, metabolic syndrome, increased risk of cardiovascular events and diabetes. **Objective:** The aim of our study was to assess the nature and extent of comorbidities induced by antipsychotic drugs used in the treatment of schizophrenia. **Material and methods:** A retrospective study was performed to evaluate the data of 44 patients diagnosed with schizophrenia hospitalized at the Psychiatric Clinic from Turda for a period of 13 years. The data was processed from the moment of the patients arrival to present day, 26 patients from 2004, 8 patients between 2005-2009 and 10 patients between 2010-2016. **Results:** Among the examined patients, the gender distribution was: 27% women, 73% male, mean age was  $54.2 \pm 2.44$  years. Patients received the above-mentioned antipsychotic treatment from the day of referral with a few personalized dose differences. From the beginning of treatment, 23% of the patients have developed diabetes, 28% I and II. grade hypertension, 34% grade II and III obesity, and 46% liver dysfunction. **Conclusions:** Based on our results, the treatment of schizophrenia with antipsychotic medication has significant influence on the development of associated diseases. The risk/benefit ratio should be reevaluated using interdisciplinary cooperation and ongoing monitoring of patients.

**Keywords:** schizophrenia,, antipsychotic medication,, comorbidities

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## ADDITIONAL TREATMENT RESULTING IN A POSITIVE EFFECT ON THE CARDIOVASCULAR SYSTEM

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**Background:** Sauna bathing is a traditional activity in Finland which has become very popular in Europe over the

last decades, but there is still a misconception that individuals suffering from cardiovascular diseases should avoid it. Foreign researches has demonstrated that long-term sauna bathing increases respiratory function, relieves pain and improves joint mobility. However we want to highlight the positive effects on the cardiovascular system: it causes peripheral vasodilatation, decrease of blood vessels resistance, increase of the heart rate and coronary circulation. **Objective:** Our study aims to examine the response of the human body to sauna bathing highlighting it's effects on the cardiovascular system. **Material and methods:** We examined 24 people at the sauna of Gyimesi Skanzen and Panzio in Harghita county. Their blood pressure, pulse and oxygen saturation was measured before and after sauna bathing and after dipping into cold water using a sphygmomanometer and HealthForYou by SilverCrest Pulse Oximeter. Statistical analysis was performed with GraphPad Prism7 using T-Test for dependent means. **Results:** Among the examined people, the gender distribution was: 58% of women, 42% of men, 75% were under 50 and 25% were over 50 years of age. Oxygen saturation measurement showed a slight improvement while the heart rate increased significantly ( $p < 0.002$ ). There was no significant change in the blood pressure measurement before and after sauna bathing ( $p > 0.43$  for systolic,  $p > 0.17$  for diastolic BP). Significant difference was found between pre-sauna bathing and after dipping in cold water ( $p < 0,0007$  systolic,  $p < 0,0004$  for diastolic BP). **Conclusions:** Based on our study, blood pressure increasing is caused only by cold water dipping which should be avoided in case of high blood pressure and sauna bathing has only positive effects on the overall condition of the human body, specially on the cardiovascular system.

**Keywords:** complementary therapy,, positive effect,, cardiovascular system

## FROM HIP FRACTURE TO ADVANCED DIFFUSE LARGE B-CELL LYMPHOMA: THE CASE OF AN 18-YEAR OLD.

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**Background:** Diffuse Large B-Cell Lymphoma (DLBCL), a frequent Non-Hodgkin Lymphoma is characterized by aggressive growth of malignantly transformed B-cells. **Objective:** Every pathological fracture, especially in young people, should be closely investigated for underlying malignant diseases. **Material and methods:** An eighteen-year old male came to our emergency department because of nausea, vomiting and gastric pain. His history showed left femur fracture 9 months prior as only relevant pathology. Initial investigations displayed normal blood-cell counts, only slightly elevated inflammation markers, but an LDH-value of  $>500$  U/l. Ultra-sound examination of the abdomen revealed a suspect lesion in the epigastrium and pathologically enlarged surrounding lymph nodes. Due to the history of hip fracture and swelling of the left femoral muscles, CT-scans were performed. Here, a malignant process in the left femur, destroying the bone structure and infiltrating the left femoral and iliopsoas muscle could be seen. Moreover, a neoplastic structure retroperitoneally was detected, obstructing the common bile and pancreatic duct. Subsequently, duodenal and femoral biopsies were taken. Histopathological examination revealed Diffuse Large B-Cell Lymphoma (DLBCL). **Results:** CT-scans were performed after systemic therapy with 6 cycles R-CHOP, 2 intrathecal administrations of cytarabine, as the patient also had infiltration of the head, and 2 applications of high-dose methotrexate intravenously, followed by local radiotherapy. As they revealed no pathology apart from bone destruction where the DLBCL had originally infiltrated, in the context of normal laboratory values, a cement-free left hip-total-endoprosthesis was implanted. **Conclusions:** This case shows how unnoticed malignancies can evolve to advanced stages, if pathological fractures are not further investigated. Here, an impressive response to immuno-chemotherapy could be observed, although the patient was diagnosed at a very advanced stage. At the last medical visit (13 months after the first contact), the patient was in very good condition, still in physical therapy to regain his original range of movement.

**Keywords:** Femur Fracture,, DLBCL,, Hip Prosthesis.

## ULTRASOUND FOR THE SCREENING OF DEVELOPMENTAL DYSPLASIA OF THE HIP IN NEWBORNS AND INFANTS

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**Background:** Developmental dysplasia of the hip represents one of the most frequent osteoarticular congenital

abnormalities at newborns and infants. **Objective:** This study proposed to emphasize the role of hip ultrasound in detecting the hip joint pathology. Any delay in diagnosis may have unfavorable consequences in the normal development of the newborns. **Material and methods:** This paper presents a retrospective study that involved 847 newborns and infants, which were examined in the ultrasound department of the Nova Vita Medical Center Târgu-Mureș, in the interval of time between January 2016 and February 2018. The study group is formed by patients examined by ultrasound, applying Graf classification. **Results:** The medium age of the patients that are included in this study is about 10,59 weeks with a standard deviation of 5,55 weeks. For right hip joint, the statistic analysis revealed that 99,70% of  $\alpha$  angle values and 90,60% of  $\beta$  angle values are in normal parameters. The most frequent ultrasound stage is represented by IA stage (87,3%) and the stage with the lower frequency was represented by III stage (0,1%). In the case of left hip joint we found that 99,50% of  $\alpha$  angle values and 91,50% of  $\beta$  angle values are in normal parameters. The most frequent ultrasound stage is represented by IA stage (87,2%) and the stage with the lower frequency was represented by III stage (0,2%). **Conclusions:** The conventional ultrasound examination of the hip plays a very important role in the diagnosis of developmental dysplasia of the hip, correlated with the experience of the examiner.

**Keywords:** hip ultrasound,  $\alpha$  angle,  $\beta$  angle

## ARE THE NEW BIOLOGICAL TREATMENTS INDUCERS OF VASCULITIS? – A META-ANALYSIS

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<sup>2</sup>

**Background:** Vasculitis represent a disease characterized through inflammation of the blood vessels wall either primary (idiopathic) - small, medium, large, variable vessel vasculitis, secondary - associated with systemic disease, associated with probable etiology or single-organ vasculitis. The vasculitis associated with systemic disease can occur in the evolution of the Systemic lupus erythematosus (SLE), Rheumatoid arthritis (RA), Systemic sclerosis (SSc), Sharp's syndrome (mixed connective tissue disease, MCTD). The biological therapies mainly represented by TNF antagonist are used to treat the autoimmune inflammatory diseases and vasculitis but reports suggested a risk factor for different kind of vasculitis. **Objective:** The aim of this study is to provide an accurate overview of the current risk factor of biological therapies to induce vasculitis. **Material and methods:** A meta-analysis was performed using the data published online on Medline and PlosOne. 1441 studies were found after entering the search terms vasculitis and TNF antagonists. Out of those studies only 3 passed the inclusion criteria (open access, data supplied by the corresponding authors, same objective, patients on biological therapies). The OpenMetaAnalyst was used to performe the meta-analysis. **Results:** One hundred and twenty-four patients with vasculitis out of two hundred and fifty - four on TNF antagonist presented with vasculitis. The results outlined a tendency for patients on biological therapies to develop vasculitis (Q: 0.686, p: 0.710, 95% C.I. : 0.427 to 0.550). **Conclusions:** The early diagnostic and the correct treatment of the autoimmune diseases are very important steps for keeping under control and assure a most low risk for appearance of the vasculitis, but sometimes bizarre response maybe due to genetic background can limit the benefits of treatment.

**Keywords:** vasculitis, TNF antagonists, autoimmune diseases

## FROM A CLINICALLY SUGGESTIVE PHENOTYPE TO A CERTAIN GENETIC DIAGNOSIS

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**Background:** The primary condition for providing a prognosis of life expectancy, genetic counselling, and managing the medical situation of babies with multiple malformations is the correct diagnosis of the specific syndrome. **Objective:** We aim to highlight that genetic evaluation can help identify syndromes and develop an investigation plan as well as recommending a specialized treatment. **Material and methods:** We have started from 4 clinical cases, patients examined in the Pediatric Neurology Department, Targu Mures, who were suspected of a genetic determinism disorder. First patient, 3 years old: plurimalformative syndrome (cardiac malformation, muscular hypotony, developmental delay, cranial features) suspicion of chromosomal aberration. Second patient, 5 years old with clinical features and biological markers characteristic of a Duchenne muscular dystrophy. The third

patient, 12 years old, examined for seizures related to a suggestive phenotype which indicates a genetic disorder (complex cardiac malformation with a surgery for Fallot tetralogy, facial asymmetry, mental retardation). The fourth patient, 1 year old with perinatal hypoxia, congenital microcephaly, cerebral palsy, severe mental and language retardation, craniofacial disorder, suspicion of an autosomal syndrome. **Results:** In all these cases, consultation and genetic evaluation were requested, in the first case, the karyotype revealed a Klinefelter syndrome 49, XXXXY, for the second case the diagnosis of Duchenne dystrophy was confirmed by molecular testing of Multiplex ligation-dependent probe amplification, type duplication of exons 8-44 of the dystrophin gene, in the third case, the clinical suspicion of DiGeorge syndrome has not been confirmed as the patient didn't come for genetic consultation, and the last case with a suspicion of autosomal syndrome, infirmed by the karyotype, under investigation for microdeletions, but with a central nervous system infection, possibly negative genetic examination. **Conclusions:** Genetic evaluation is the privilege of clinical and etiological diagnosis, essential for prognosis, evolution and genetic counselling. For a highly accurate result, a multidisciplinary team is needed (neurologist, pediatrician, geneticist).

**Keywords:** Plurimalformative syndrome,, Phenotype,, Genetic evaluation,, Cranial features

## VITAMIN C IN COSMETIC PRODUCTS

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**Background:** Ascorbic acid is extremely widespread in the human body, but unlike plants, people can not synthesize it from glucose because of L-gulonolactone oxidase deficiency, so continuous food intake is extremely important. **Objective:** This paper aims to identify cosmetics with ascorbic acid in their composition, that can be found in the Romanian market, the chemical derivate of ascorbic acid under which it is found in the composition of the cosmetics and the optimal concentration. **Material and methods:** Analysis of 15 cosmetic products (creams and serums) with ascorbic acid from the cosmetics market in Romania regarding the composition, the ascorbic acid concentration and the recommended use. According to the Ministry of Health, there are 52 formulations of ascorbic acid, which be used in the preparation of cosmetic forms. **Results:** The cosmetic products from the Romanian market (15 products) studied contain from 0.2% to 25% ascorbic acid. Most of them (9) with concentrations below 1%, having antiagins effects, but to achieve whitening and depigmentation effect, a concentration greater than 10 % is required. Moreover, the selected products containing ascorbic acid as such contain, in addition to ascorbic acid, often vitamin E, vitamin F, hyaluronic acid and ferulic acid in order to provide some lipophilicity for the penetration of the epidermal layer. **Conclusions:** The most commonly used and stabilized formulations of vitamin C in aqueous solution in the cosmetic products studied are: magnesium ascorbyl phosphate, L-ascorbic acid, ascorbyl glucosamine. Along with the modification of the chemical structure of ascorbic acid (ester form, Schiff base etc.), the modification of the pH or the addition of antioxidants is used to stabilize the product.

**Keywords:** vitamin C, cosmetics, formulation

## VITAMIN D LEVELS IN SMALL CHILDREN WITH URINARY TRACT INFECTIONS VERSUS HEALTHY CHILDREN

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**Background:** The involvement of vitamin D in human organism functions has been brought to light nowadays by science, especially its roles in immunity and infections. **Objective:** In this study, we want to determine whether the low serum vitamin D levels increased odds of urinary tract infections(UTI), in infants. **Material and methods:** In our analytical observational study, we retrospectively analyzed 66 patients between January2016-December2017, collecting data from medical records of Pediatric Department of Târgu Mureş Country Hospital. We included 41 patients with UTI in the group of cases and 25 patients without pathological aspects in control group. Information concerning demographic characteristics, medical history(kidney pathology associated or other diseases), urine samples, blood samples(complete blood counts, biochemistry), serum vitamin D, inflammatory signs( fever, erythrocyte sedimentation rate, C - reactive protein ) were introduced in Microsoft Excel 2010 database and were analyzed using SPSS Statistics (Version20.0). Categorical variables were compared by Fisher exact test,

correlation tests were used to examine the relation between Vitamin D levels and others variables. **Results:** The results demonstrated a statistically significant association between low vitamin D (risk factor) and disease status (UTI):  $p < 0.0001$ , Odds Ratio(OR) =74.400, 95% Confidence Interval-CI (8.89-622.39), low levels of serum vitamin D increased the risk of UTI by 74. The mean of vitamin D was 23.91(Standard deviations-SD  $\pm 10.65$ ) in patients group and 54.34(SD  $\pm 20.11$ ) in control group:  $p < 0.0001$ , 95% CI 21.55-39.29. The median of ages was 1.70(SD  $\pm 3.41$ ) - patients group and 0.80(SD  $\pm 1.45$ ) -control group, also we noticed a negative correlation between vitamin D levels and age, in patients group, with a moderate statistical significance: Rho coefficient=-0.44,  $p = 0.004$  N=41 in Spearman test. **Conclusions:** The study reveals that patients with low serum vitamin D levels were at increased odds for UTI, also it highlights that the levels of vitamin D were insufficient in the majority of the cases(20-29 ng/ml)in the group of cases.

**Keywords:** vitamin D,, urinary tract infections,, child.

## TYPES OF PHOBIAS AND INFLUENCING FACTORS AMONG MEDICAL STUDENTS

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**Background:** Phobias are among the most common and severe type of anxiety disorders and they can negatively affect a person's every day life. Many theories were raised but still remains much to study for a better understanding of the disease. **Objective:** The aim of our study was to investigate different types of phobias and influencing factors among medical students and their impact on academic results. **Material and methods:** A total of 274 first to sixth year medical students (81% females and 19% males) from the University-of- Medicine-and-Pharmacy-Tirgu- Mures participated in our cross- sectional study. The students were surveyed using an online 50-questions- questionnaire based on Fear Survey Schedule II questionnaire. The questionnaire also included socio-demographic data and 5 questions about previous traumatic experiences, witnessing people with phobias and family history of phobia. **Results:** In our sample, the most common phobia with a mean score of  $596,25 \pm 63,82$  was animal phobia whilst the least common was natural event's phobia with a mean score of  $489 \pm 92,78$ . In the multiple linear regression model the following factors significantly influenced the total phobia score (adjusted  $R^2 = 0,16$ ;  $F = 14,26$ ): female gender ( $\beta = 9,95$ ;  $p < 0,001$ ), time spent online ( $\beta = 2,47$ ;  $p = 0,02$ ), previous traumatic experience ( $\beta = 1,6$ ;  $p = 0,05$ ) and witnessing people with phobia ( $\beta = 4,52$ ,  $p = 0,002$ ). A statistically significant negative correlation was found between the total score of social phobia and academic results( $r = -0,2$ ,  $p < 0,001$ ). **Conclusions:** Many types of phobias were discovered among medical students but only social phobia had a negative impact on academic results. Based on the current knowledge, we found that previous experience have an influence on developing phobias through a classical conditioning mechanism. This study reveals a possible important interaction between the amount of time spent online and the persistence of phobia. Further study is needed to better understand and define possible negative reinforcement mechanisms.

**Keywords:** phobia, questionnaire, FSS II

## ARTERIOVENOUS MALFORMATION ASSOCIATED WITH ISCHEMIC CEREBRAL INFARCTION- CASE REPORT

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**Background:** Arteriovenous malformation (AVM) is a rare condition caused by aberrant vasculogenesis, genetic mutations or after injuries, with a symptomatic incidence of 0.94/100000/year. The major risk of this condition is the AVM hemorrhage, considered to be a part of their natural history with an incidence of 61.8% in all patients (treated and untreated). Combined mortality and morbidity is 2.7% per year, regardless the condition at the first presentation (with or without hemorrhage). **Objective:** We present here a case of an asymptomatic AVM in a 53 years old male associated with ischemic cerebral infarction. **Material and methods:** Classic forensic autopsy was performed in a male patient found dead in his home by relatives, with no relevant medical history or signs of violence on the body. **Results:** Macroscopic examination of the brain revealed a solitary bundle of vessels, situated subcortical in the right parietal lobe, with a maximum diameter of 70mm. Microscopic examination of Hematoxylin Eosin slides revealed numerous venous lumens with thin collagenous walls and arterial lumens with muscular elastic walls. The parenchymal tissue had no hemosiderin pigment. Adjacent cortex contained

morphologic changes specific for cerebral ischemic infarction (red eosinophilic neurons, reactive astrocytosis). The rest of the organs had irrelevant pathologic findings. Our case had no signs of macroscopic or microscopic bleeding. The cause of death was considered to be ischemic cerebral infarction. **Conclusions:** AVM are uncommon findings at autopsy. Ischemic cerebral infarction associated with AVM usually occur due to spontaneous obliteration of AVM, caused by different conditions: thromboembolism, coagulopathies, atherosclerosis or external compressions.

**Keywords:** arteriovenous cerebral,, malformations,, ischemic infarction

## A COMPARISON STUDY BETWEEN AMIODARONE AND BETA-BLOCKERS IN SUPRAVENTRICULAR AND VENTRICULAR EXTRASYSTOLIC ARRHYTHMIA

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**Background:** Antiarrhythmic drugs are used to prevent irregular heartbeats. Amiodarone acts as blockers of the potassium channels and thereby elicits increasing repolarization and refractory period. Beta-blockers blocks beta-adrenergic receptors, their effects are depression of sinoatrial and atrioventricular node and decrease the formation of cyclic adenosine monophosphate (AMPc). **Objective:** Our study aimed to compare the effects of Amiodarone and beta-blockers in supraventricular and ventricular extrasystolic arrhythmias. **Material and methods:** A group of 50 hospitalized and ambulatory patients with supraventricular and ventricular extrasystoles were observed using the 24-Hour Holter electrocardiogram monitoring. Patients, including 27 women and 23 men with an average age of 50,4 years was monitored over a 3 month period (from 1 December 2017 until 1 March 2018) at the Department of Cardiology at Medical Clinic III from Targu Mures. **Results:** We observed the following: 21 subjects presented isolated unifocal ventricular extrasystoles predominantly, 17 subjects had polyfocal ventricular extrasystoles with tendency to systematization, 12 subjects presented supraventricular extrasystoles predominantly. 17 received Cordarone 200 milligrams (mg) once daily, 12 received Metoprolol succinate 47.5 mg once daily, 11 received Bisoprolol 5 mg twice daily, and 10 received a combined Amiodarone + beta-blockers treatment. 23 patients who had complex arrhythmia received extra Magnesium. **Conclusions:** We noticed the efficacy of Amiodarone and beta-blockers taken as monotherapy which is closely related to the patient's clinical status. Patients with supraventricular extrasystolic arrhythmias and high heart rate had an excellent answer to beta-blockers and patients with ventricular extrasystolic arrhythmias had an excellent response to Cordarone. As another observation, the additional Magnesium improved the effects of antiarrhythmics.

**Keywords:** Amiodarone,, beta-blockers,, Holter monitoring,, arrhythmia

## MAJOR DIAGNOSTIC DISCORDANCE IN DXA T SCORE IN A POSTMENOPAUSAL WOMEN

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**Background:** Diagnostic discordance in osteoporosis is defined when an individual has different categories of T scores (osteoporosis, osteopenia, and normal) in two skeletal sites. **Objective:** We present a case of a 54 years old female with a relevant discordance of the T score between the DXA scans of the hips and lumbar spine. **Material and methods:** The patient was sent to the endocrinology department from the rheumatology unit where she was discovered with osteoporosis after DXA scan. **Results:** T score at the left femoral neck was -4,4 DS, BMD: 0,429 g/cm<sup>2</sup> and at right femoral neck: -1,2 DS, BMD: 0,875 g/cm<sup>2</sup>. At the lumbar level her T score value was + 1,2 SD. A complete physical examination revealed third-degree obesity (BMI: 49 kg/m<sup>2</sup>) and we noticed the presence of "striae" at the level of the abdomen and around the breast, weak increasing in dimension and consistency of the thyroid. Her last menstruation was at 45 years old. In order to exclude secondary causes of osteoporosis we performed several investigations: cortisol biorhythm, and overnight Dexamethasone suppression test-to exclude Cushing syndrome; PTH, Calcium, phosphate-to exclude hyperparathyroidism (primary or secondary) and TSH, FT4 to assess thyroid function. An OGTT was performed to exclude Diabetes mellitus. Treatment with Acidum Alendronicum and colecalciferolum 70mg/5600 UI was initiated to our patient. **Conclusions:** Unilateral measurements of proximal femoral BMD are typically performed to minimize time, medical costs and radiation exposure. However, some authors have observed BMD variation in opposing femora

by DEXA measurements which can lead to underestimation of osteoporosis and compromising treatment if only one hip measurement had been performed. Artefactual as well as technical discordances in DXA scan measurement must be taken into consideration before initiating treatment.

**Keywords:** DXA, T SCORE, OSTEOPOROSIS, DISCORDANCE

## STAGE III ADENOCARCINOMA OF THE LUNG WITH ATYPICAL PROGRESSION UNDER INDUCTION CHEMOTHERAPY -A CASE REPORT

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**Background:** Standard of care for patients with stage III non-small cell lung cancer (NSCLC) and good performance status is platinum based doublet chemotherapy combined with radiotherapy, according to ESMO (European Society for Medical Oncology) guidelines. Only a small percentage detected by molecular tests benefit of targeted treatments. **Objective:** Case report of a patient with atypical progression under standard of care. **Material and methods:** We present the case of a 61 years old male, with a medical history of smoking, 45 pack-years index, and stage II COPD (Chronic Obstructive Pulmonary Disease), with the diagnosis of adenocarcinoma of the upper lobar bronchus stage IIIB T4N2M0 with a performance status (PS) 2. Genetic tests have been performed from the bronchial biopsy for epidermal growth factor receptor (EGFR), and anaplastic lymphoma kinase (ALK), which proved to be negative. Thus sequential chemo-radiotherapy has been decided by the multidisciplinary board, considering the PS and comorbidities. **Results:** After 4 cycles of induction chemotherapy with vinorelbine and carboplatin protocol, a grade 3 anemia, and pulmonary infection with *Klebsiella pneumoniae* occurred, a worsening of PS and an atypical local-regional progression of the disease through an impressive increase of the primary tumor, occupying the right hemithorax and trans-diaphragmatic compression of the liver and right kidney leading towards respiratory insufficiency. No further chemotherapy and radiotherapy could be administered. The intent of therapy changed from curative to palliative, focusing on the patient's needs while putting a special emphasis on adequate and accessible communication. **Conclusions:** Although treated according to guidelines, the disease progressed impressively after the sequence of induction chemotherapy. Currently available molecular markers like EGFR and ALK for targeted therapies were negative, making obvious the need of identifying more targets for individualized treatments. Also the importance of palliative care in this case and adequate communication with the patient is emphasized.

**Keywords:** stage III NSCLC,, atypical progression,, case report

## WHICH BETA-BLOCKERS ARE BEST FOR PATIENTS WITH METABOLIC ABNORMALITIES?

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**Background:** Despite many clinical benefits of beta-blockers, important antihypertensive drugs and widely used for reducing cardiovascular morbidity and mortality, many physicians are reluctant to prescribe them in patients with glucose and lipid metabolism disorders, because they could worsen the metabolic profile - by reducing glycemic control and by inducing insulin resistance and dyslipidemia. **Objective:** The paper aims to identify the differences among main classes of beta-blockers and to summarize the pathophysiological mechanisms responsible for their negative metabolic effects. **Material and methods:** Data analysis of the scientific literature regarding the metabolic effects of beta-blockers in hypertensive patients with metabolic abnormalities. **Results:** According to many published data, beta-blockers differ regarding their effects on glucose and lipid metabolism. Non-vasodilating beta-blockers (propranolol, metoprolol, atenolol) are associated with a worsening of glycemic and lipidic control, while vasodilating beta-blockers (nebivolol, carvedilol) demonstrate some favorable effects on glucose and lipid profiles. Several mechanisms have been proposed for the metabolic effects of conventional beta-blockers: the protective effects of insulin (vasodilation) are mediated by NO-dependent mechanisms in the endothelium, while the deleterious effects of insulin (vasoconstriction, proliferation of vascular smooth muscle cells and proinflammatory activity) are mediated through the mitogen-activated protein kinase pathway, therefore the unopposed alpha-1 activity after beta-blockade produce vasoconstriction and decrease blood flow to skeletal muscles, leading to insulin resistance. Also, by impairing beta-2-mediated insulin release, beta-blockers decrease

the first phase of insulin secretion. Beta-blockers treatment is often associated with weight gain, caused by decreased insulin sensitivity and the deterioration of glucose homeostasis. **Conclusions:** In patients with metabolic abnormalities the improvements in glucose and lipid metabolism showed by vasodilating beta-blockers are valuable and should be taken in to account by prescribers.

**Keywords:** beta-blockers, metabolic effects, insulin resistance, dyslipidemia

## TUMORAL THROMBUS OR HEPATIC TUMOR? ANTICOAGULANT THERAPY. CASE REPORT

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**Background:** In some situations cirrhosis of the liver and atrial fibrillation are encountered and untreated will easily lead to cardiovascular morbidity, stroke, heart failure and death. **Objective:** The purpose of this paper is to analyse the evolution of a viral cirrhosis, which uncured interfered with cardiac dysfunctions. **Material and methods:** In 2001, a 73-year-old male was diagnosed with hepatitis C and declined the treatment with interferon. In 2015, beside arterial hypertension, the abdominal ultrasonography (U.S.) investigation revealed in the right lobe of the liver the presence of a nodule (diameter: 20 mm). Alpha fetoprotein (AFP) level was in normal parameters (<7ng/mL). In 2016, according to the U.S. the hepatic structure enlarged (diameter: 99/88/82 mm), AFP was significantly increased (3136 ng/mL) and in addition in the right atrium was identified a large mass that filled 90% of its volume. The clinical and imaging data have shown that the detected nodule was probably an intrahepatic tumoral thrombus, which has migrated through middle hepatic vein, along inferior vena cava and reached right atrium. Moreover the CHA<sub>2</sub>DS<sub>2</sub>-VASc score in a patient with paroxysmal atrial fibrillation indicates the beginning of the treatment with low molecular weight heparin (LMWH). **Results:** After 4 months of anticoagulant therapy a large inferior limb hematoma and moderate anemia appeared, so the medication was stopped for a couple of days and then retaken. In 2017, the U.S. indicated that the hepatic structure decreased its size (diameter: 37 mm) and also the atrial mass decreased significantly. AFP was in normal parameters and the glomerular filtration rate indicated the beginning of direct oral anticoagulant (DOAC). Which one? - is the remaining question. **Conclusions:** The positive result after the treatment with LMWH affirms that the migrated structure was a thrombus, remaining to be investigated the content of the hepatic mass and the evolution under DOAC.

**Keywords:** intrahepatic thrombosis, hepatic adenocarcinoma, viral hepatic cirrhosis

## PATAU SYNDROME: A CASE THAT DEFIES THE STATISTICS

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**Background:** Genetic disorders represent about 5% of the total diseases encountered in children. Patau Syndrome (Trisomy 13) represents 8% of them. It is a complex syndrome, characterised by the presence of an extra copy of chromosome 13. Trisomy 13 is the least common and most severe of the viable autosomal trisomies. Median survival is fewer than 3 days. **Objective:** - **Material and methods:** We present the case of a prematurely born male infant who was hospitalised with cough and generalized cyanosis. Physical examination identified the defining profile for Patau Syndrome: developmental delay, hypotonia, dismorphic facies, microcephaly, microphthalmia, low-set ears, upper limb polydactyly, umbilical and abdominal wall hernia, and hypogenitalism. The blood workup identified leukocytosis (WBC=21.5\*10<sup>3</sup>/µl), high CO<sub>2</sub> blood pressure (51.1 mmHg) and normal inflammatory marker values. The computerised tomography showed a second degree hydronephrosis. The echocardiography identified the Tetralogy of Fallot. The CT scan and abdominal echography identified "horseshoe" kidneys, hydronephrosis and hydrocalycosis in the left kidney. The urine culture was positive, and urine test was positive for both nitrites and leucocytes. Treatment was started with the restoration of hydro-electrolyte balance and a well established diet, as at the point of hospitalization he presented with malnutrition and growth deficiency. The pneumonia and urinary tract infection were treated with antibiotics, based on the results of direct susceptibility testing. Beta-blockers were administered in order to reduce the severity of heart failure and to prevent blockages of

the coronary arteries. **Results:** Clinical examinations, echocardiography and a cardiac ultrasound resulted in a Patau Syndrome diagnosis. Despite treatment, the patient's condition worsened and the cardiac malformations led to a non-resuscitable cardiorespiratory failure. **Conclusions:** The particularity of the case consists in the patient's duration of survival. We hereby present a case of Patau that survived for 7 months; based on the literature, this could be one of the lengthiest cases of survivorship recorded.

**Keywords:** Trisomy 13, Patau Syndrome, microcephaly, Tetralogy of Fallot

## RESPONSE OF WOLF PARKINSON WHITE SYNDROME TO RADIO-FREQUENCY CATHETER ABLATION: A CASE STUDY.

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**Background:** The prevalence of Wolff-Parkinson-White Syndrome is 1 to 3 in 1000 people worldwide and it's defined as a congenital condition involving abnormal conductive cardiac tissue between the atria and the ventricles that provides a pathway for a reentrant tachycardia circuit, other manifestations are atrial fibrillation, ventricular arrhythmias and sudden death. In patients with symptomatic Wolff-Parkinson-White Syndrome, treatment strategies are relatively defined with curative catheter ablation as the most common recommended approach. But the management of asymptomatic patients is more controversial, due to the absence of broad screening procedures for asymptomatic WPW patients. **Objective:** To describe the clinical course of asymptomatic patients diagnosed with ventricular pre-excitation Wolf-Parkinson-White (WPW) syndrome, with the most efficient course of treatment. **Material and methods:** O.O. 22 years old, with no previous cardiovascular history, was incidentally discovered with Wolf Parkinson White syndrome following a routine ECG test. An electrophysiological study(EP) test was performed to assess the heart's electrical system. During the(EP) study, the patient started to have atrial fibrillation with pre-excited QRS complexes which rapidly transformed to ventricular fibrillation, that resulted in cardiac arrest. He was resuscitated with a 5 shock defibrillation(300J), he also received four vials of amiodarone. He is brought back to sinus rhythm and the (EP)was continued. From the EP study, it resulted that the refractory period of the accessory pathway was less than 220msec, which tells us that patient is at high-risk of developing malignant arrhythmias.The course of treatment chosen for this patient was radio-frequency catheter ablation,in order to improve the long term outcome. **Results:** The patient was successfully converted to sinus rhythm, came through with no sequelae despite experiencing ventricular fibrillation and in this case RFA is considered a curative treatment for WPW. **Conclusions:** In WPW subjects, EPT is a valuable tool to stratify the risk of asymptomatic patients.

**Keywords:** Wolf Parkinson White syndrome, radio-frequency ablation, ventricular fibrillation

## HEREDITARY MICROSPHEROCYTOSIS COMPLICATED WITH CHOLELITHIASIS: CLINICAL, PARACLINICAL AND EVOLUTIONARY CHARACTERISTICS

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**Background:** Hereditary microspherocytosis is one of the most common congenital hemolytic anemia, associated with a variety of mutations that leads to defects in red blood cell (RBC) membrane protein. **Objective:** The aim of this case report is to present the complications of microspherocytosis in a late diagnosed patient. **Material and methods:** We present the case of a 16-year-old patient presented at Baia Mare County Emergency Hospital, with the symptomatology and clinical picture of a blocked acute phlegmonial lithiasis, with vesicular hydrops on the background of chronic hemolysis caused by hereditary microspherocytosis, with significant splenomegaly. Diagnosis of hereditary microspherocytosis was confirmed by laboratory tests (osmotic resistance, peripheral smear), but with normal haemoglobin and hematocrit. After appropriate preoperative preparation, the surgical procedure was performed using laparoscopy with retrograde cholecystectomy, adhesiolysis, lavage and peritoneal drainage. **Results:** After a month, the patient presented at the Pediatric Hematology and Oncology Department of the Emergency County Hospital of Targu Mures for clinical and biological re-evaluation. **Conclusions:** After the surgery, the re-evaluation concluded favorable evolution and good overall condition. In the clinical context, we consider that the cholelithiasis was a consequence of delayed onset hereditary microspherocytosis, the patient was without complaint or symptomatology involving the suspicion of a haematological disease.

**Keywords:** hereditary microspherocytosis,, hemolytic anemia,, cholelithiasis

## HIGH GRADE OF VESICoureTERAL REFLUX A RISK FACTOR TO URINARY SEPSIS OCCURRENCE

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**Background:** The problem of sepsis is topical considering the large number of cases reported globally. Among infants urosepsis is a common cause of comorbidity. **Objective:** Throughout this study we want to demonstrate the relation between reno-urinary malformations and the occurrence of urosepsis in infants. **Material and methods:** We conducted a retrospective observational analytic study which included 142 patients presenting reno-urinary malformations. The data was collected during January 2015- January 2017 from medical records of Pediatric Department of Mures County Clinical Emergency Hospital. The gender distribution showed 71 girls and 71 boys. They were divided into three age groups: under 1-year, between 1-7 years, and older than 7 years. The case-group included 85 patients presenting urosepsis and the control group comprised 57 patients. The needed information for the study was processed with Microsoft Excel 2010 and analyzed using SPSS Statistics (Version 20.0). **Results:** In this study 59.9% of cases presented urosepsis in correlation with reno-urinary malformations. By applying the Chi-square test we demonstrated a statistical significant association between vesicoureteral reflux (as a risk factor) and urosepsis  $p < 0.001$ , Odds Ratio(OR) =3.985, Confidence Interval(CI) =95% (1.781-8.931). Among the 39 patients presenting vesicoureteral reflux, 24 had a high reflux grading (3-5). Also, the reno-urinary duplicity represented a risk factor for the occurrence of urosepsis  $p < 0.01$ , OR=2.741, CI=95% (1.283-5.845). The most frequent pathogenic agent involved in renal sepsis was Escherichia Coli (58.8% cases). There is a high correlation between the bacteria which determined urosepsis and its multi-drug resistance  $p < 0.006$ , OR=2.864, CI=95% (1.208-1.575). **Conclusions:** The study proved that reno-urinary malformations are a risk factor for the occurrence of urosepsis in infants.

**Keywords:** reno-urinary malformations,, urosepsis,, vesicoureteral reflux,, children.

## PATIENT EVOLUTION DURING THE TREATMENT FOR NELSON SYNDROME

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**Background:** The Nelson syndrome appears when choosing the bilateral adrenalectomy surgery as a treatment for Cushing disease. The syndrome is represented by the increase of the pituitary adenoma with a secondary neuro-ophthalmological syndrome, an adrenocortical insufficiency and hyperpigmentation of the skin that are observed during the clinical examination and especially high values of Adrenocorticotropin Hormone(ACTH). **Objective:** We present the patient's long-term progression and the symptomatology that is specific for the present conditions as well as the response to the treatment. **Material and methods:** This presentation is based on documents from the archives of Endocrinology Clinic of County Emergency Clinical Hospital from Targu Mures and also on the anamnesis and the clinical examination. This is a two years retrospective study on a 48-year-old patient registered at Endocrinology Clinic that is known since she turned 18 years old having the Cushing disease with bilateral adrenal hyperplasia. Because of this diagnosis, two bilateral adrenalectomy surgeries were done in 1988 and 1995. After detecting first signs of Nelson Syndrome also radiotherapy of the pituitary gland was carried out between November 1989 and April 1990. **Results:** Even exploring a good response to the treatment over the past two years, there is a persistence of certain specific symptoms that represent the Nelson syndrome such as the hyperpigmentation of the skin. The neuro-ophthalmological syndrome that is caused by the growth of the pituitary adenoma led to a permanent oculomotor nerve paresis. **Conclusions:** The treatment of the Cushing disease in the modern era is transsphenoidal surgery, treatment with steroidogenesis inhibitors, Pasireotide or radiotherapy. One of the remaining options is still the bilateral adrenalectomy that might lead to the Nelson syndrome that requires substitution treatment and monitoring for a lifetime.

**Keywords:** evolution, Nelson, Syndrome, treatment

## ASSESSMENT OF RETINAL MICROVASCULAR CHANGES IN HYPERTENSIVE PATIENTS WITH COGNITIVE IMPAIRMENT

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**Background:** Hypertension is the leading cause for brain vascular damage and it has been associated with cognitive impairment and dementia. As the prevalence of hypertension reached 45% of the general population, it is necessary to recognise early signs of microvascular damage in order to initiate prevention and overcome clinical manifestation. **Objective:** We investigated the retinal microvascular changes in hypertensive patients with and without cognitive impairment. **Material and methods:** 50 chronic hypertensive age-matched patients were enrolled in this study out of which 25 patients presented mild cognitive impairment assessed by Mini-Mental State Examination (MMSE) and Montreal Cognitive Assessment (MoCA) cognitive tests. Colour retinal photography was performed on both eyes of each patient using Carl Zeiss Visucam 500 fundus camera. Qualitative assessment of microvascular changes was performed by 2 graders and severity was identified using Wong-Mitchell classification for hypertensive retinopathy. **Results:** Mean age in the cognitive impairment group is 70,9 +/- 5,6 SD (Standard Deviation) and 69,9 +/- 3,8 SD is among control patients. There was no statistically significant difference between the clinical stages of hypertensive retinopathy between the two groups (prevalence=0,7) and microvascular changes such as arteriolar narrowing, nicking and copper or silver wiring were common among patients. However, microaneurysms, haemorrhages, exudates and choroidopathy were more common in hypertensive patients with cognitive impairment and further associated complications such as epiretinal membrane and macular hole were twice more frequent compared to the control group. **Conclusions:** Several retinal microvascular changes were identified with higher frequency in hypertensive patients with cognitive impairment however, the Wong-Mitchell classification for hypertensive retinopathy did not discriminate between the studied groups.

**Keywords:** Cognitive impairment, Retina, Microvasculature, Hypertension

## BENIGN TUMOR OF THE KIDNEY: HOW WE DEAL WITH IT?

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**Background:** Angiomyolipoma (AML) is the most common benign solid renal tumor, diagnosed usually by imaging modalities. Recent developments have been added to the understanding of renal AML in order to be diagnosed with high accuracy and differentiated from malignant tumors. The hallmark pathology feature of classic AML is abundant fat. On ultrasound (US), AML is almost always markedly hyperechoic compared to the renal parenchyma, often as hyperechoic as renal sinus fat. An anechoic rim and intratumoral cysts are suggestive of renal cell carcinoma (RCC) because these findings are rarely seen in angiomyolipoma. **Objective:** We describe a case of AML that raised the suspicion of malignancy because of its inhomogeneous appearance and dimensions more than 3 cm. **Material and methods:** A 45 years old female was examined in the Department of Nephrology of the Mures County hospital. She accused left back pain and had a family history of renal cell carcinoma. On clinical examination no remarkable findings were found. Laboratory tests consisted in hematology, serum urea and creatinine, C-reactive protein, rheumatoid factor, erythrocyte sedimentation rate (ESR), uric acid, calcium and urine sediment. All were normal. **Results:** On US examination we found a hyperechogenic mass in the upper half of the left kidney, well delineated, homogenous, with a slight deformation of the capsule. No color Doppler signal could be visualized. Dimensions were 5.78 cm, and because of that we performed contrast-enhanced ultrasound (CEUS) and analyzed the early arterial phase and late phase in the lesion and in the renal normal parenchyma. After injection of 2.4 ml of SonoVue we found a benign pattern in the lesion, with a peripheral enhancement of the contrast agent and a slow "fill-up" tendency that persisted also in the late phase. **Conclusions:** We concluded that the lesion is benign, and patient was followed-up for one year, without changes in the US appearance.

**Keywords:** Ultrasound, Angiomyolipoma, renal tumor, inhomogeneous appearance,

## RENAL ONCOCYTOMA - A BENIGN MALIGNANCY

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**Background:** Renal oncocytoma is a rare kidney neoplasm representing almost 4% of all renal tumors. It is considered a benign epithelial tumor originating in the intercalated cells of the distal collecting tubules, with favorable prognosis. However there are also cases with aggressive histologic features making difficult the differential diagnosis with other kidney malignant tumors. **Objective:** Our aim was to describe the case of a 43-year-old patient with renal oncocytoma and to perform differential diagnosis tests with chromophobe renal carcinoma given the frequent relationship among these entities. **Material and methods:** We present a case of renal oncocytoma with vascular and renal capsule invasion in a female patient aged 43 years, who underwent nephrectomy for a tumor mass located in the upper pole of the left kidney. Histopathological exam and immunohistochemistry tests were performed for differential diagnosis with chromophobe renal carcinoma. **Results:** The histopathological exam revealed a tumor nodule with variable architectural pattern (solid compact nests, acini, and microcysts filled with red blood cells) composed of cells with densely granular eosinophilic cytoplasm and round nuclei, with small and visible nucleoli. No mitoses were present. The tumor proliferation penetrated the renal capsule, and extended in perinephric and renal sinus adipose tissue. Tumor emboli were noted in medium size vessels. **Conclusions:** The distinctive feature of oncocytoma consists in its frequent relationship with chromophobe renal carcinoma and/or hybrid tumor. Therefore, we highlight the potential diagnostic pitfalls between this benign tumor and its malignant counterparts.

**Keywords:** renal oncocytoma, chromophobe renal carcinoma, tumor

## EVALUATION OF THE EFFECTIVENESS AND THE SAFETY OF THERAPY IN NEUROPATHIC PAIN

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**Background:** Neuropathic pain results from the injury or dysfunction of the somatosensory system. It is triggered by lesions or pathological modifications of the central or peripheral nervous system. It usually evolves into chronic pain and it proves very hard to treat. This is a highly topical issue given the connection to an important number of pathologies. **Objective:** We aim to study the effectiveness and safety of treatment of this dysfunction. **Material and methods:** The study was conducted on a number of 450 patients who presented symptoms of neuropathic pain from a lot of 3000 individuals (e.g.: diabetic polyneuropathies, trigeminal neuralgia, pain from lesions of the spinal cord). Collected data was analyzed through the statistical package for social sciences software. We used the visual analogue scale (VAS) to determine the degree of pain before and after therapy. One of the treatment approach was pharmacological. Depending on the VAS level, we applied non-opioids (e.g. aspirin), mild opioids (e.g. codeine), strong opioids (e.g. morphine) and coanalgesics. **Results:** Analyzing the database, we found that the majority of patients presenting the symptoms (56%) were above 61 years old and that the associated diseases they had were diabetes (37%), cardiovascular conditions (34%), ulcer (29%). We found that a quarter of subjects presenting a severe degree of pain on the VAS (between levels 7-8) before the different treatment approaches was reduced to none in this category after the therapy. The majority of patients (61,9%) who showed mild pain, increased to 98 percent due to the reduction of moderate to severe symptoms. **Conclusions:** Neuropathic pain is a very concerning issue due to the high rate of incidence (15%) among the studied population and because of the high possibility of becoming chronic. Further, this study emphasizes the possibility of treating the suffering patients with methods that proved to have a high rate of success.

**Keywords:** neuropathic pain, pharmacology, visual analogue scale

## SEVERE PULMONARY ARTERIAL HYPERTENSION IN CONGENITAL HEART DISEASE OPERATED PATIENT - A CASE REPORT

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**Background:** All congenital heart defects present with the prospect of pulmonary arterial hypertension (PAH). Data from clinical studies has reported that, the process of pathologic alteration of the pulmonary vasculature could be reversible, provided the congenital heart defect is amended before 2 years of age. **Objective:** PAH is an incurable pathology and furthermore, particularly difficult to treat. The aim of this study is to demonstrate the difficult management of a severe case of PAH at diagnosis and discuss the limited possibilities for future treatment options in patients with severe PAH at presentation. **Material and methods:** We present the case of a 43-year-old male patient, diagnosed in 2016 with severe PAH group 1, secondary to ventricular septal defect (VSD) surgically repaired during childhood, at 9 years of age. The patient associates predominantly right-sided heart failure, atrial fibrillation and complete right bundle branch block. Concomitant treatment of heart failure and arrhythmia was initiated treatment with an endothelin receptor antagonist, a specific PAH treatment (Class I, level B of recommendation) according to 2015 ESC/ERS guidelines for pulmonary hypertension. Under treatment, symptoms and signs improved, the echocardiography parameters stay stable and the six-minute walk test showed improvement. **Results:** Echocardiography detected severe pulmonary hypertension (PAP was 75 mmHg) and reduced ejection fraction of 45-50 % . Six minute walk test measured 535 m and the decline in SpO<sub>2</sub> value which was -4% (from 97% to 93 % ) , with the increase of patient's dyspnea during the 6MWT, as assessed by Borg scale score ( from 2 to 3 ). **Conclusions:** Combined therapy (heart failure and PAH) is mandatory for patient as the specific PAH drugs target three of the known pathways for disease pathogenesis. As initial drug combination therapy, the patient can benefit from six options, according to 2015 ESC/ERS guidelines for the diagnosis and treatment of pulmonary hypertension.

**Keywords:** congenital heart disease, pulmonary arterial hypertension, heart failure, therapy

## ARYLSULPHATASE B DETERMINATION IN URINE SAMPLE

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**Background:** Arylsulfate sulfohydrolases (Arylsulfatases) are a group of lysosomal enzymes present in various fluids and tissues : most importantly in the pancreas, liver and kidneys. Classified into A, B and C groups, Arylsulfatases hydrolase sulfates in the body. Arylsuphatase B (or N-acetylgalactosamine 4-sulfatase) acts to remove a chemical group known as 4-sulfate from GAGs, in particular from: chondroitin sulfate and dermatan sulfate. Literature confirms, that low levels of ARSB play a pathomorphological role in cystic fibroses, in various cancer types (colorectal, prostate, breast), in increased aerobic glycosysis while the deficiency of ARSB determines the Mucopolysaccharidosis type VI. (Marateaux-Lamy Syndrome) **Objective:** To evaluate the rate of excretion of the ARSB in the urine. **Material and methods:** We examined 50 urine sample from children with endocrinological diseases using Spectrophotometry with a dilution from 1/1 to 1/100. The substrate for ARSB is 4-nitrocatechol sulfate together with inorganic pyrophosphate, potassium chloride and acetate buffer. For the reaction 0.3 mL of reagent with 0.3 mL of urine was used, and stopped after 4 hour, while in the control the reaction was stopped at the beginning with sodium hydroxide. Absorbance was determined at 515 nm wavelength, and the results were in nmol/mL/4h. **Results:** The ARSB quantity was under the detection sensitivity. There was no significant difference between the dilution of urine samples 1/1 and 1/100.(p<0.001) **Conclusions:** Despite to the negative results, it is clear that spectrophotometric determination is not the best to choose for ARSB quantification from urine samples. It seems to be clear the best way to determine ARSB is from blood serum.

**Keywords:** ARSB, Arylsulfatase, ArylsulfataseB, N-acetylgalactosamine 4-sulfatase

## RECURRENT ANGIOCHOLITIS AFTER KASAI'S SURGERY FOR BILIARY ATRESIA

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**Background:** Biliary atresia (BA) is a progressive disease of both extrahepatic and intrahepatic bile ducts with an European incidence of 1:18 000 births. Whereas no medical treatment is available, the curative treatment consists in performing the Kasai Intervention (KI), the gold standard. Moreover, the timing of the procedure is correlated with the native liver survival, however, recurrent angiocholitis (RA) frequently worsens the prognosis. **Objective:** The purpose of this paper is to present a case of a 4 years old patient known with BA and underwent KI which complicated afterwards with several episodes of RA. **Material and methods:** We present the case of a 4 years old female patient, who was transferred to our clinic with high fever, abdominal distension, upper right quadrant pain and icterus, after being treated at the Orthopedic Hospital for proximal femoral diaphysis fracture. She has a history of BA and underwent KI at 6 weeks postnatal complicated afterwards with 7 episodes of RA. In 2015 laboratory testing showed signs of hepatic failure resulting in the diagnosis of end-stage liver disease caused by biliary cirrhosis. Further evaluation revealed portal hypertension complicated with 1st grade esophageal varices. Her chronic treatment consisted in prophylactic dose propanolol, ursodeoxycholic acid, phenobarbital and rifampicin, lactulose, vitamin K, calcium, magnesium, vitamin D3 and Zinc. She was referred to the Liver Transplant Center of Bergamo, Italy. However, after assessing the Pediatric End-Stage Liver Disease Score the intervention was postponed. **Results:** The clinical features and laboratory findings (Elevated CRP levels, leukocytosis with neutrophilia, high alkaline phosphatase, high bilirubin and gamma-glutamyl transferase) are highly suggestive for RA, therefore Meropenem and Amikacine was administered. **Conclusions:** RA is a frequent complication of KI procedure and results in deterioration of liver function and need for liver transplantation. Prophylactic measures should be considered in order to prevent RA and to improve the long-term outcome.

**Keywords:** Biliary Atresia, Angiocholitis, Kasai Intervention

## SYNDROME X - MAJOR CAUSE OF TYPE 2 DIABETES MELLITUS?

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**Background:** Syndrome X, mostly known as metabolic syndrome, is a combination of decreasing glucose tolerance, high blood pressure, central obesity, high cholesterol and triglycerides levels. **Objective:** The aim of this study is to emphasize the role of syndrome X in developing type 2 Diabetes Mellitus in our geographical area. **Material and methods:** We have retrospectively studied the medical records of 82 patients hospitalized on the Diabetes, Nutrition and Metabolic Disease Department of Tîrgu Mureș County Hospital, from January 1st 2018 to February 28th 2018. From the amount of 82 subjects, 58 were diagnosed with type 2 DM. From these ones, we analyzed the following measurements: height, weight, body mass index, abdominal circumference. Paraclinically, we investigated the total cholesterol, triglycerides, blood glucose and blood pressure levels. **Results:** Out of the 58 patients with type 2 DM, 44,82% were male, 89,65% were from urban area, and 75.82% were on insulin-injected medication. The mean age of our subjects was 63. X syndrome was established by the presence of any three parameters from the ones below: central obesity defined by the increase of the abdominal circumference over 102 cm in men respectively 88 cm in women, high blood sugar level (over 110 mg/dl) measured in the morning-which was 98.27% for us, high blood pressure (over 130/85 mmHg) observed in 93,10 % of patients, and total cholesterol levels over 199 mg/dl - which was found in a percent of 29.31%. 84.37 % women and 69.23% men of our subjects accomplished these criterias. **Conclusions:** According to our results, most of women and men, previously diagnosed with type 2 DM, presented the characteristics of Syndrome X, which emphasizes its implication in type 2 DM occurrence, but which could be minimized by improvement the lipid state by diet, physical exercise and adopting a healthy lifestyle.

**Keywords:** type 2 diabetes mellitus,, syndrome X,, hypertension,, obesity

## CELLULAR LESIONS AND SUBCELLULAR RESPONSE IN ISCHEMIA AND HYPOXIA

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**Background:** During its existence, the eukaryotic cell is subject to a series of stimuli, which might cause reversible or irreversible lesions, because adaptive response is exceeded by their intensity and aggression. **Objective:** Throughout ischemia, a number of changes occur at the cellular level. When these changes are aggravated, is resulting the cell's death. In hypoxia can be noticed a decrease in oxidative phosphorylation and in ATP production. If the ischemia persists, the induced lesions can be reversible or irreversible. The organelles are affected. The intracellular concentration of chlorine, sodium and water is increased. These disturbances disappear when the oxygen level goes back to normal. The irreversibility of the lesions arises when it becomes impossible to obviate the mitochondria's dysfunction and when there are critical injuries of the cellular membrane. **Material and methods:** The ischemia's lesions and reperfusion have been observed on intramyocardial biopsy pieces, which has been effected on ten patients within the first week after the transplant. **Results:** In four of the cases, with Gr.=0 ISHLT quantification, we may see the monocytic inflammatory infiltration diminished. Two blood vessels with constricted lumen may present intima slushings. In four myocardial areas with monocytic necrosis can be detected intracytoplasmic vacuolization. At two subjects with Gr.=0 ISHLT, the myocytes have quasi normal appearance and there can be noticed two-three groups of cells with clotting necrosis, which present minimal inflammatory phenomena. The last four patients, Gr.=0 ISHLT diagnosed, present small regions with four-six myocytes, which include eosinophil cytoplasm and pyknotic nucleus (isolated outbreaks with shortening of the myocytes phenomena, which is characteristic of ischemia's lesions in the early post-surgery period). **Conclusions:** The ischemic changes have been observed in the first two weeks after the transplant, their proportion being of 20%. They have to be recognized in order not to be over-diagnosed as an acute reject episode and to provide adequate treatment.

**Keywords:** ischemia, hypoxia, transplant

## "THE GOLDEN RING" – DIAGNOSIS AND MANAGEMENT OF WILSON'S DISEASE – CASE REPORT

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**Background:** : Also known as hepatolenticular degeneration, Wilson's disease(WD) is an autosomal recessive, chronic, metabolic disease secondary to copper build-up in liver, cornea and central nervous system leading to neurological manifestations of a hypertone-hyperkinetic spectrum. **Objective:** We present the case of a 22 y.o. male admitted in Neurology I Clinic of Tîrgu Mureş Emergency County Hospital, with no history of neurological disease, which presents rapid progressive gait disturbances and trouble swallowing. Neurological examination revealed diminished deep throat reflexes, wide gait stance with incoordinated walk and a dystonic posture of the left limbs in motion, generalised hypertonia more expressed in the left upper limb, bilateral cogwheel sign, dysmetria with hypermetria in all limbs and cognitive impairment. **Material and methods:** The brain MRI revealed hypersignal in T2/FLAIR in the midbrain,basal ganglia and thalamus bilaterally. The ophtalmological exam revealed Kayser-Fleischer ring surrounding the corneae and the abdominal ultrasound showed a liver with fine granular structure, specific for micronodular liver cirrhosis. The bloodwork showed low ceruloplasmin level. The diagnosis of Wilson's disease was established and we started the patient on copper chelators, D-penicillamine. At 3 months follow-up, he presents with a progression of symptoms with severe gait impairment, unable to stand up and with severe neutropenia, most likely induced by D-penicillamine treatment. The decision was to change the treatment to Trientine. **Results:** The particularity of this case was the sub-acute onset of symptoms and not only the lack of therapeutic effect of D-penicillamine, but its severe side effects. The serious neutropenia rises the suspicion of treatment induced medullary aplasia. Even if the treatment was instituted when the neurological signs appeared the patient continued to deteriorate and was rendered unable to move. **Conclusions:** WD is a diagnosis to be considered when faced with a patient with a progressive hypertone-hyperkinetic syndrome and special precautions must be made when assessing the treatment.

**Keywords:** Kayser Fleischer ring,, micronodular liver cirrhosis,, dystonia,, extrapyramidal syndrome

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## SEVERE CASE OF PRIMARY HYPERPARATHYROIDISM ON OLIGOSYMPOMATIC PATIENT: CASE REPORT

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**Background:** Primary hyperparathyroidism is a disease that affects 0,3% of the general population. It usually occurs at the result of sporadic parathyroid adenomas or carcinomas but can also be seen in association with rare genetic syndromes or multiple endocrine neoplasia. It is often recognized as a result of biochemical screening or as part of an evaluation for decreased bone mass. **Objective:** Prompt recognition and treatment can notably reduce mortality from this condition. **Material and methods:** We report the case of a 71 years old female without any previous personal or family medical history who presented to her GP with weight loss (approximately ten kilograms in six months) and lack of appetite. The patient is hospitalized to the endocrinology department for complex investigations. **Results:** Hormonal dosage identified an increased level of PTH: 1445,0 pg/ml. Blood tests showed hypercalcemia (13,6 mmol/l) and hypophosphatemia (2,1 mg/dl). Thyroid ultrasound discovered multinodular goiter and possible bilateral parathyroid adenomas ( in observation). **Conclusions:** Based on clinical and paraclinical examination the case was interpreted as primary hyperparathyroidism with recommendation to make TC-sestamibi parathyroid scintigraphy. Also, a fine needle aspiration of the suspicious parathyroid adenomas and thyroid nodules is required for the final diagnosis and it's management.

**Keywords:** parathyroid adenomas, hypercalcemia, parathormone, scintigraphy

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## THE ASSESSMENT OF ANEMIC SYNDROME IN A GROUP OF PEDIATRIC PATIENTS WITH PHENYLKETONURIA

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**Background:** With the highest prevalence in Caucasian people, phenylketonuria (PKU), an inherited autosomal recessive disease, is given by a lack of the phenylalanine-hydroxylase enzyme which leads to an accumulation of the amino acid phenylalanine (Phe). A therapeutic approach includes a low-phenylalanine diet, which has as side effects low blood iron, B12 and folic acid concentrations. **Objective:** The aim of this study was to draw a relation between a rare metabolic disease such as PKU and anemic syndrome in pediatric patients. Objects of interests were: hemoglobin (Hb), hematocrit (Htc), erythrocytes (RBC), iron (Fe), and Phe levels. **Material and methods:** A database was created including the results of the laboratory tests performed on 13 pediatric patients suffering from PKU monitored in the Pediatric Clinic of the County Hospital Târgu Mureş between 2016 and 2018. Each patient had between two and six presentations (total: 44 sets of samples). Anemia was defined as a decrease in Hb by more than 2 Standard Deviation from the age-specific mean. The statistical analysis was calculated with Graph Pad and correlations statistically significant were found between Hb and Htc (r0.89, p<0.0001), iron levels (r0.55, p0.0019) and erythrocyte indices (r0.46, p0.002 for Mean Corpuscular Hb, r0.83, p<0.0001 for Mean Corpuscular Hb Concentration) **Results:** The average age of the examined group was of 3,05±0,31 years; 10 patients were under 4 years at the time of presentation (a sum of 33 presentations), 6 children have reached the age of 4 during the studied period . In patients under 4 years anemia was identified in 2 subjects (7 presentations) (21,2%) and in the group over 4 years in a single patient (9%). **Conclusions:** Almost one quarter of patients with PKU had anemia, with a higher frequency under the age of 4 years (in most cases with hypo-sideremia), without correlation with metabolic control of the disease (Phe level).

**Keywords:** phenylketonuria,, anemia,, children.

## IATROGENIC OESOPHAGEAL-PLEURAL FISTULA - POSSIBLE OUTCOME POST-ENDOSCOPIC PROCEDURES

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**Background:** Oesophageal-pleural fistula refers to an abnormal connection between the oesophagus and pleura, arising from a number of underlying pathologies such as tuberculosis, irradiation or chemical injury following ingestion of corrosive substances, or consecutive to iatrogenic maneuvers like endoscopic procedures or surgery. **Objective:** Raising the awareness concerning the layout that might ensue in endoscopic procedures, if done in forcible manners or effected on patients already susceptible to oesophageal rupture. **Material and methods:** A 64 years old female admitted to the Plastic Surgery Clinic for burns on 3% of her body, consecutive to a home explosion. After naso-gastric intubation for 24h nutrition, the patient develops acute respiratory distress syndrome. The radiography shows a right hydropneumothorax treated with a chest drain, showing an initial positive outcome. Later on, the patient's general condition deteriorates progressively, therefore an orotracheal intubation is carried out. The computed tomography scan reveals a right oesophageal-pleural fistula, repaired with a metallic stent through an interventional superior digestive endoscopy procedure, followed by right thoracotomy, debridement and lavage of the fistula. **Results:** Despite having patched the fistula and reestablished the separation between the structures, followed by drainage, the patient's general condition only declines developing septic shock, unresponsive to vasoactive support with norepinephrine and dopamine. Subsequently, the patient develops sustained fever, undetected by antibiotic therapy. A latter surgery is carried out to perform drainage and lavage. Patient's condition becomes critical, and after having developed multiple organ failure secondary to septic shock, the patient dies of cardiac arrest, incompliant to resuscitation. **Conclusions:** The peculiarity of this case consists in the discovery of a fistula subsequent to a common maneuver, raising a query concerning the actual number of iatrogenic incidents. Perhaps, upon further inquiry, a correlation between nasogastric intubation and oesophageal fistula could be more easily recognized, leading to a better understanding of their etiology and prevention.

**Keywords:** iatrogenic fistula,, oesophageal pleural fistula,, septic shock

## ARTERIAL HYPERTENSION AND KIDNEY DISEASE: A VICIOUS CIRCLE. CASE REPORT

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**Background:** While arterial hypertension is one of the leading causes of kidney disease, recent clinical trials have shown that the kidney can be a determinant of essential hypertension. Therefore, both arterial hypertension and kidney disease as well as a dysfunctional renovascular system may initiate a pathological vicious circle. **Objective:** The purpose of this case report is to analyze the evolution of the two types of cardiac and kidney diseases and how the relationship between them determines the increase in cardiovascular risk as well as the degradation of renal function. **Material and methods:** This study included an 80-year-old patient with hypertension, ischemic cardiopathy, drug-converted paroxysmal atrial fibrillation, erosive chronic gastritis and confirmed minimal change disease (2005). At the first admission to Medical Clinic III of Târgu Mureș, România, in December 2013, the patient presented: dyspnea, fatigue, edema, low serum albumin (2.5 g/dl) and high cholesterol (10.74 mmol/l). Under treatment with antiplatelet drugs, coronary dilators, diuretics, antiarrhythmics, statins and albumin, the evolution during hospitalization was favorable. Over the next 4 years, albumin levels continued to oscillate below the minimum and heart damage led to NYHA III left ventricular failure. This year, the patient returned for further investigation, presenting the same symptoms. Paraclinical investigations revealed severe proteinuria and hypoalbuminemia. **Results:** The patient has a favorable clinical progression: relieved edema and fatigue and improved dyspnea after cortisone treatment, anti-proteinuria drugs (ACE inhibitors), albumin and gastric protectors. The patient will undergo a new kidney biopsy to differentiate the type of nephrotic syndrome. **Conclusions:** We interpret the case as an impure nephrotic syndrome, being associated with hypertension. Its particularity is represented by the continuous decrease of serum albumin, despite the treatments performed.

**Keywords:** hypertension, nephrotic syndrome, hypoalbuminemia

## GIANT CELL ARTERITIS- EVOLUTION AND COMORBIDITIES

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**Background:** Giant cell arteritis(GCA) is a vasculitis of unknown cause that affects the elderly and is characterized by inflammation of medium to large-sized arteries. In 40% to 60% of patients, GCA is frequently associated with polymyalgia rheumatica. The reported incidence of GCA ranges from 0.5 to 27 cases per 100.000 people aged 50 years or older. **Objective:** This case report presents the difficulties in therapy management in an elderly patient with GCA and comorbidities. **Material and methods:** We report a case of 74 years old female patient who was diagnosed with GCA in 2014 in Rheumatology Unit of Emergency Hospital Cluj-Napoca, presenting biparietal and temporal headache, jaw claudication, dysphagia,odynophagia. She has many comorbidities like essential high blood pressure controlled by antihypertensive medication and osteoporosis with vertebral fractures, treated with bisphosphonates. The clinical examination described the temporal arteries induration, painful at palpation, limited range of movement of scapulo-humeral joints. Biological test proved a persistent inflammatory syndrome, Doppler ultrasonography revealed a hypoechoic halo around the temporal artery lumen and joint ultrasonography showed bilateral subacromial bursitis. Positive biopsy characterized by infiltration of the vessel wall with mononuclear inflammatory cells, giant cells and intimal proliferation confirmed the diagnosis of GCA. GCA required treatment with initial high doses of Prednisone and Methotrexate, as a corticosteroid (CS) sparing agent. **Results:** The disease was rapidly controlled and remission was maintained up to three years, but complications related to therapy occurred - bilateral cataract and Ear-Nose-Throat(E.N.T.) infectious side effects. The patient was consecutively admitted with specific clinical and paraclinical features of a relapse of the disease, in the context of Methotrexate withdrawal and CS dose reduction. **Conclusions:** This case report strengthens that disease modifying antirheumatic drugs (DMARDs) associated with CS and carefully management of side effects in elderly patients with comorbidities are crucial for life expectancy improvement.

**Keywords:** giant cell arteritis,, prednison,, cataracta,, polymyalgia rheumatica

## ANALYSIS OF CORRELATION BETWEEN THE INCIDENCE RATES OF PROVIDENCIA STUARTII AND COLISTIN USAGE IN MURES COUNTY EMERGENCY HOSPITAL

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**Background:** Providencia stuartii is a Gram-negative bacillus belonging to the family of Morganellaceae (former Enterobacteriaceae). Over the years, an increase of its occurrence was observed in Mures County Emergency Clinical Hospital. **Objective:** The present study examined the correlation between the frequency of isolation of P. stuartii and colistin consumption. **Material and methods:** Bacteriological and antibiotic consumption data have been collected from the bacteriology laboratory and the pharmacy of the Mures County Emergency Clinical Hospital over a 9 year period (2009-2017). Yearly incidence rates of P. stuartii were determined. Yearly colistin consumption data were expressed as number of DDD (daily defined doses) prescribed over 100 bed-days. Statistical analysis was performed using Wessa software version 1.2.1. **Results:** Colistin usage was low during 2009-2012, not exceeding 1.5 DDD/100 bed-days. A sharp increase of consumption has been observed over the following 3 years, with the highest value reported in 2015 (4.50/100 bed-days). This was followed by a slight drop in the last two years of the study, DDD falling to 2.94/100 bed-days. In the first four years of the study incidence rates of P. stuartii varied between 1.08-2.79 isolates/100000 bed-days. A marked increase began in 2012, peaking in 2016 (26,02/100000 bed-days) it was followed by a slight decrement in 2017 (21.62/100000 bed-days). Statistical analysis showed strong correlation (R= 0.89) between colistin usage and incidence rates of P. stuartii. **Conclusions:** The yearly increase of colistin consumption could have played a role in the selection and spread of P. stuartii, a bacterium intrinsically resistant to this antibiotic. Moreover, the slight decrease of colistin consumption during the last two years led to a decline in incidence rates of P stuartii, suggesting that further decrease of colistin antibiotic consumption could be a reasonable strategy to reduce the occurrence of this bacterium.

**Keywords:** colistin consumption, providencia stuartii, antibiotic resistance, bacterial resistance

## SECONDARY RESISTANCE TO INFLIXIMAB IN AN ILEO-COLIC CROHN'S DISEASE PATIENT

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**Background:** Crohn's disease (CD) is a chronic inflammatory bowel disease with potential to involve the gastrointestinal tract at any level. In a step-wise approach, initially most patients respond to the first line treatment, but many of them suffer repeated exacerbations and require personalized step-up approach. Biological agents are the top stage of medical treatment. **Objective:** The purpose of this paper is to present a case of secondary resistance to Infliximab and to debate on further treatment options in an ileo-colic CD patient. **Material and methods:** We present the case of a 61-years-old female patient, with a history of right hemicolectomy for intestinal occlusion, who is since then dispensarized in Mures County Hospital's Gastroenterology Clinic for ileo-colic CD. During her follow-up she presented many flares that required ascending treatment to biologic therapy, her current therapy consisting of mesalazine, budesonide and infliximab 5mg/kg at 8 weeks. The patient was recently reevaluated because of the progressive persistent symptoms: right-lower-abdominal pain and diarrhea. Serology revealed a moderate anemic syndrome and positive acute phase reactants. Colonoscopy was performed and identified no lesions in the remaining colon, but described a stenosis of the ileo-colic anastomosis orifice. The patient further underwent an entero-computer tomography which revealed a wall thickening of the last 9cm of ileon above the anastomosis. **Results:** Determination of the anti-infliximab antibodies turned out positive, therefore treatment with infliximab was discontinued. Adding immunosuppressive agents was not a valid option due to the previous side-effects experienced, thus switching to adalimumab or surgery were the only remaining options. Adalimumab was initiated and remission occurred. **Conclusions:** We concluded it was a new flare, that appeared after 2 years of biologic therapy with infliximab, so secondary resistance occurred. Though Infliximab has shown its effectiveness in CD, when secondary resistance is acquired, adalimumab is a suitable alternative.

**Keywords:** secondary resistance,, Infliximab,, Crohn's disease

## PLURITROPE PITUITARY INSUFFICIENCY ASSOCIATED WITH DIABETES INSIPIDUS, IN A PATIENT WITH OPERATED CRANIOPHARYNGIOMA

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**Background:** Craniopharyngioma is a disontogenic, histologically benign tumor in the suprasellar region (pituitary stalk) and hypothalamic region. It represents about 2-5% of all primary intracranial tumors and predominates in the male sex (55%). Due to the localization □ suprasellar region, this type of benign neoplasm is often associated with neuroendocrine dysfunction, causing plurirope pituitary insufficiency. **Objective:** Rapid diagnosis and promptly setting up the adequate treatment can reduce mortality, increase life expectancy and can improve the patient's quality of life. **Material and methods:** We present the case of a 19 year old boy, known with craniopharyngioma diagnosed in 2009 and operated twice, with plurirope pituitary insufficiency under substitute treatment and central diabetes insipidus under treatment. He presents regularly to the endocrinological reevaluation. **Results:** The MRI (magnetic resonance imaging) performed in 2009 shows the presence of a supra and infrasellar mass, following which total tumor ablation and histopathologic examination was performed with the result of adenomatous craniopharyngioma. Postoperative, a polyuro-polydipsic syndrome occurs. In May 2010 the MRI (magnetic resonance imaging) is redone and shows the presence of an oval cystic mass that raises the suspicion of a relapse so the patient was reoperated in november 2010. Recent analysis (2017) indicate low levels of fT4 (0.47 ng/dl) and cortisol at 8 o'clock (0.3 mg/dl), and elevated triglycerides (911/413 mg/dl). Abdominal echography revealed hepatosplenomegaly and severe liver steatosis. Due to severe hypertriglyceridemia, treatment with Fenofibrate is initiated. We suspect that the low level of fT4 is caused by an inappropriate treatment response. **Conclusions:** Based on the clinical and paraclinical analyses performed (pituitary MRI, hormone levels) we interpret the case as a plurirope pituitary insufficiency in a young patient with twice operated craniopharyngioma (2009 and 2010) under hormone substitution treatment.

**Keywords:** craniopharyngioma,, plurirope, pituitary, insufficiency,, diabetes, insipidus,

## THE DEGREE OF BASOPHIL INVASION IN NORMAL PITUITARY GLAND

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**Background:** Basophil invasion is a phenomenon that describes corticotroph cells extension or migration from the intermediate lobe into the posterior lobe of the human pituitary gland. Its functional significance is still not known, although it is believed to be a physiological phenomenon. In some studies, it seems to be more pronounced in men than in women and is related with the aging process. **Objective:** The aim of our study was to determine the degree of basophil invasion in normal pituitary glands and to correlate this to age and sex. **Material and methods:** We examined 75 pituitary glands obtained from autopsy and we excluded cases with extensive autolysis or with incidental lesions. Basophil invasion was evaluated only in 46 cases. Ages of patients ranged from 19 to 91 years. The basophil invasion was classified into three groups based on the extend and number of the areas with corticotroph cells: group 1 (minimal invasion), group 2 (mild invasion) and group 3 (pronounced invasion). **Results:** Our study group was represented by 34 males (73%) and 12 females (26%). Minimal invasion was noted in 21 cases (46%), mild in 22 cases (47%) and pronounced invasion in 3 cases (7%). We found no significant statistical differences between invasion and sex ( $p=0.8704$ ) and between invasion and age ( $p=0.4473$ ). **Conclusions:** We were not able to prove that a significant increase of invasion occurs with age or sex. Despite the lack of statistical relevance in our study the knowledge of this phenomenon is still required. This rare phenomenon is important especially in cases with extremely small corticotroph secreting microadenomas (less than 3 mm) that are difficult to identify on MRI imaging. In such cases the neurosurgeon relies heavily on adequate identification of the corticotroph tumor on frozen sections, and confusion between tumor tissue and basophil invasion can lead to failure of surgical treatment.

**Keywords:** Corticotroph cells, Basophil invasion, Frozen sections

## THE ASSOCIATION BETWEEN MAJOR DEPRESSIVE DISORDER AND THE SEVERITY OF ANXIETY ACCORDING TO GENDER

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**Background:** Anxiety is an unpleasant state often accompanied by nervous behavior, such as pacing back and forth, and worrying about future threats. In positive psychology, anxiety is a mental state that occurs due to the life challenges for which the subject has insufficient coping skills. Anxiety can reduce quality of life, known as chronic anxiety, or it can manifest as panic attacks, known as acute anxiety. The severity of anxiety can be measured with the Hamilton Anxiety Rating Scale, which is use daily worldwide. **Objective:** The objective is to asses if the gender is a factor that affects the severity of anxiety in patients suffering from Major Depressive Disorder. **Material and methods:** A cross sectional study, which involved 165 patients who visited the "1st Psychiatric Clinic of "Targu-Mures" who were diagnosed with anxiety and major depressive disorder. The data was gathered over a 2 year period, between January 2016 and February 2018. **Results:** 165 patients , which included 125 females(75.8%) and 40 males (24,2%). Regardless of the gender, the average age is 54.09 . According to gender: females-53,3, males-54,6. According to the Hamilton score the female average score is 25.86 and the male Hamilton anxiety score is 25.8. For the female group The p value being under 0.05 and the Cramer's phi score 394 . **Conclusions:** According to the results, the appearance of anxiety in females with Major depressive disorder is 75%, whereas it is only 24.4% in the male group. We can see, according to the phi Cramer's value and the p value, that there is a moderate statistical correlation between anxiety and major depressive disorder in females. The results of the Hamilton Anxiety Rating Scale show equal severity in both genders.

**Keywords:** Anxiety, MAJOR DEPRESSIVE DISORDER, Gender

## THE CORRELATION BETWEEN GENDER AND ALCOHOL DEPENDENCE IN MAJOR DEPRESSIVE DISORDER.

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**Background:** MDD is a chronic mental disorder that affects all types of populations worldwide. The disorder is defined by at least two consecutive weeks of sadness and anhedonia. The etiologies are numerous including: genetic, chronic diseases, life style, and medication abuse. In Romania 5% of the population was diagnosed with MDD, and in Hungary that number was 10.5%, which is the highest percentage in Europe. Alcoholism is often associated with the condition. **Objective:** The objective was to assess if gender is a risk factor for alcohol dependence if patient is suffering from Major Depressive Disorder. **Material and methods:** A cross sectional study, which involved 145 patients who visited the "1st Psychiatric Clinic of Targu-Mures" who were diagnosed with Major Depressive Disorder and alcohol dependence. The data was gathered over a 2 year period, between January 2016 and February 2018. **Results:** 145 patients which included 15 females(11.5%) and 130 males (88,5%). Regardless of the gender the average age is 53.3. According to gender: females-52.8, males-51,1. Out of all the patients 114 patients suffer from both alcohol dependence and MDD. P value for gender and alcohol dependence is 0.049 (<0.05) and the Phi charmer's value is 593. 70 patients were as well diagnosed with Passive-Aggressive Behavior, 49 females (70%) and 21 males(30%). **Conclusions:** According to the results, the prevalence of alcohol dependence in patients with Major Depressive Disorder is higher in male patients. We can see as according to the phi Cramer's value and the p value that there is a strong statistical correlation between gender and alcohol dependence in Major Depressive Disorder.

**Keywords:** ALCOHOL DEPENDENCE, MAJOR DEPRESSIVE DISORDER, Gender

## DIFFERENCES BETWEEN LABORATORY FINDINGS AND ASSOCIATED PATHOLOGIES IN HYPERTENSIVE PATIENTS WITH AND WITHOUT COGNITIVE DYSFUNCTION

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**Background:** A strict correlation has been observed between cognitive impairment and old age. Furthermore it has been established that hypertension is a risk factor for cognitive dysfunction. **Objective:** The aim of the study was to draw relationships between laboratory parameters and comorbidities in hypertensive patients and their cognitive status. Objects of interest were glycemic levels, (BMI) body mass index values, (Hs-CRP) High sensitivity C-reactive protein, cystatin-C, TNF alpha and fibrinogen levels. **Material and methods:** Fifty hypertensive patients of a cardiology unit in Târgu Mureş were enrolled in the study during the academic year 2016/2017. The patients were included into two subgroups (with and without cognitive dysfunction) based on the results scored at the Mini Mental State Examination (MMSE) cognitive test. **Results:** The average age of the studied patients was 70.33 years +/- 3.94 (SD), 59% of them being females. Two thirds of the patients with cognitive dysfunction showed increased glycemic levels, 58% of them presented diabetes, the percentage of this disease being only 42% in the other subgroup. Statistically significant difference was found between the mean values of the BMI for the two groups (p=0,0087) (control group: 27.32 kg/ square meter and experimental group: 32.63 kg/ square meter), and the frequency of obesity was more than double in the group showing cognitive impairment (p=0,0212). TNF-alpha values along with microalbuminuria, Hs-CRP, cystatin-C and fibrinogen values showed no significant difference between the two groups. **Conclusions:** As a result of the study overweight and impaired glucose metabolism in hypertensive patients might be exacerbating factors for cognitive dysfunction. Hence clinicians should focus besides the usual therapy for hypertension, also on the efficient treatment of obesity, diabetes and other comorbidities to prevent the complications of the disease, such as cognitive impairment.

**Keywords:** hypertension,, cognitive dysfunction,, comorbidities,

## HEPATOCELLULAR CARCINOMA ASSOCIATED WITH HEPATITIS B VIRUS CIRRHOSIS AT ONE UNVACCINATED ANTI-HEPATITIS B PATIENT OF 63 YEARS OLD - CASE REPORT

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**Background:** Hepatitis B virus (HBV) is one of the most common chronic infections worldwide, with an estimated 257 million chronically infected subjects, and the leading cause for hepatocellular carcinoma (HCC) worldwide, being associated with high mortality (15 - 40% in 10 - 25 years). Despite the availability of prophylactic vaccine for more than 40 years, the number of infections remains high, owing in part to the failure to implement vaccination programmes. **Objective:** To describe association between hepatitis B viral and hepatocellular carcinoma at one unvaccinated anti-hepatitis b patient of 63 years old. **Material and methods:** 64-year-old male patient with a medical history of viral hepatitis B (2002), hepatocellular carcinoma in the 5th segment operated in 2009, cholecystectomy (2009), transurethral resection of the prostate for prostate adenoma (2017), erosive gastritis (2018), presented at our hospital for abdominal pain especially in the right hypochondrium. The patient is unvaccinated anti-hepatitis b and has taken Lamivudine for 5 years for liver cirrhosis, has a history of smoking for 15 years and occasional alcohol drinking. Blood tests, contrast liver ultrasound (US) and thoraco-abdominal-pelvic CT and MRI scan were made in order to establish the cause of the pain and the evolution of the disease. **Results:** The patient had normal transaminases values, a possible HCC in the 7th segment of 20/15 mm was found on the CT scan, hypoechoic on the abdominal US and hypercaptant in the arterial phase, hypocaptant in the parenchymal phase on the contrast US. MRI confirmed the existence of HCC in the 7th segment. Surgery is scheduled after complete evaluation. **Conclusions:** The increased hygienic standards and efficient delivery of vaccination thus remains an important priority that will define the objective of eliminating HBV-related HCC well into the future.

**Keywords:** hepatitis B virus (HBV), hepatocellular carcinoma (HCC), vaccination

## THROMBOCYTOPENIA AND MTHFR C677T MUTATION IN A PATIENT WITH CHRONIC LIVER DISEASE: AN UNHEALTHY COMBINATION

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**Background:** Venous thromboembolism in patients with liver cirrhosis is an increasingly clinical problem. Even if thrombocytopenia is the most common hematological abnormality, there is increasing evidence that an elevated INR may not be a protective factor for thrombosis. Methylentetrahydrofolate reductase (MTHFR) C677T mutation has been identified and associated with increased risk of venous thrombosis in cirrhotic patients. **Objective:** The purpose of this case report is to highlight that thrombocytopenia associated with a life-threatening thrombotic manifestation in the setting of liver cirrhosis is a major therapeutic challenge for the clinician. **Material and methods:** A 49-year-old man with a history of cryptogenic cirrhosis was admitted with pain in the right hypochondrium. On examination, a distended, tender abdomen with hepatomegaly and splenomegaly was found. The patient reported no episodes of hematemesis or melena. Blood panel showed thrombocytopenia (21.000/uL) and high bilirubin level (4 mg/dl). Abdominal ultrasonography revealed increased hepatic echogenicity, perihepatic fluid collections, signs of portal hypertension. Upper digestive endoscopy was consistent with 2nd-degree esophageal varices and portal hypertensive gastropathy. CT scan of the abdomen revealed nodularity of the liver parenchyma, portal vein enlargement, splenic and mesenteric veins thrombosis. There was no improvement of thrombocytopenia and the patient was given platelets transfusion and corticosteroids. During hospitalisation the patient presented dyspnea, hemoptysis and a chest angiography CT confirmed the diagnosis of left pulmonary artery thrombus with chronic pulmonary embolism features. Eco-Doppler of the legs revealed signs of post-thrombotic syndrome in the right posterior tibial and left popliteal veins. The patient was given low dose of LMWH. Workout for thrombophilia was performed and revealed MTHFR C677T gene mutation. **Results:** On the 44th day of admission the patient was discharged without any complaints and splenectomy will be performed. **Conclusions:** Presenting this case, we want to emphasize that management of venous thrombosis in cirrhotic patients should be considered very cautiously.

**Keywords:** MTHFR C677T gene mutation;, portal thrombosis;, pulmonary thromboembolism;, thrombocytopenia.

## AN ASSESSMENT OF APNEA IN PREMATURELY BORN INFANTS

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**Background:** Premature birth represents one of the biggest worldwide problems as it is one of the most common causes of mortality in newborn children. Preterm infants often develop apnea, most of the time caused by the lack of an adequate surfactant. Giving a diagnosis may prove to be problematic, as preterm infants are also prone to neurological, cardiac, gastrointestinal and hydro electrolytic disorders, thus making it difficult to trace cause of the apnea. **Objective:** Our aim was to describe the case of a 2 months old infant who suffered multiple apnea crisis. **Material and methods:** His medical history showed that he was born prematurely at 32 weeks through a caesarean operation and he required resuscitation at birth. 72 h postpartum he developed generalized tonic-clonic seizures. The patient was first admitted to the hospital because he was presenting fever and a strong cough. The infant responded well to the treatment and was discharged but two days later, he returned with the following symptoms: apnea crisis with a spontaneous comeback after stimulation Sa 85%, semi productive, spastic cough, generalized hypotonia and somnolence. He was hospitalized in the Intensive care unit. **Results:** Paraclinical test results showed: anaemia, hypoproteinaemia, leukopenia; CRP=75 mg/L; abdominal and transfontanelar ultrasound examination : normal values; electroencephalography -lack of pathological signs; neuropediatrics examination: excludes apnea of neurological causes; pulmonary radiography: shows a congestive area situated in the right intercleidohilar space; blood culture-negative; The treatment consisted of: Ceftriazona, Metronidazol, Amikacina, aerosols with salbutamol and dexametazone, oxigenotherapy. **Conclusions:** Based on his medical history, the clinical examination and the paraclinical results we concluded that the apnea was caused by a pneumonia associated with an acute respiratory failure.

**Keywords:** apnea, infant, preterm

## CLINICAL AND PARACLINICAL CONSIDERATIONS IN A PEDIATRIC CASE OF A B - THALASSEMIA COMBINED WITH A MEGALOBlastic ANEMIA DUE TO VITAMIN B12 DEFICIENCY

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**Background:** Anemia is a hematological condition that develops insidiously. Beta-thalassemia is a hereditary blood disease due to hemoglobin synthesis disorders. **Objective:** Our aim is to present a particular case of combined anemia (nutritional and hemoglobinopathy) in an infant and to emphasize the importance of a detailed medical history and early diagnosis. **Material and methods:** We report a case of a 6-month-old male infant, born full term, having significant heredocolateral history: vegetarian mother with severe anemia by combined deficiency, diagnosed prenatally, father with anemia of undetermined etiology. The first admission was at the age of 4 months, the physical examination revealed intense pale skin, moderate jaundice, muscular hypotonia, splenomegaly. Hematological investigations revealed low levels of red blood cell count(RBC), hemoglobin(Hb) and hematocrit(Hct), reduced mean corpuscular volume(MCV), thrombocytopenia, lymphocytosis, peripheral blood film with macrocytosis, anisocytosis, Cabot Ring and Jolly Bodies, megaloblastic bone marrow. Furthermore, the biochemical findings showed hyperbilirubinemia, hypersideremia, high ferritin levels and low vitamin B12 levels. Therefore we confirm the diagnosis of vitamin B12 deficiency megaloblastic anemia, which has been corrected with a substitution treatment using red blood cell count, thrombocyte, and intramuscular vitamin B12 with favorable evolution and improvement of the hematological parameters. In the second step of the investigations, hemoglobin electrophoresis is performed due to the suspicion of an associated thalassemia. **Results:** The evolution of the hemogram profile reveals RBC:4.94 mil/ $\mu$ L, Hb:10.0g/dl, Hct:29.6%, MCV:59.9fl, Mentzer Index is less than 13 being suggestive for thalassemia. The hemoglobin electrophoresis states the diagnosis of minor beta-thalassemia which reveals an elevated hemoglobin A2 level:4.6%. The patient is discharged in good general

health, needing treatment with folic acid according to age and periodic evaluation. **Conclusions:** Megaloblastic anemia due to vitamin B12 deficiency is a rare condition in infants and its association with minor Beta-thalassemia is uncommon. Early diagnosis is essential because left untreated, these conditions can cause vital neurological, haematological and infectious complications.

**Keywords:**  $\beta$  thalassemia minor,, megaloblastic anemia,, Vitamin B12 deficiency,, infant,

## BILATERAL AND MULTIPLE RENAL ANGIOMYOLIPOMAS INCIDENTALLY FOUND IN A YOUNG MALE ADULT WITH EXTENSIVE PLEURO-PULMONARY TUBERCULOSIS WITH CHEST WALL INVOLVEMENT: CASE REPORT.

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**Background:** Angiomyolipoma represents a benign tumor usually found in the kidney. Most often the tumor is sporadic, but it can be associated with tuberous sclerosis especially when multiple and bilateral renal angiomyolipomas are found. Chest wall involvement is an uncommon manifestation of tuberculosis that may be due to contiguous spread from underlying pleural or pulmonary lesions, although hematogenous seeding without active pulmonary disease is more common. **Objective:** We present an interesting case of a 25-year-old male who died suddenly at home. **Material and methods:** A full autopsy was performed at Institute of Forensic Medicine of Tîrgu Mures. Both external and internal autopsy observations were evaluated. **Results:** Autopsy examination identified severe atrophy of skeletal muscle and absence of adipose tissue. On gross examination, multiple bilateral pulmonary lesions with extensive infiltration of the pleura and chest wall, and multiple bilateral renal lesions were also found. The suspicion of a primary pulmonary tumor with renal metastases was raised. On microscopy, diffuse active tubercular lesions were found in both lungs and pleura. The tumors of the kidney composed of an admixture of blood vessels, smooth muscle, and mature adipose tissue of varying proportions and distributions, were diagnosed as angiomyolipomas. **Conclusions:** : The presence of bilateral multiple angiomyolipomas is strongly suggestive for tuberous sclerosis and its prognosis depends on the severity of the symptoms. The awareness regarding different organ manifestations of tuberous sclerosis is important, as the disease can cause benign tumors in multiple organs, such as brain, kidneys, heart, liver, and lungs in combination with seizures, intellectual disability and developmental delay. Our patient was not diagnosed with tuberous sclerosis and the bilateral multiple renal angiomyolipomas were incidentally found in association with extensive pleuro-pulmonary tuberculosis with chest wall involvement.

**Keywords:** angiomyolipoma, multiple, bilateral, tuberculosis

## A CASE OF LEFT VENTRICLE NONCOMPACTION – CASE REPORT

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**Background:** Left ventricular noncompaction represents an uncommon genetic determined cardiomyopathy. Due to possible late onset of symptomatology, this diagnosis must be considered at any age. **Objective:** The paper aims to report the case of a 23-year-old male adult, with no personal or family medical history, admitted to the Clinic of Cardiology with extreme fatigue, shortness of breath and a presyncopal event. **Material and methods:** The clinical examination of the patients revealed important peripheral edema, generalized cyanosis, bilateral fine basal crackles upon auscultation and low blood pressure. The ECG revealed sinus tachycardia (130 bpm) and negative T waves in the inferior and lateral leads. The transthoracic echocardiography revealed important left ventricle (LV) dilation (75/64 mm), with a moderate left atrium (LA) and right ventricle (RV) enlargement, a significant LV systolic dysfunction with an ejection fraction of 30%, with the image of a thrombus at the apex of the LV. The LVNC was also indicated through this imaging investigation by prominent trabeculation of the LV and deep recesses. Moreover, transesophageal echocardiography examination performed also identified an apical thrombus. Since LVNC is frequently associated with other congenital malformations, a cardiac CT was performed which did not identify other congenital abnormalities. **Results:** Based on the non-invasive cardiac imaging techniques, LVNC was identified in a young symptomatic adult with no other history of cardiovascular disease. **Conclusions:** In order to provide a correct diagnosis and prevent important complications such as heart failure, arrhythmias, and embolic events, proper cardiac imaging techniques must be used.

**Keywords:** left ventricular noncompaction, transesophageal echocardiography, cardiac CT

## ISCHEMIC STROKE IN APPARENTLY HEALTHY YOUNG WOMAN - THE FIRST CLUE FOR REVEALING A SYSTEMIC AUTOIMMUNE DISEASE

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**Background:** Among young patients ischemic stroke is rare. A good secondary stroke prevention is based on clearly identifying its etiology as well as minimizing additional risk factors. **Objective:** Our aim is to highlight the importance of considering lupus as a possible underlying disease that cause stroke in apparently healthy young patients, as this can be the only early symptom of systemic lupus erythematosus. **Material and methods:** A 28-year-old woman without any past medical history, under a treatment with oral contraceptive pills, suddenly presented intense headache, nausea, vomiting, motor deficiency in left limbs, facial asymmetry and dysarthria. Intravenous thrombolysis was initiated approximately three hours after the beginning of the symptoms without the amelioration of the symptomatology. Laboratory and imaging investigations were performed in order to identify the cause. **Results:** Cardiological examination, echo cardiography, cerebral angiography were all normal. A CT-examination performed 24 h after the incident revealed an ischemic lesion in the region tributary to right choroidal artery affecting internal capsule. Coagulation studies were normal. Cholesterol and triglycerides had normal values, CRP and VDRL test were both negative, ESR was 12 mm/h. The tests that identified the possible diagnosis were the positive ANA test-antinuclear antibody with a value of 33.3 IU/mL (normal values between 0 and 22 IU/mL) and anti-dsDNA antibody with a value of 37.6 IU/mL. Since ANA test is positive in 97% of patients with lupus, further investigations were performed in rheumatology department and the patient was diagnosed with systemic lupus erythematosus. **Conclusions:** Ischemic strokes in young patients are exceptional. One possible cause may be an undiagnosed systemic lupus erythematosus, as stroke usually occurs in early stages of the disease when other clinical features of the disease can be absent.

**Keywords:** ischemic stroke, neurolupus, autoimmune disease, systemic lupus erythematosus

## LEFT VENTRICULAR RUPTURED PSEUDOANEURYSM - COMPLICATION OF ACUTE MYOCARDIAL INFARCTION – CASE REPORT

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**Background:** Mechanical complications (MC) occurring after an acute myocardial infarction (AMI) present a low incidence but play an important contribution to the AMI mortality. The mechanism of MC is based on the following cascade of events: ischemia - necrosis - collagen activation - wall thinning - rupture. **Objective:** The aim of this paper is to present the case of a 66-year-old man, hypertensive, known with significant comorbidities: ischemic heart disease, 3 strokes, prostate neoplasia, presented with chest pain and dyspnea that had started 2 weeks prior to his admission. **Material and methods:** The patient was admitted with right hemiparesis and the signs and symptoms of left heart failure. The ECG revealed right bundle branch block, with ischemic modifications in the inferior leads. The laboratory analysis showed dyslipidemia and high myocardial necrosis enzymes levels (NT-proBNP 6,748 pg/mL, D-dimer >5.00 µg/mL). Left ventricular (LV) systolic dysfunction, severe mitral regurgitation, lateral wall hypokinesia, 34 mm of pericardial effusion, partial right atrium and mid/end-diastolic right ventricle collapse, and a pseudoaneurysm of the posterior wall of the LV with a 50 mm thrombus were found after echocardiography was performed. The cardiac CT imaging allowed accurate diagnosis of left ventricle pseudoaneurysm and the thrombus mass. **Results:** Based on all clinical and paraclinical investigations, the patient was diagnosed with inferior MI complicated with inferior wall rupture, and a pseudoaneurysm of the LV and hemorrhagic pericardial effusion. **Conclusions:** After a complete stabilization of the patient, a diagnostic invasive coronary angiography was performed as part of the preoperative preparation. MC following MI present a firm indication for surgical correction. Non-invasive imaging techniques allow accurate diagnosis in such rare but fatale complications of AMI.

**Keywords:** mechanical complication, left ventricular pseudoaneurysm, angio-CT

## WHAT CAN BE HIDDEN BEHIND THE JOINT PAIN IN CHILDREN?

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**Background:** Leukemia is the most common malignant disease of children, followed by brain tumors and lymphomas. **Objective:** The aim of this paper is to present the symptomatology from the onset of acute lymphoblastic leukemia with the predominance of joint pain in a 10-year-old child. **Material and methods:** The female patient aged 10 years and 3 months shows the onset of the current disease two weeks prior to admission, with productive cough, fever, palpitations, joint pain, therefore she receives ambulatory treatment with Ibalgin. The evolution is unfavorable which is why she is admitted Pediatric I Clinic - Clinical Emergency County Hospital of Mures for investigations and specialized treatment. At the clinical examination is detected marked hepatosplenomegaly, generalized adenopathy, without weight loss, associated with joint pain in the knee and shoulder. **Results:** Laboratory and specialized analyzes reveal pancytopenia ( leukocytes: 2430/mm<sup>3</sup>, neutrophil: 400/mm<sup>3</sup>, hemoglobin: 10,10 mg/dl, hematocrit: 31,6 %, platelets: 36.000 /mm<sup>3</sup>); the peripheral smear with lymphoblasts 12% (POX negative); immunophenotyping in peripheral blood with acute lymphoblastic leukemia appearance with preB cells; medulograma: lymphoblasts 70% with a morphological aspect of L2 (Periodic acid -Schiff positive); molecular biological examination: FLT3-ITD, FLT-3D835, DNMT3A R882 -negative. The cerebrospinal fluid exam is negative. Abdominal ultrasound: marked hepatosplenomegaly and retroperitoneal adenopathy. **Conclusions:** The case was labeled as an acute lymphoblastic leukemia with preB cells L2, for which was initiated cytostatic treatment with favorable evolution, currently the patient is in remission. The presence of joint pain in children requires careful investigations as an oncological diagnosis can be hidden behind it.

**Keywords:** child, acute lymphoblastic leukemia, joint pain

## SUCCESSFUL PREGNANCY IN A WOMAN WITH LONG TERM ACROMEGALY

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**Background:** Acromegaly is an endocrine pathology, caused by growth hormone(GH) hypersecretion. GH secretory pituitary adenoma is the most common cause of acromegaly, at the time of diagnosis most of them are macroadenomas. **Objective:** The aim of our paper was to follow the evolution of a patient known with acromegaly since 2000 who successfully managed to conceive after multiple sequences of different treatments. **Material and methods:** We present the case of a 40-year-old female patient, diagnosed with acromegaly at the age of 22 years. She underwent surgical intervention in 2000, the year of diagnosis, two years later, a tumor mass was again revealed. At that time the patient received intermittent treatment with bromocriptine and decided for homeopathic treatment without any other medical advice. One year later surgery was again performed for recurrent symptomatic tumor and then conventional radiotherapy was administered. Immunohistochemistry was positive for GH and negative for prolactin, FSH and LH. Somatostatin analogues and then GH receptor antagonist were tried and after five years of medical treatment, IGF-1 level was normal. **Results:** After the treatment was completed, the patient presented menorrhagia in 2015 and received progestative therapy and had no complications in the surgery of the endometrial polyps. The patient did not develop pituitary insufficiency despite multiple surgeries and radiotherapy. The patient performs an artificial insemination and gets pregnancy without complications. She gives birth to a healthy baby girl of 2.72 kg and L= 49 cm by Caesarean operation. **Conclusions:** Our case shows that in acromegaly controlling hormonal activity and tumor size before pregnancy is important and recommended to ensure a good outcome.

**Keywords:** Acromegaly, GH, artificial insemination, pregnancy

## METAMIZOLE-INDUCED NEUTROPENIA COMPLICATED WITH RECTAL ULCER IN A CIRRHOTIC PATIENT

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**Background:** Metamizole is an analgesic used to treat pain. **Objective:** We present the case of a 60 years old female patient known with Child Pugh C toxic liver cirrhosis, admitted by emergency with the occasion of a routine laboratory reevaluation, because of a newly identified severe leucopenia with neutropenia. **Material and methods:** In her recent medical history, two months ahead, the patient had been admitted in the Gastroenterology Clinic of Targu-Mures for acute liver failure, with severe cholestasis syndrome, massive ascites and edemas, that slowly successfully corrected with proper treatment. She was discharged stable, with recommendations of treatment with diuretics (furosemide, spironolactone), ursodeoxycholic acidum, rifaximin, lactulose and hepatoprotectors. At her twice monthly reevaluations the complete blood count (CBC) were in normal values, cholestasis and ascites progressively decreasing. At the last check-up she accused weakness and fatigue, the CBC revealed neutropenia (White Blood Cells=600/mmc; Neutrophils=145/mmc), for which we hospitalized her, for suplimentary investigations. The patient was afebrile, with persistent neutropenia; affirmatively recognised having self-medicated herself with 2 tablets/day of metamizole 500 mg in the last week. The hematologic consult suggested a metamizole-induced agranulocytosis and recommended prophylactic antibiotics. Same day the patient presented an acute episode of rectal bleeding, for which a rectosigmoidoscopy was performed, that revealed a solitary ulcer located on the anterior rectal wall. **Results:** Toxin A+B for Clostridium difficile was negative, stool exams and cultures, viral evaluation of patient (Citomegalovirus, Human Immunodeficiency Virus 1&2, Ebstein Barr Virus, Hepatitis B Virus, Hepatitis C Virus) were negative, biopsies from the ulcer excluded malignancy. Sulfasalazine suppositories were initiated for 2 weeks and the ulcer cicatrized. CBC returned to normal in 3 weeks, without specific treatment (filgastrim). **Conclusions:** Since no valid/other etiology was found for the sudden appearance of the solitary rectal ulcer, we interpreted it in the possible context of the immunosuppressive status temporarily induced by metamizole.

**Keywords:** metamizole,, rectal ulcer,, cirrhosis

## FROM PERICARDIOCENTESIS TO MITRAL VALVE REPLACEMENT. ONE OR BOTH OF THEM?

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**Background:** Rupture of the chordae tendineae is an uncommon event that may lead to sudden mitral regurgitation. **Objective:** The purpose of this communication is to report an interesting case, suggestive for the assessment of the optimal moment for an aggressive treatment at an unstable patient. **Material and methods:** 65 years old male patient is diagnosed with right paracardiac pneumonia complicated with pleuropericarditis and liver abscesses. He was hospitalized at the Internal Medicine Clinic of Tîrgu Mureş where was discovered a severe acute mitral insufficiency due to post endocarditis anterior mitral valve chordae rupture. **Results:** Laboratory and paraclinical investigations revealed the presence of infective endocarditis with unknown germs after negative hemocultures. Transtoracic and transesophageal echocardiographic examinations have discovered a significant pericardial collection, anterior mitral valve chordal rupture with vegetations attached to the chordae and anterior papillary muscle and a severe mitral regurgitation. Color-Doppler ultrasonography permitted us to visualize an ostial subocclusion of the right internal carotid artery. The coronarography revealed significant stenosis on the anterior descending artery, circumflex artery and right coronary artery. The patient's evolution under antibiotic treatment was favorable with the remission of inflammatory syndrome but was unfavorable regarding the left ventricular failure, being transferred to the cardiovascular surgery. He was undergone to mitral valve replacement, aortocoronary bypass and carotid endarterectomy. **Conclusions:** The interesting aspect of this case is that starting from an infectious syndrome in the context of right paracardiac pneumonia complicated with pleuropericarditis and liver abscesses, it have occurred severe complications, requiring more aggressive, but contradictory interventions. At the beginning, the pericardiocentesis could have been the procedure of choice, but the resorbtion of the pericardial fluid made this procedure unnecessarily. Considering this circumstances the mitral

valve replacement surgery was successfully performed.

**Keywords:** pericarditis, mitral regurgitation, infective endocarditis

## THE ATYPICAL ONSET OF AN INDOLENT LYMPHOMA WITH PLEURAL EFFUSION

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**Background:** The goal of pleural fluid assessment is to establish with certainty its etiology and major challenge is the etiologic diagnosis precocity. Pleural effusion as the first and the only event in the onset of non-Hodgkin lymphoma is atypically in the absence of other signs and symptoms. **Objective:** We report a case of pleural effusion (PE) which, has proved to be an expression of the onset of indolent non-Hodgkin's lymphoma (NHL) to a patient without significant personal history, where early diagnosis and specific treatment resulted in complete metabolic remission proven by positron emission computed tomography (PET). **Material and methods:** For diagnosis we used clinical signs of pleural effusion confirmed by radiographic and tomographic examination of the chest. The etiologic diagnosis of pleural fluid was made by thoracoscopy, pleural biopsy, histopathological and immunohistochemical examination performed on fragments have allowed the diagnosis to be established. **Results:** Computer tomography showed absence of lymph nodes in mediastinal floors and axillary; important pleural collection in a large amount; intercavaoartically nodular appearance, 3 cm in size, raising suspicion of adenopathy or lymphoma tissue. By thoracoscopy, pleural fragments were harvested, and the histopathological examination revealed malignant lymphoid tumour proliferation; isolated large non-cleaved centroblastic cells (<15/HPF). The immunohistochemically examination revealed that tumour proliferation is with B cell, positive diffuse for CD20, with centro-follicular origin, with a reduced Ki67 proliferation index (-15%). The aspect pleaded for appearance of 1-2 grade non-Hodgkin's malignant lymphoma with follicular B cell. **Conclusions:** The onset with pleural effusion is unusual for this type of indolent lymphoma and probably announce the onset of transformation into DLBCL. This suspicion of the beginning of transformation is suggested by the presence of the pleural effusion from onset and a type B symptoms as well as of the relatively high value of LDH, a useful indicator of transformation.

**Keywords:** pleural effusion, non-Hodgkin, lymphoma, metabolic remission

## A RARE CASE OF PRE-B-CELL ACUTE LYMPHOBLASTIC LEUKEMIA IN A 1-MONTH-OLD. CASE REPORT.

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**Background:** Acute lymphoblastic leukemia is a malignant disease of the bone marrow in which early lymphoid precursors proliferate and replace the normal hematopoietic cells of the marrow. **Objective:** The purpose of this paper is to present the case of a 1-month-old female that was diagnosed with Acute Lymphoblastic Leukemia, followed different treatment protocols due to repeated relapses and presented frequent episodes of Klebsiella pneumoniae sepsis with unfavorable evolution. **Material and methods:** We present the case of a 1-month-old newborn admitted at the Mures County Hospital with fever. The paraclinical investigations revealed a significant leucocytosis with hepatosplenomegaly and anemia. Further investigations showed 80% blast cells in the bone marrow and the flow cytometry confirmed the diagnosis of pre-B-cell Acute Lymphoblastic Leukemia. The patient followed treatment at our clinic starting with induction phase, Interfant-99 protocol after which a series of complications occurred, such as severe bone marrow aplasia, urinary tract infection and Klebsiella pneumoniae sepsis. After the induction a combined bone marrow and central nervous system relapse was diagnosed. For this reason and the need of a stem cell transplantation, the patient was referred to the San Matteo Foundation Hospital in Italy. There our patient received various treatment protocols with frequent periods of remission and relapses. A stem cell transplantation was decided to be the most suitable treatment. **Results:** The T/B lymphocyte depleted peripheral blood stem cell transplantation from the HLA-haploidentical father was performed with unfavorable evolution due to the complications such as skin acute GvHD and sepsis by Klebsiella pneumoniae. The clinical evolution worsened progressively with respiratory and neurological impairment leading to the patients death due

do the sepsis. **Conclusions:** Acute Lymphoblastic Leukemia is a difficult to treat pathology because of the rare occurrence in newborns and the frequent relapse.

**Keywords:** Acute Lymphoblastic Leukemia, relapse, sepsis

## SEVER KAWASAKI DISEASE IN A 5-MONTH-OLD PATIENT. A CASE REPORT.

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**Background:** Kawasaki disease is a rare form of acute multisystemic vasculitis of unknown etiology affecting medium and small sized vessels. Although this is usually a benign and self-limiting condition, in rare cases it can be associated with aneurysm of the coronary arteries. **Objective:** The purpose of this paper is to present the difficulty in diagnosis and treatment in the case of a 5 month old boy recently diagnosed with Kawasaki disease. **Material and methods:** We present the case of a 5 month old boy who was admitted at the Bistrita County Hospital with a 7 day history of high grade fever not associated with chills and rigor, nasal obstruction, dyspnoea and coughing. After admission, the patient started to show polymorphous rash, scleral hyperemia and recurrent episodes of fever despite the antibiotics and symptomatic treatment. For this reason the patient was sent to the Mures County Hospital for further investigation and treatment. Upon admission we have noticed the presence of right laterocervical lymphadenopathies, disseminated macular exanthema on both upper and lower limbs, erythematous cracked lips and injected pharynx without any significant tonsillar enlargement. We started therapy with Cephalosporin for the pneumonia, Aspirin and intravenous Immunoglobulins for the Kawasaki Syndrome as well as symptomatic treatment for the high fever. **Results:** Despite the prompt therapy, 11 days after admission, the CT scan revealed a aneurysm of the anterior descending coronary artery with dilated left coronary artery. The current evolution of the patient is favorable with disappearance of the fever and the cutaneous manifestations but persistence of the aneurysmal dilatation on the first month follow-up echocardiography. **Conclusions:** The main difficulty in Kawasaki Disease is the timely diagnosis and the prevention of cardiovascular complications as presented. This case is notable due to the very young age of the patient and the early development of coronary artery aneurysm.

**Keywords:** Kawasaki,, High grade fever,, Coronary aneurysm

## PITFALLS IN SPLENIC PATHOLOGY IN INTERNAL MEDICINE

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**Background:** Spleen can have various anomalies, including its shape, location, number and size. The majority of these are congenital. The number of spleens varies from 2 to 6 and the diameter of the spleens varies from 1 cm to 6 cm. Other abdominal malformations coexisting with polysplenia have been described: right-sided stomach, left-sided liver, malrotation of the intestine, short pancreas, gallbladder agenesis, inferior vena cava interruption. **Objective:** Our aim was to describe the ultrasound aspects in polysplenia as it is usually an incidental discovery and sometimes the symptoms do not correlate with the disease. The therapeutic options and prognosis of these patients are good, but the differential diagnosis can be challenging. **Material and methods:** We examined a number of 9 patients with polysplenia, aged between 19-45, admitted in our Internal Medicine Department. We performed abdominal Doppler and grey-scale ultrasound. We described the length, width, and number of the spleen, seen in oblique and cranial sections of left hypochondrium and left flank. Symptomatic patients required abdominal CT for the confirmation of the diagnosis. **Results:** We found accessory spleen in 5 patients, multiple accessory spleens in 3 patients, and one patient had a double spleen, almost the same size. The majority of the patients presented with diffuse abdominal pain and dyspepsia, which were unspecific for splenic pathology. The dimensions of the accessory spleens varied from 1.9 to 4.4 cm and were all located near the lower third of the spleen. The main pitfall was the differential diagnosis with an abdominal tumor. CT scan confirmed the diagnosis of polysplenia. According to data from literature if polysplenia is asymptomatic, no specific treatment is required. **Conclusions:** The ultrasound examination was effective in discovering this splenic number anomaly. We propose the routine use of ultrasound in the examination of left hypochondrium or left flank abdominal pain, as it is cost-effective, radiation-free, repetitive and noninvasive.

**Keywords:** polysplenia, ultrasound, Doppler

## RENAL ARTERY STENOSIS – MANAGEMENT OF HYPERTENSION

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**Background:** Renal artery stenosis (RAS) is a severe manifestation caused by atherosclerotic disease that can lead in time to end stage kidney disease and atrophy of the affected kidney. It is also a common cause of secondary hypertension. Removal of the affected kidney can improve the blood pressure but in the case of bilateral RAS the outcome can be worse. **Objective:** Our objective is to describe the ultrasound (US) appearance in RAS in the case of surgically unilateral kidney and to depict the difficulties of the diagnosis in the case of associated azotemia. **Material and methods:** We examined the cases of two middle-aged women, a 50 and a 53-year-old, with a history of nephrectomy for a small ischemic kidney. Both women presented after two years with chronic kidney disease, aggravation of blood pressure (BP) levels and hypertensive heart disease. Because of the high systolic BP (over 200mmHg) and the aggravation of BP after ACE-inhibitors, RAS was suspected and color pulsed Doppler US of the kidney artery was performed. **Results:** In both women, a hemodynamically significant stenosis was found, with direct and indirect Doppler signs. One woman was successfully treated by renal artery stenting, even though injection of the contrast agent was made with low dose in order to avoid toxicity. The second case could not be investigated further because of an episode of acute renal failure of pre-renal etiology. In this case, conservative management of the high BP was approached and she will be later referred to stenting. **Conclusions:** Young patients with an ischemic small kidney should have a Doppler US investigation before nephrectomy. Doppler and pulsed US are very valuable non-irradiating and non-toxic methods for the evaluation and diagnostic of RAS. Stenting the renal artery can lead to the recovery of the kidney function and reduction of BP.

**Keywords:** renal, stenosis, hypertension, ultrasound

## THE IMPORTANCE OF NBI ENDOSCOPY IN THE DIAGNOSIS OF BARRETT'S ESOPHAGUS AT A PATIENT WITH NON SPECIFIC SYMPTOMATOLOGY.

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**Background:** Barrett's Esophagus (BE) is a premalignant condition in which the squamous epithelium, which normally covers the distal esophagus, is replaced with a columnar epithelium. This condition is frequently associated with the development of Esophageal adenocarcinoma (EAC) and this leads to the importance of identifying the risk factors and the early diagnosis. **Objective:** This case report reveals the importance of conventional endoscopy, Narrow Band Imaging (NBI) and the possibility of taking targeted biopsies in the diagnosis of the patients with BE. Patients may present with symptoms of gastro- esophageal reflux disease (GERD) or be completely asymptomatic, symptomatology alone being a poor indicator of this condition. Therefore, the medical practice has gathered a series of risk factors associated with the development of BE. **Material and methods:** This is a case report, showing a young male patient who is admitted in the Gastroenterology Clinic of Targu-Mures with no specific symptomatology for GERD or BE. From the anamnestic data it appears that the patient is a long time consumer of mineral water, carbonated beverages and also a smoker. It is scheduled endoscopy, NBI and biopsy. **Results:** The NBI endoscopy reveals a tubular-villos segment with intestinal metaplasia characteristics. Also this investigation detected an antral gastritis and a H.pylori negative result. The benefit of this investigation is the ability of taking targeted biopsies and therefore it required only two biopsies, from the area with abnormalities, in order to establish an accurate diagnosis. **Conclusions:** Numerous risk factors are responsible for the development of BE and they need to be adequately determined in order to better discern at-risk patients. Also the diagnosis using endoscopy and NBI shows its usefulness due to the possibility of collecting targeted biopsies and thus increases the sensitivity and specificity of the technique, leading to a more accurate diagnosis.

**Keywords:** Barrett's Esophagus, Endoscopy, NBI, Risk factors

## A MULTIDISCIPLINARY APPROACH IN THE ASSESSMENT OF CARDIORESPIRATORY ARREST IN A PRETERM NEWBORN

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**Background:** Pediatric Cardiopulmonary arrest is considered to be different in adults and children, with regards to its etiology and pathophysiological mechanism. The most common cause of cardiopulmonary arrest in children is considered to be asphyxia, and in adults coronary heart disease. **Objective:** Our aim was to describe the case of a newborn boy who suffered a cardiorespiratory arrest. **Material and methods:** We studied a 3 weeks old male newborn who was brought to UPU SMURD, with the following symptoms: breastfeeding refusal, somnolence, apnea crisis with perioral cyanosis. During initial investigations he developed a sudden cardiorespiratory arrest. **Results:** His medical history revealed that the patient was born late-preterm at 36 weeks and was diagnosed with pulmonary hypertension, persistent arterial duct, atrial septal defect, acute respiratory distress and jaundice. After the sudden cardiorespiratory arrest, he is successfully resuscitated, intubated IOT-VM CPAP 50% O<sub>2</sub> and admitted to the Paediatrics Intensive care unit. His condition also required vasoactive drugs such as dobutamine. He was administered Ceftriaxona and Amikacin, and his improving state allows for a CT scan to be performed. This showed bilateral mastoiditis and ethmoiditis and bilateral congestive pulmonary areas and the patient was administered a treatment with Meropenem, and Teicoplanina. Paraclinical test results revealed leukocytosis and the blood culture was negative. Infectious consult - lombar puncture was done to exclude meningoencephalitis, LCR- normal values but the patient was already on antibiotherapy; TORCH-negative. Neuropaediatrics consult-electroencephalography: delta waves without abnormalities; generalized hypotonia, spasticity in the left hand. Transfontanellar ultrasound- normal values. Cardiac consult: low pulmonary hypertension, persistent arterial duct, atrial septal defect ostium secundum with left-right shunt. **Conclusions:** We concluded that the main reason for the condition was an infectious pathology: bilateral mastoiditis and ethmoiditis,

**Keywords:** cardiorespiratory arrest, mastoiditis, newborn

## MULTI-GENE PANEL TESTING IN HEREDITARY BREAST CANCER - CASE REPORT

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**Background:** Triple negative breast cancer (TNBC) is a subtype of breast cancer defined by the lack of estrogen receptor, progesterone receptor and human epidermal growth factor receptor 2 (HER2) overexpression. BRCA status has important implications for TNBC treatment, as reports to date indicate that approximately 10% of TNBC patients harbour germline BRCA mutations. However, germline variants in other genes from multi-gene hereditary cancer testing panels are associated with hereditary breast and ovary cancer (HBOC). **Objective:** The main objective was diagnosis and therapeutic management in a case of breast cancer with hereditary component by using Next-Generation Sequencing (NGS) technology and multi-gene panel testing. **Material and methods:** We present the case of a 40 years old patient with a family history positive for cancer, known with Minor Thalassemia and diagnosed with triple negative invasive carcinoma breast cancer that underwent partial surgical removal, in association with chemo and radiotherapy. BRCA1/BRCA2 genes genotyping was conducted using NGS (≥60X) and was followed by multi-gene panel testing. We also mention that the probands daughter was diagnosed with Wolf-Hirschhorn syndrome due to de novo deletion (normal parental chromosome analysis) and both her and her brother were also diagnosed with Thalassemia. **Results:** 16 non-pathogenic variants of BRCA1 and BRCA2 genes were found. A pathogenic variant was found in the BRCA1 gene, NM\_007294.3(BRCA1):c.212+1G>T, with implications in both breast and ovary cancer. The particularity of the case consists of the association of 3 genetic abnormalities with different mechanisms within the same family: hereditary breast and ovarian cancer, Thalassemia and Wolf-Hirschhorn syndrome. **Conclusions:** NGS based multi-gene panel testing analysis is important not only for establishing the etiopathogenesis of hereditary oncologic syndromes, but also for the use of molecular targeted therapies and appropriate genetic counseling of family members.

**Keywords:** hereditary breast and ovary cancer (HBOC), multigene panel testing, BRCA1 BRCA2, triple negative breast cancer (TNBC)

## DIET IMPLICATIONS IN AUTOIMMUNE ARTHRITIS MANAGEMENT

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**Background:** Psoriatic arthritis is a seronegative autoimmune disorder that can precede or follow the debut of psoriasis vulgaris and is often characterised by distal joint involvement. In recent years, diet has been proved to have an important role in improving and maintaining under control the ultrasonographic and laboratory findings for these cases. **Objective:** The aim of this paper is to observe the longterm evolution and diet implication in the case of a 52 years old woman diagnosed with psoriatic arthritis. **Material and methods:** We present the case of a 52 years old woman formerly diagnosed with psoriatic arthropaty. Consequently, the patient decided to follow a vegan diet. We have retrospectively studied admission files since the diagnosis has been put and observed in dynamics the following parameters: erythrocyte sedimentation rate (ESR), reactive C protein, fibrinogen, total cholesterol, triglycerides and blood pressure. CASPAR classification criteria for PsA was used for the initial diagnosis of psoriatic arthritis. Bilateral hand joints, scapulo-humeral and coxofemoral joints were assessed using ultrasonography. The results were observed in dynamics and correlated with Disease Activity Score for 28 joints (DAS28). **Results:** Upon admission, the patient had a score of 4 points according to the Caspar Criteria. DAS 28 score was performed on the patient, with a value of 4,70, including this case in moderate activity. Treatment with Methotrexate was initiated at first and later replaced with Leflunomide. 3 months after diagnosis, the patient started following a vegan diet. Within the first year of pharmacological and dietary recommendations, ESR dropped from 36mm/h to 22mm/h and DAS 28 score was 4,50. When in 2015 the patient changed diet habits, ESR elevated and DAS28 score was 4.77. Repeated ultrasonography exams were performed to establish the longterm evolution and recommendations for this patient. **Conclusions:** Diet plays an important role in remission of autoimmune arthritis, but further studies are required.

**Keywords:** autoimmune,, inflammatory,, psoriasis,, vegan diet

## CAUSES FOR NOT DECLARING VIOLENCE

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**Background:** Violence is an international challenge and, unfortunately, it is all around us. It is in our homes, schools, streets and institutions. Violence can happen to anyone, to any family, and it can happen to people to any condition, religion or culture. It can be a way of intimidation, control and power over the victim and is supposed that the victims are unable to protect themselves. But most of all violence is about physical abuse. **Objective:** The purpose of this study is to identify which are the problems in declaring violence and try to find a way to eradicate violence of any type. **Material and methods:** This study was performed on 567 subjects from different professional fields all over the country, both male and female. All the participants in the study responded to an online questionnaire: this questionnaire assessed the opinion of people concerning the causes of not declaring abuse. **Results:** The results showed that the most frequent causes of undeclared violence are: 64.3% of respondents thought that fear is the most frequent cause, while others 24.1% thought that victims believe these episodes will not happen again, 7.5% thought that victims do not have the opportunity to contact the authorities and the rest of all respondents 4.1% thought that declaring violence will exclude the victims from society. **Conclusions:** Violence has existed since ancient times, but nowadays it has become a real public health issue that scientists in all fields are trying to understand and to find new ways to tackle it.

**Keywords:** violence, challenge, victims, undeclared

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## A PROTOCOL FOR OPEN FIELD, DARK-LIGHT BOX AND NOVEL OBJECT RECOGNITION TESTS IMPLEMENTED BY THE UNIVERSITY OF MEDICINE AND PHARMACY FROM TÂRGU-MUREȘ

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**Background:** Biological variability is a phenomenon commonly encountered in the study of some groups, and this may considerably influence the results as being inconclusive to the study and its extensive purposes. **Objective:** Our aim is to create a pilot study in order to exclude all the subjects who score far different results from the other study participants, based on biological variability, in order to obtain accurate results in further tests and studies. **Material and methods:** For our study we used a group of 30 mice, on which we performed three tests: the Open field test, the Dark light box test and the Novel object recognition test. We applied descriptive biostatistics and the Grubbs test for outliers in order to exclude the non-eligible subjects. **Results:** Following the test results, we excluded 13,3% ( 4 outliers ) of the mice based on the Dark light test and 26,6% ( 8 outliers ) of the mice based on the Open field test, while none of the mice ( 0%) have shown biological variability regarding the results of the Novel object recognition test. We analyzed the mice in 2 different stages, with a significant time gap between the tests. **Conclusions:** By excluding the non-eligible subjects from the initial group, we managed to assemble a homogeneous group in order to obtain more accurate results for our further studies.

**Keywords:** Mice, Variability, Homogeneous group

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## SPONTANEOUS CORONARY ARTERY DISSECTION DIAGNOSED WITH OCT IN A YOUNG MALE PATIENT WITH ACUTE CORONARY SYNDROME

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**Background:** Young patients with acute myocardial infarction, a rare diagnostic in this age segment, frequently present normal or near-normal coronary arteries on invasive coronary angiography exploration. Spontaneous coronary artery dissection (SCAD) represents a cause of acute myocardial infarction most likely in young patients. **Objective:** This paper aims to present the case of a 34-year-old male patient, smoker, obese, known with arterial hypertension and diabetes mellitus, presented in emergency department with precordial chest pain at 3 days after onset. **Material and methods:** Regarding laboratory tests the patient presented a positive troponin value, even if the rest of cardiac enzymes were within normal range. A moderate anemia and high levels of urea and creatinine were also found. The patient's ECG showed hyperacute T waves in leads V1 to V4 and RBBB. Due to his multiple comorbidities, the patient presented a high cardiovascular risk, which is why an invasive coronary angiography was performed that revealed no significant lesions. Based on the delayed washout of the contrast substance at the level of anterior descending artery, an optical coherence tomography was performed, which described a vulnerable non-stenotic plaque with spontaneous dissection at this level. **Results:** Under maximal anti-ischemic treatment the patient presented significant improvement of symptoms. **Conclusions:** Prognosis of this patient is significantly better compared with cases of acute myocardial infarction caused by total vascular occlusion. Spontaneous vessel healing tends to occur in time in patients who undergo conservative therapies.

**Keywords:** optical coherence tomography, spontaneous coronary artery dissection, acute coronary syndrome

## HUGE VEGETATION ON THE AORTIC VALVE COMPLICATING AN INFECTIVE ENDOCARDITIS IN A YOUNG PATIENT

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**Background:** Infective endocarditis continues to represent a deadly condition with severe complications, that remains a diagnostic challenge. **Objective:** We aim to present the case of a young male patient with no history of cardiovascular disease admitted at 6 days after onset of angina, fever, diaphoresis, dyspnea and tachypnea.

**Material and methods:** The clinical examination revealed monocular blindness because of a recent retina embolism, body temperature of 39° C, BP of 115/70 mmHg, HR of 110 bpm and tachypnea. The cardiac auscultation revealed a pansystolic murmur over the entire cardiac area and pulmonary crackles on both lungs. Laboratory evaluation revealed a high white blood cell count (23,600/ml), mild anemia (hemoglobin 9.6 g/dl), C-reactive protein above 30 mg/dl, renal and hepatic dysfunction (urea 7.5 mmol/l, creatinine 175 μmol/l, AST/ALT 136/218 IU). The transthoracic echocardiography showed a huge (27/17 mm) mass attached to the aortic valve, with moderate aortic regurgitation. Transesophageal echocardiography revealed severe aortic regurgitation associated with multiple micro-abscesses on the aortic valve and the ascending aorta. **Results:** Based on repeated blood culture results which indicated the presence of *Enterococcus faecalis*, that was sensitive to Vancomycin, antibiotic treatment was started with favorable evolution, remission of fever and improvement of heart failure signs and symptoms. **Conclusions:** Endocarditis is a severe life-threatening condition that needs an interdisciplinary approach for a suitable management. This is a case of aortic endocarditis which meets the major Duke criteria for which the definitive treatment is surgical, as in most similar cases.

**Keywords:** endocarditis, aortic valve vegetation, *Enterococcus faecalis*

## ISOLATED MUSCULOSKELETAL INVOLVEMENT OF A MULTISYSTEMIC DISEASE

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**Background:** Musculoskeletal manifestations of sarcoidosis are rarely seen on their own, usually they accompany thoracic involvement. **Objective:** Assessing the management of extensor and flexor sheath tumors associated with fatigability in a young adult. **Material and methods:** This is the case of a socially active 30 year old patient that was admitted to the Rheumatology Department for ultrasound evaluation after the surgical removal of the extensor and flexor sheath tumors. **Results:** Due to difficulties performing manual labor at his workplace (incomplete flexion and extension of the small joints of both hands) the patient was admitted to the Plastic Surgery Department where he underwent surgical removal of the tumors located in the fourth extensor tendon compartment of the left hand. The histopathological result revealed a chronic granulomatous inflammatory process. One month later the tumors located on the dorsal aspect of the 2nd to the 5th metacarpophalangeal joints were surgically removed. The histopathological result was similar to the previous one. Two months after the last surgical procedure he was hospitalised in the Rheumatology Department where the ultrasound evaluation showed multiple hypochoic formations in the extensor and flexor sheath of both hands. The laboratory findings detected a high level of angiotensin-converting-enzyme. Due to the nature of the patient's job, which requires physical labor, he didn't consider fatigability as an unusual symptom. In the diagnostic process ANCA-positive vasculitis and extrapulmonary tuberculosis were ruled out. Based on these findings we concluded that the diagnosis was that of periarticular sarcoidosis. Glucocorticoid therapy was initiated in association with an immunosuppressive drug, Methotrexate, in order to avoid steroid withdrawal manifestations in the future. **Conclusions:** The particularity of this case is based on the first presentation as an isolated periarticular involvement of a multisystemic granulomatous disease.

**Keywords:** sarcoidosis, granulomas, extensor and flexor sheath

## CARDIAC COMPUTED TOMOGRAPHY IN THE MANAGEMENT OF A COMPLEX CONGENITAL CARDIOVASCULAR ANOMALY – CASE REPORT

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**Background:** Persistent left superior vena cava (PLSVC) is incidentally diagnosed in most cases during imaging evaluation for other reasons. This venous vascular anomaly has no hemodynamic impact and became a problem only when a venous approach was required for a pacemaker implantation. **Objective:** We aim to report the case of a 35-year-old male, admitted with the dyspnea, angina and palpitations. He was diagnosed and surgically treated 20 years ago for a complex cardiovascular malformation, that included an atrial septum defect, and an anomalous pulmonary vein drainage. **Material and methods:** The laboratory evaluation showed no pathological modifications. The echocardiography revealed mild mitral regurgitation, significant tricuspid regurgitation and the presence of a dilated coronary sinus (20/12 mm). The ECG revealed lower atrial rhythm. Moreover, a 24 h Holter ECG was recorded, showing intermittent sinoatrial block (minimum 30 bpm) with a syncopal event. To properly evaluate the cardiac anatomy for a pacemaker implantation, a cardiac CT was performed who did not identify any atherosclerotic coronary lesions but found the presence of a PLSVC. The CT also revealed a successfully closed atrial septum defect, pulmonary arteries properly draining into the left atrium, and the PLSVC was draining into a dilated coronary sinus. A missed venous anomaly was also identified: the hemiazygos vein was draining into the persistent left superior vena cava, with the absence of the left brachiocephalic vein. **Results:** Via right subclavian approach a DDDR pacemaker was implanted. **Conclusions:** PLSVC may be related with other congenital anomalies, therefore a detailed imaging investigation should be performed. This condition may alter the conduction system and the patient may require permanent cardiac stimulation. In this condition, pacemaker implantation procedures may be difficult due to anatomical particularity of this malformation.

**Keywords:** persistent left superior vena cava, syncope, anomalous pulmonary vein drainage, pacemaker

## THE IMPORTANCE OF THROMBOPHILIA DIAGNOSIS IN CONGENITAL HEART DISEASE

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**Background:** Thrombophilia represents a hemostatic disorder which leads to venous or arterial thromboembolism. The risk factors for thromboembolism are central venous access devices, inherited thrombophilia, congenital heart disease, malignancy, nephrotic syndrome, trauma or infection. Arterial thromboembolism is uncommon during childhood than adults, the highest incidence is in neonatal period and adolescence. **Objective:** The aim of this study is to evaluate the importance of investigations for thrombophilia to the patients with congenital heart defects, family history of thromboembolism and invasive investigations or surgery. **Material and methods:** We present the case of a 3 years and 8 months old female who was diagnosed at birth with pulmonary valve atresia, patent ductus arteriosus, single ventricle, left atrioventricular valve atresia, left ventricle hypoplasia, ostium secundum atrial septal defect, ventricular septal defect, transposition of the great arteries, aortic valve insufficiency. The patient underwent surgical repairs consisting of systemic-to-pulmonary artery shunt (B-T shunt) and ductus arteriosus ligation. Readmitted after 2 years with clinical signs of ineffective shunt, an invasive hemodynamic exploration as preGlenn which was temporized due to varicella infection. At the age of 3 years and 6 months has been practiced partial cavo-pulmonary anastomosis, B-T shunt suppression, atrial septectomy and before the patient was discharged, she presented acute motor deficit and aphasia. She was diagnosed with cerebral thrombosis on the left middle cerebral artery. **Results:** The genetic profile for thrombophilia is positive. The neurological symptoms were improved after treatment. **Conclusions:** Thrombophilia should be taken in consideration when we have a patient with multiple congenital heart disease, central venous access devices or family history of thromboembolism.

**Keywords:** thrombophilia, thromboembolism, cerebral thrombosis, systemic-to-pulmonary artery shunt

## ACUTE MYOCARDIAL INFARCTION IN THE CASE OF A UNIQUE CORONARY ARTERY ANOMALY – CASE REPORT

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**Background:** Unique coronary artery anomaly is a rare congenital malformation that involves higher risk of acute coronary events, due to the accelerated atherosclerotic process, more important hemodynamic effects and even higher rates of sudden death in case of an acute occlusion than in the rest of patients. **Objective:** We aim to present the case of a 64-year-old female patient with known arterial hypertension and no family history of cardiovascular disease, which presented in the Emergency Unit with her first episode of angina and dyspnea. **Material and methods:** Due to her clinical presentation, ST-segment elevation in the anterior leads on the electrocardiographic tracing and a major rise in troponin I levels (23 ng/ml), the patient was diagnosed with anterior STEMI. The invasive coronary angiography performed in emergency settings revealed the absence of the right coronary artery, separated origins of an occluded LCX and a LAD coronary artery with 90% stenosis. Interventional treatment was performed consisting of thrombectomy and angioplasty with drug eluting stent in the LCX, followed by bare metal stent implantation on the LAD with TIMI III flow grade. **Results:** After the procedure, the patient received maximal anti-ischemic treatment and presented ST-segment elevation resolution and remission of symptoms. **Conclusions:** Patients with unique coronary artery anomaly present a significantly higher risk of extensive myocardial infarction, which involves more important acute complications and a higher risk of sudden death.

**Keywords:** Myocardial Infarction, Invasive Coronary Angiography, Unique Coronary Artery

## GASTROESOPHAGEAL REFLUX DISEASE IN TEENAGERS – A CASE REPORT

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**Background:** Gastroesophageal reflux disease (GERD) represents the return of gastric contents into the esophagus, which can be either acidic, either alkaline. The symptoms of GERD vary with age and they can involve: vomiting, regurgitation, hematemesis, melena, heartburn, colic, epigastric pain, flatulence, burping, rumination, hiccups, retro-sternal pain, protein-losing enteropathy, bloating, dysphagia, odynophagia and oral lesions. **Objective:** GERD can lead to peptic esophagitis and even premalignant conditions. **Material and methods:** We present the case of peptic esophagitis in a male teenager in order to underline the potential complications of GERD even in pediatric ages. **Results:** We report the case of a 15-year-old male teenager admitted in our clinic for intermittent epigastric pain for approximately 1 month. The personal history revealed a similar episode approximately one year before this admission. The laboratory tests were within normal ranges. The upper digestive endoscopy revealed a hyperemia of the lower esophagus, near the cardia 2 polypoid-like lesions suggesting pseudo-inflammatory polyps, hyperemia of the gastric mucosa with biliary reflux. The histopathological exam of the gastric biopsies did not reveal anything pathological, whereas the esophageal ones revealed inflammatory infiltrate confirming the peptic esophagitis. We recommended treatment with proton pump inhibitors and ursodeoxycholic acid, with favorable evolution. **Conclusions:** Chronic GERD can lead to peptic esophagitis, which can also be present in pediatric ages. In addition, if left untreated, peptic esophagitis results in more severe complications such as peptic strictures or premalignant lesions.

**Keywords:** gastroesophageal reflux disease, peptic esophagitis, teenagers

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## THE ASSESSMENT OF MARAMURES TEENAGERS' FOOD HABITS AND LIFESTYLE

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**Background:** The purpose of this study is to assess teenagers' food habits, alcohol and cigarettes consumption, and level of sedentariness. **Objective:** We have investigated the use of food in adolescents, the level of health education, eating habits and lifestyle. **Material and methods:** We performed a cross-sectional study upon 233 teenagers, students from "Nicolae Titulescu" National College of Baia Mare city. The sample was made of 119% girls and 114% boys, ages between 16 and 19 years old, who filled in questionnaire made from 60 questions about daily food habits and lifestyle. **Results:** Regarding the diet habits, our date highlighted the fact that sweets (chocolate, wafers, candy and gummy bears), pastry products and processed meat are consumed on a daily basis. Fast food products were consumed by 30.3% of our students at least once a week, and 24.6% of them occasionally. Alcohol, coffee and cigarettes consumption frequency is continuously rising, 57.4% of teenagers drink alcohol occasionally, 25.6% of them smoke between 6-10 cigars per day and the consumption of at least 3 cups of coffee a day is at 30.2%. Sedentariness is also rising as frequency: most youngsters give up physical education from school, and only 15.7% of them consider themselves sedentary. Most teenagers spend their free time in front of the computer or TV for about 2 hours a day, and the time spent using social networks is more than 3 hours daily. **Conclusions:** The unhealthy food habits, alcohol consumption and smoking from young ages, together with the lack of physical activity can turn today's teenager into an unhealthy adult. Therefore, it's a necessity to apply communitary interventions within schools, focused on healthy lifestyle and adequate nourishment, in order to help diminish the occurrence of chronic diseases.

**Keywords:** teenagers,, food habits,, lifestyle.

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## ACUTE MYOCARDIAL INFARCTION CAUSED BY A THROMBOEMBOLIC EVENT – CASE REPORT

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**Background:** The presence of a thrombus in the ascending aorta is a rare condition, which in most of the cases is a result of an embolic complication. **Objective:** We aim to report a 62-year-old female patient with a history of recent thromboembolic events (acute myocardial infarction and transient ischemic attack) who was admitted at 6 hours from onset of a typical angina and symptoms of heart failure. **Material and methods:** Important ST-segment elevation in the inferior leads with reciprocal ST-segment depression in the anterior territory was shown by the ECG tracing. The laboratory tests revealed only elevated levels of troponin I (0.327ng/ml). The patient was admitted with an unstable hemodynamic status (BP of 84/51 mmHg, HR of 109 bpm). Invasive coronary angiography (ICA) performed in emergency conditions revealed acute occlusion of the right coronary artery caused by a floating mass which extended from the right coronary sinus, with no significant lesions on left coronary artery and its branches. Catheter thrombectomy with extraction of a massive thrombus was performed followed Percutaneous Transluminal Coronary Angioplasty (PTCA) with balloon. Intracoronary followed by 24h intravenous systemic administration of a IIb/IIIa inhibitor was performed, in order to prevent thrombotic recurrence. **Results:** The control ICA revealed a TIMI III flow, with no atherosclerotic remaining lesions. **Conclusions:** This is the case of an uncommon etiology of AMI, that was successfully treated with embolectomy and PTCA. Further investigations are needed to elucidate the presence possible clotting abnormalities.

**Keywords:** coronary embolism, acute coronary syndrome, percutaneous transluminal coronary angioplasty

## PYOPERICARDIUM PRESENTING AS AN ACUTE CORONARY SYNDROME – A CASE REPORT

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**Background:** Pneumo-pyopericardium represents a rare, acquired condition leading to a series of important complications with poor prognosis, which in some cases could be determined by a gastro-pericardial fistula a condition clinically presented by severe thoracic pain with shoulder irradiation and dyspnea. **Objective:** This is the case of a 68-year-old man with no history of CV disease who presented in the emergency unit complaining of a unique syncopal episode, pain in the posterior thoracic and epigastric region. **Material and methods:** Troponin and cardiac necrosis enzymes levels were normal found in the presence of ST segment elevation in DI, DII, DIII, aVL, aVF, V2-V6 leads on the ECG. For excluding an acute coronary syndrome (ACS), a coronary CT angiography was performed, revealing no coronary lesions. A thoracic CT was performed which showed an abscess associated with a fistula between the stomach and the pericardium. Contrast agent administration revealed modifications that indicated a pyopericardium. **Results:** This case diagnosis was pneumopericardium secondary to a gastro-pericardial fistula in a hiatus hernia. Surgical treatment was performed consisting in both correction of the hiatus hernia and drainage of the pyopericardium. **Conclusions:** Due to the pericardial involvement, this patient presented with clinical symptoms of an acute coronary syndrome, which was denied by the low levels of troponin and the negative CT coronary angiography. The thoracic CT revealed the diagnosis of an incarcerated hiatal hernia with a gastro-pericardial fistula, resulting in a life-threatening form of pneumo-pyopericardium with immediate indication of surgical treatment and large spectrum systemic antibiotic therapy.

**Keywords:** pneumo-pyopericardium, computer tomography, acute coronary syndromes

## ADVANCED NEW INTRACORONARY IMAGING TECHNIQUES - ROLE IN THE MANAGEMENT OF A COMPLEX CASE OF ACUTE CORONARY SYNDROME - CASE REPORT

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**Background:** Optical coherence tomography (OCT) represents the first-line intravascular investigation for vulnerable plaques, that present increased risk of rupture and can trigger most acute coronary syndromes. **Objective:** This paper aims to present the case of a 67-year-old patient known with complex comorbidities: multi-vessel coronary artery disease, arterial hypertension, diabetes mellitus and chronic kidney disease, who presented with typical symptoms of new onset angina pectoris. **Material and methods:** Laboratory results indicated renal, liver and pancreatic dysfunction and the ECG revealed a major RBBB. The invasive coronary angiography (ICA) showed new coronary artery lesions on all important branches, for which the patients received 3 drug-eluting stent (DES), with optimal postprocedural results. During the 1-year follow-up, the patient presented again with chest pain, and an MRI study was performed which showed no important myocardial fibrosis and normal myocardial functional parameters. ICA revealed no new lesions with indication of revascularization. An OCT was performed which showed a vulnerable plaque in the proximal segment of left anterior descending artery, for which a DES was successfully implanted. **Results:** In this complex case with multivessel coronary artery disease, the therapeutic decisions were guided by the intravascular imaging methods, leading to optimal results. **Conclusions:** Besides ICA, OCT can identify markers of plaque vulnerability in special in patients with history of stent implantation and multiple comorbidities, with high cardiovascular risk in which the follow-up is extremely important.

**Keywords:** unstable angina pectoris, vulnerable plaque, optical coherence tomography

## CYSTIC FIBROSIS IN CHILDREN COMPLICATED WITH BRONCHIECTASIS. CASE REPORT.

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**Background:** Cystic fibrosis is developed by an early and sustained influx of inflammatory cells into the airways and by release of proteases. The cause of illness or even death by cystic fibrosis is mainly due to the progressive lung destruction which leads to bronchiectasis and respiratory failure. **Objective:** The aim of this paper is to assess the approach in a complicated case of Cystic Fibrosis in children. **Material and methods:** We present the case of a 6 years old boy diagnosed with mucoviscidosis since the age of 3 months with pulmonary and digestive manifestations under chronic treatment with Pulmozyme and Kreon. Clinically the patient showed fever on admission along with headache, excessive productive coughing, inappetence and a low oxygen saturation that responded favorably to oxygen therapy. In this case we prescribe preventive and symptomatic treatment consisting of antibiotics, mucolytic, recombinant human deoxyribonuclease, anti inflammatory drugs and the abatement of digestive disorders through the correction of pancreatic insufficiency. **Results:** Crepitant rales were heard in the lower 1/3 of both lung fields. The thoracic X-Ray distinguishes peribronchial infiltration with bilateral perihilar bronchial dilatations, apical opacity on the right lung. Laboratory findings included low levels of Vitamin D with elevated C-Reactive Protein. **Conclusions:** There has been a rise in the frequency of survival beyond stages of childhood in patients with cystic fibrosis. Recognizing the early stages, enhanced diagnostic methods and the onset of effective treatment are all factors in this rise. Such cases require a multidisciplinary involvement of a gastroenterologist, pneumologist, dietician and psychologist, the purpose of the therapy being to achieve stable condition as much as possible.

**Keywords:** cystic, fibrosis, bronchiectasis, treatment

## CATHETER-DIRECTED THROMBOLYSIS AS A LAST TREATMENT OPTION IN A HIGH RISK PULMONARY EMBOLISM

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**Background:** Acute pulmonary embolism (PE) is a life-threatening cardiovascular emergency with important risk of death. High risk PE is associated with persistent low blood pressure levels, that need vasoactive drug administration, the presence of cardiogenic shock, and can lead to cardiac arrest. In the absence of contraindications, systemic thrombolysis is the treatment of choice in high-risk PE patients. **Objective:** This paper aims to present the case of a 67-year-old man, hypertensive, known with recurrent ischemic stroke complicated with intracerebral hematoma that required neurosurgical evacuation. The patient was admitted due to severe dyspnea that started the previous day, followed by a syncopal episode, anterior chest pain and diaphoresis. **Material and methods:** The patient's clinical examination showed the signs of right ventricular overloading and cardiogenic shock. The laboratory results revealed a D-dimer > 5 µg/ml, elevated levels of cTnI (0.846 ng/ml) and NTproBNP (974 pg/ml). The arterial blood gas analysis showed a pH of 7.54, pCO<sub>2</sub> 28.3 mmHg, pO<sub>2</sub> 40.2 mmHg and 77.8% oxygen saturation. Inotropic support was initiated, and a heparin bolus was given. The pulmonary CT angiography established the diagnosis of massive PE and the head CT revealed no signs of intracranial bleeding. Considering the hemodynamical instability and the high risk of intracranial bleeding, an interventional approach was decided. **Results:** Given the risk of intracranial bleeding, the patient had received streptokinase (SK) via local catheter delivery in the pulmonary arteries, in a half dose of 125.000 IU over 30 minutes, followed by 50.000 IU/h for 12 hours, with significant improvement of the haemodynamic status **Conclusions:** Even in cases with high risk for bleeding, fibrinolysis could represent a life-saving treatment in cases of massive pulmonary embolism. In patient with contraindications to systemic thrombolysis, an alternative is represented by local catheter-delivered small doses of a thrombolytic agent, with similar results in recovering the function of the right ventricle.

**Keywords:** massive pulmonary embolism, local catheter delivered fibrinolysis, intracranial bleeding

## VULNERABLE PLAQUE COMPUTER TOMOGRAPHY CHARACTERISTICS IN A YOUNG PATIENT WITH ACUTE CORONARY SYNDROME – CASE REPORT

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**Background:** Background: Acute coronary syndrome (ACS) is mostly determined by the rupture of a vulnerable plaque. Coronary plaque vulnerability markers identified via coronary CT angiography include the presence of spotty calcifications within the plaque, low density atheroma, the napkin ring signs, necrotic core, or positive vascular remodeling. **Objective:** Objective: The aim of this paper was to present the case of a 48-year-old man with a history of cardiovascular disease, who presented with sudden onset of typical angina associated with dyspnea and vertigo. **Material and methods:** Material and methods: Clinical examination found high blood pressure levels; the 12-lead ECG illustrated the presence of negative T waves in the antero-lateral electrocardiographic territory. The myocardial enzymes were within normal range and other laboratory results included high cholesterol levels (280 mg/dL). Based on the clinical and paraclinical criteria, the patient was diagnosed with unstable angina. Coronary CT angiography showed the lesion responsible for the acute event in the proximal segment of the left anterior descending artery (LAD). The postprocessing of the CT images allowed the calculation of the following parameters: plaque volume of 579.04 mm<sup>3</sup>, plaque burden of 81.99%, of which 56% was the necrotic core volume, fibrous fatty volume of 18%, and dense calcium volume of <1%. Moreover, the fibrous cap thickness (5.19 mm) and the plaque attenuation (50.8 HU) were measured. **Results:** Results: CT coronary angiography revealed, in this case, several markers of vulnerability, including the low-attenuation plaque, plaque burden, and napkin-ring sign, which are predictors of subsequent major adverse cardiac events. **Conclusions:** Conclusions: CT coronary angiography is an effective non-invasive accurate imaging method that can identify coronary lesions at high risk of triggering an acute coronary event. CCTA can properly reclassify patients in terms of risk for developing an acute coronary syndrome.

**Keywords:** vulnerable plaque, coronary computed tomography angiography, acute coronary syndrome

## CAN BE THE MODE OF DELIVERY A NEGATIVE FACTOR FOR THE NEONATAL CONDITION AFTER BIRTH?

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**Background:** Current intensive techniques of intrapartum monitoring are often criticized and their performance is being assessed by the condition of the newborn at birth. However, these measurements can be influenced by a multitude of factors, including the mode of delivery. **Objective:** The aim of this study was to investigate if there is any association between mode of delivery and neonatal condition after birth. **Material and methods:** The effects of the delivery were studied by collecting data and achieving a retrospective case-control study of 120 newborns, hospitalized in the Neonatal Intensive Care Unit from Neonatology I Clinic of Tîrgu Mureş County Clinical Emergency Hospital between January-December 2016. Newborns were classified into two groups defined by the delivery mode, via caesarean section in the first group and in the second group - newborns born vaginally. **Results:** Our groups consisting of 120 patients (50% male) coming through both delivery methods, vaginal birth (61,4%) and caesarean section. It is important to mention that 96 infants (80%) were preterm. There were no significant differences in the first and fifth-minute APGAR scores of the neonates born, in these 2 groups. The study highlights that 32 of neonates' fifth-minute APGAR scores were less than 7. After birth, hypoxia (umbilical cord blood pH <7.2) was more frequently associated with neonates from natural way delivery. Having as test samples the two groups mentioned above, we have analyzed the possibility of developing a septic process on a newborn and the result was a statistically significant negative association (OR=0,32; 95%IC= 0,13-0,77; p=0,017). **Conclusions:** Considering the benefits of natural birth for both mothers and babies and the disadvantages of the caesarean section delivery, data on the newborn's condition after birth do not show many differences. Given the results, we can question the caesarian's protective factor for sepsis, in this case. Conducting further studies on larger samples is recommended.

**Keywords:** C-section,, natural vaginal delivery,, outcomes,, neonates

## DYSLIPIDEMIA-THE SILENT KILLER IN PATIENTS PRESENTING LOW CARDIOVASCULAR RISK

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**Background:** Dyslipidemia is an independent risk factor for cardiovascular mortality and morbidity, having an even greater value in association with other risk factors and should not be neglected in daily practice **Objective:** The objective of this work is to highlight the role of extensive evaluation of patients, presenting at least 1 cardiovascular risk factor and the role of stress test in coronary artery disease in dyslipidemic patients. **Material and methods:** A 68 years old male patient, non-smoker, no history of cardiovascular disease or cardioactive longterm medication, presenting normal BP(blood pressure) values was scheduled for preventive cardiovascular assessment. BMI(body mass index) 28.4 and blood test revealed a minor dyslipidemia (total cholesterol 278mg/dl, LDL cholesterol 136 mg/dl). Rest ECG(electrocardiogram) recording was negative for ischemic heart disease. Transthoracic ultrasonography showed moderate aortic regurgitation and sclerosis of the aortic valve. ABPM (ambulatory blood pressure monitoring) does not detect high blood pressure, neither high cardiovascular risk BP profile. At this moment the patient is stratified as a patient with low cardiovascular risk and is scheduled for a standardized stress test. **Results:** Stress test had to be stopped at 4,2 METS (metabolic equivalents of task) due to the occurrence of angina like symptoms and significant changes on ECG in infero-lateral leads. A coronary angiogram was scheduled in order to clarify the anatomy and the possible lesions in the coronary arterial tree. Severe stenosis of circumflex artery was diagnosed and a successful PCI (percutaneous coronary intervention) procedure was performed. **Conclusions:** Careful consideration of patients with normal ECG is very important, age and dyslipidemia are risk factors that should not be neglected. The stress test is a useful tool in adult patients cardiovascular preventive assessment. Multidisciplinary approach between family physicians and cardiologist leads to early patient management and increased life expectancy.

**Keywords:** Cardiovascular risk factors, dislipidemia, stress test, coronary lesions

## THE ACCURACY OF URINALYSIS TEST RESULTS IN PATIENTS WITH URINARY TRACT INFECTION

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**Background:** The urinalysis is a diagnostic test used for a wide range of diseases, such as urinary tract infections, other kidney or liver conditions or diabetes mellitus. It also can indicate the presence of kidney stones or blood in the urine. To detect a urinary tract infection (UTI), the most helpful values are nitrites, pH, the presence of white blood cells (WBC) and bacteria in the urine. The nitrite test is considered the most accurate urinalysis test, which means it indicates an urinary infection when being positive. **Objective:** The aim of this study is to emphasize the necessity of performing other paraclinical evaluations beside urinalysis to put a correct diagnosis of UTI. **Material and methods:** This is a retrospective and descriptive study including a group of 68 patients admitted in the Clinic of Infectious Diseases I, County Clinical Hospital Mures during January-December 2017. The data was collected from medical records of the patients and the main inclusion criteria was the final diagnosis of UTI, based on urine culture(more than 100.000 colony forming units per ml) and clinical findings. **Results:** one third of infections had unknown etiology, one third were caused by E. coli and one third by other pathogens. From all the patients, only 25% of them had a positive nitrite test, 52% had leucocyte test positive, 45% had bacteriuria. 33% developed urosepsis. The main risk factors were urinary catheterization and prostatic disease and 21% of cases were favored by diabetes mellitus. **Conclusions:** In order to put a correct diagnosis of UTI, urine culture and other investigations are recommended especially when nitrite test is negative, because this test can show false negative results due to various factors.

**Keywords:** urinary tract infection, nitrite test, urinalysis

## THE EVOLUTION OF PANCYTOPENIA IN A DECOMPENSATED LIVER CIRRHOSIS THAT OVERLAPS WITH A VITAMIN B12 DEFICIENCY

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**Background:** Abnormalities in bloodstream indices are very common in patients with liver cirrhosis. The pathogenesis of irregular hematological parameters in liver cirrhosis is plurifactorial and includes portal hypertension which generates the installation of splenomegaly with hypersplenism, virulent and toxic factors which induce bone marrow suppression, alterations in bone marrow stimulating factors. **Objective:** The aim of this paper is to present a severe refractory pancytopenia to the treatment of a decompensated liver cirrhosis that overlaps with a vitamin B12 deficiency and to highlight the spectacular growth of blood cells after its introducing into the treatment. **Material and methods:** We present the case of a 60-year-old patient with a history of decompensated HVC postviral liver cirrhosis Child Pugh Class B, portal hypertension, splenomegaly, hypersplenism with secondary thrombocytopenia, stage 2 essential hypertension, hypokalemia who was admitted in the 2nd Department of Internal Medicine accusing multiple vomiting, fever (38°C), dyspnea, jaundice. **Results:** On admission, the laboratory tests revealed: Leukocytes=3.460× 10<sup>3</sup>/mL; Hemoglobin=4 g/dl; Hematocrit=12,5%; Platelets=47.000× 10<sup>3</sup>/mL; Total bilirubin=3,47 mg/dl; Direct bilirubin=1,10 mg/dl; Lactate dehydrogenase=4.420 U/L; positive antibodies AntiHCV. Treatment with hepatoprotective, gastroprotective, antianemic and antibiotic drugs was unsatisfactory, the complete blood count measuring an extremely low concentration of white blood cells and platelets after 10 days. Following the exclusion of a haematological condition, it was decided to dose vitamin B12, resulting in a low value of 129 pg/ml. The treatment with vitamin B12 was started, followed by searching the cause of vitamin B12 deficiency through superior digestive endoscopy that revealed a portal-hypertensive gastropathy, incipient esophageal varices and esophageal mycosis. **Conclusions:** Deficiency of vitamin B12 is a well known cause which can lead to megaloblastic anemia in particular, but also pancytopenia. This highlights that independent factors, in addition to hypersplenism, contribute to the occurrence of abnormal hematological parameters in liver cirrhosis.

**Keywords:** liver cirrhosis, vitamin B12 deficiency, pancytopenia

## PARANEOPLASTIC NEUROLOGICAL SYNDROME KEY TO DIAGNOSE SMALL CELL LUNG CANCER

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**Background:** Paraneoplastic neurological syndromes (PNS) are rare and varied manifestations of a destructive autoimmune attack targeting normal nervous tissue, which presents similar proteins with cancer cells. PNS precedes clinical resonance of the underlying cancer. **Objective:** The aim of this case report is to demonstrate that by diagnosing paraneoplastic neurological syndrome, we can find and treat the underlying cancer in early stages. **Material and methods:** We present the case of 59 years-old Caucasian male with: burning dysesthesia affecting the chest and both medial thighs regions, diffuse tingling paraesthesia debuting in the same area, irradiating towards her iliac fossae and dysphagia for both liquids and solids. Neurological clinical exam revealed: left beating horizontal nystagmus, bilateral trigeminal dysesthesia, left central facial paresis, dysarthria. We performed: magnetic resonance imaging (MRI), computed tomography (CT), positron emission tomography - computed tomography (PET-CT), a biopsy and a complex analyse of cerebrospinal fluid (CSF). **Results:** Brain MRI detected multiple bilateral hypersignals in T2 flair. CSF presented hyperproteinorachia, few lymphocytes and onconeural antibodies: anti-Hu and anti CV 2.1. A total body CT revealed: a left hilar hypodense lymph node, measuring 17 x 14 mm, solid nodes in lateral segment of the right middle lobe and in lingula. PET-CT revealed a high uptake of radiolabeled 2-fluoro-2-deoxy-D-glucose by a left hilar lymph node. The biopsy, obtained through endobronchial ultrasound, showed small cell lung cancer. The diagnostic was: Small cell lung cancer T (primary tumour) 1 N (regional lymph nodes) 1 M (distant metastasis) 0 and paraneoplastic neurological syndrome. We started treatment with: Cisplatin, Etoposide, Gabapentin, Duloxetine and plasmapheresis, noticing a decrease of tumorous

mass and improvement of neurological signs and symptoms. **Conclusions:** Recognition of PNS leads to early diagnostic of cancer. Malignancy treatment and plasmapheresis could stop the progress of the neurological damage, saving neural integrity and functionality.

**Keywords:** PNS, lung cancer, onconeural antibodies

## CHAIN REACTION STARTED BY ACUTE ENDOCARDITIS

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**Background:** Endocarditis is an infection of the endocardium which occurs when bacteria or fungi spread through the bloodstream and attach to damaged areas in the heart, usually the valves. One of the most important complication of valve surgery is prosthetic valve dehiscence. Late valve dehiscence is usually associated with endocarditis. **Objective:** A 39 years old male presenting history of bicuspid aortic valve, patent foramen ovale and cardioembolic stroke was admitted with left ventricular heart failure signs and symptoms. **Material and methods:** Nine months before the patient underwent a double valve replacement with mechanical prosthesis for acute endocarditis, as well as for the closure of the patent foramen ovale. Three months after surgery the patient is diagnosed with an aortic prosthetic ring abscess, treated with antibiotics. **Results:** Late post-surgery transesophageal echocardiography describes partial dehiscence of aortic prosthesis with moderate-severe paravalvular leak and partial dehiscent of the mitral prosthesis with moderate paravalvular leak. Reintervention was postponed for 6 months, suture of the paravalvular leakage was applied to the aortic and mitral prosthesis. Three months postoperative transesophageal ultrasound reveals the recurrence of aortic moderate-severe paravalvular leak and mild mitral leak. **Conclusions:** A history of infective endocarditis is associated with a risk of relapse or recurrence, careful monitoring of this patients is required to prevent late complications. A history of dehiscence is associated with increased risk of relapse and recurrent dehiscence.

**Keywords:** endocarditis,, dehiscence,, mechanical prosthesis,, paravalvular leak

## THE IMPORTANCE OF THE CLINICAL ASSESSMENT USING 6 MINUTE WALK TEST IN PATIENTS WITH PULMONARY ARTERIAL HYPERTENSION RELATED TO CONGENITAL HEART DISEASE UNDER SPECIFIC DRUG THERAPY

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**Background:** Pulmonary arterial hypertension (PAH) related to congenital heart disease (CHD) is a disabling condition, which can considerably affect the quality and life expectancy of these patients. Considering these aspects, follow-up in order to determine the evolution of the disease should be done not only using imaging and laboratory investigations, but also clinical methods. **Objective:** The purpose of this study is to assess the risk and progression of the disease under specific drug therapy in CHD related PAH patients using the 6-minute walk test (6MWT). **Material and methods:** This retrospective study includes a group of 11 CHD related PAH adult patients under specific drug therapy: Sildenafil, Bosentan or Macitentan monitored in Cardiology Department, Third Medical Clinic Tîrgu Mureş, Romania. 6MWT is a simple clinical method to examine the functional capacity, treatment response and prognosis of disease under the specific therapy. It is a submaximal exercise which measures the distance walked over 6 minutes, the oxygen saturation before and after the test and the level of dyspnea. **Results:** The mean age of the patients was 29,45+9,88 years, with 8 (73%) female patients and 3 (27%) male patients. All patients received specific PAH therapy: Macitentan three of them, Sildenafil three patients, one patient received upfront therapy with Bosentan and Sildenafil and four patients upfront therapy with Macitentan and Sildenafil. Seven patients presented a favorable clinical evolution under specific treatment, assessed by increasing the 6 minute walk distance (meters) or by improving the oxygen saturation at the 6MWT end. **Conclusions:** The specific therapy in PAH related to CHD patients and the disease progression under the treatment can be firstly assessed using clinical methods as 6MWT. This simple test can also provide information about the need to adjust the treatment and the patients' compliance to the therapy.

**Keywords:** Pulmonary arterial hypertension,, Congenital heart disease,, 6-minute walk test

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