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DIN 1857

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Perspective interdisciplinare

EDIȚIA A VIII-A

PALATUL PARLAMENTULUI/ 26-28 NOIEMBRIE 2020

ID75 COVID-19: DentEX – a Novel Software Platform for Academic Performance Assessment of Undergraduate Dental Students

Radu Ilinca[1], Ion Octavian Doaga[1], Andreea Didilescu[1]

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Introduction: The COVID-19 pandemic has created a new education paradigm for dental education. Since mid-March 2020, most of the European universities have switched only to online academic activities. This article introduces a novel software platform (DentEx) customized for the needs of undergraduate dental students. The platform can be effectively used by both students for reviewing their knowledge and teaching staff for academic performance. It is mostly suited for the online interview-based exams.

Materials and methods: The DentEx software platform was developed in Visual Studio 2012. Having minimum computer resources requirements that any current commercial laptop can meet, it is highly accessible. Exam topics are imported into this platform. A high quality random number generated based on a linear congruential algorithm is used to select questions from the database. The selected topic is displayed. The tool also allows performance grading. At the end of the session, DentEx automatically generates the academic catalog. This platform also features image import and display functionalities such that an image is illustrated to the students and therefore they may answer the questions related to it. From the quality assurance point of view, automatic activity logs (audit trails) containing detailed information such as date & time of the exams, the random number sequence are generated and emailed to the assessor's email address. Two blind surveys were performed on 1st and 3rd year students.

Results: The overwhelming majority (88%) welcomed the platform and deemed it useful in the learning process but also a reliable examination tool.

Conclusion: Fully configurable software platform is successful for the organization and administration of a typical online-based interview exam.

ID87 Platelet-Rich Plasma Treatment of Chronic Odontogenic Maxillary Sinusitis: a Pilot Study Focusing on the Molecular Mechanisms

Daniela Miricescu[1], Alexandra Totan[1], Ioana Rusu[2], Vitali Movradin[3], Mihaela G. Moisescu[4], Iulia Stanescu[1], Constantin Stefani[5,6], Maria Greabu[1]

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Objectives: Chronic odontogenic maxillary sinusitis (CMOS) is an inflammation of the maxillary sinus caused by different dental pathologies. Platelet-rich plasma (PRP) is a natural source of growth factors which are involved in key stages of wound healing and regenerative processes. FDA considers PRP an endogenous therapeutic technology used in many medical fields with multiple benefits for patients. In response to PRP growth factors, AKT/mTOR signalling pathway, a playmaker of many cellular processes is activated. The aim of this study is to evaluate the effects of growth factors from PRP on AKT/mTOR signaling pathway in cells of sinus mucosa from patients' with CMOS.

Methods: Our pilot study included five patients diagnosed with CMOS, evaluated by CT Scan. Sinus mucosa samples were collected and stored in sterile solution and PRP was prepared from venous blood collected from each patient. Sinus mucosa samples were incubated 24 h at 37°C with 2 mL PRP. The samples were lysed and sonicated on ice. The control samples were represented by inflammed sinus mucosa without PRP treatment. Cell lysate was used to measure the following biomarkers: insulin receptor substrate1(IRS1) and phosphatase and tensin homology (PTEN) (an important tumor supresor) using an automatic Analyser Luminex X MAP Technology (Merck-Germany).

Results: Our results revealed statistically increased levels for IRS1 and PTEN in PRP-treated sinus mucosa versus sinus mucosa without PRP treatment ($p<0.05$). The results of the biochemical evaluations are correlated with CT images performed before and 10 months after the PRP treatment.

Conclusion: Our study conclusion highlights the positive effect of PRP treatment in CMOS context. Growth factors from PRP activate AKT/mTOR signaling pathway. Upon activation, platelets release a cocktail of biologically active molecules and reduce the inflammatory process in the sinus.

ID98 Analysis of Candida Infection Impact in Oral Lichen Planus Patients

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Lichen planus is a chronic, autoimmune disorder with clinical features of a cutaneous and/ or mucosal dermatosis. Regarding the oral manifestations, different characters such as polymorphism of the lesions, dynamic evolution, the unstable response to treatment and long term duration of the disease are reasons that raise diagnostic problems and explain the need for all-life monitoring. This study aims to determine if infection with Candida species detected in oral lichen planus exacerbates the clinical symptoms and lesions.

Material and method: 172 patients diagnosed as having oral lichen planus were studied. Baseline demographic, anamnestic and clinical data was recorded for all patients. The results of the mycological examination and Candida species detection were analyzed and correlated with the symptoms and clinical form of the disease.

Results: Candida infection was encountered in 32.6% of cases (56 out of 172). The keratotic clinical form (reticular and plaque-like lesions) associated Candida infections in 36% of cases followed by atrophic form (in 34% of cases). The correlation between the clinical forms and presence of Candida infection was not statistically significant ($p > 0.05$, Fisher test). Of the Candida species, Candida albicans was most commonly detected (in 82% of cases) followed by Candida krusei- 5%, Candida lusitaniae - 4% and Candida tropicalis- 4%.

Conclusions: Candida infection is encountered in one third of oral lichen planus patients. Our findings suggest that it can aggravate the biological behavior and influence the main disease although it is not observed in most of the cases with an increased clinical severity.

ID 106 Elevated Salivary Aminotransferases Levels in Relation to the BMI in Patients with Chronic Alcoholic Hepatitis

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Objective: The body mass index (BMI) is frequently used to establish the normal ratio between weight and height. Moreover, BMI alterations have been shown to correlate with cardiovascular diseases, metabolic syndrome and diabetes mellitus, but also with cellular dysfunction and inflammatory processes. At the same time, chronic alcoholic hepatitis is a disease caused by alcohol consumption over a long period of time and can lead to liver cirrhosis. Meanwhile, aminotransferases ALAT (alanine aminotransferase) and ASAT (aspartate aminotransferase) are liver enzymes commonly used as markers of hepatic cytolysis. In addition, an ASAT/ALAT ratio of 1.5 to 1 represents a diagnosis criteria for chronic alcoholic hepatitis, together with chronic alcohol consumption, jaundice, increased heart rate, hepatomegaly and leukocytosis with neutrophilia. In this context, the objective of this study was to determine salivary transaminase levels and to correlate them with the patients' BMI.

Method: The study included 20 patients diagnosed with chronic alcoholic hepatitis and 20 healthy subjects that constituted the control group. Aminotransferases salivary levels were determined using a dry biochemistry analyzer by Vitros Chemistry Systems.

Results: ASAT and ALAT salivary levels were found to be significantly statistical increased in patients with chronic alcoholic hepatitis compared to the control group, but no correlation with the BMI could be found. However, the ASAT/ALAT ratio is significantly lower in these patients versus the healthy subjects. Furthermore, we found a positive correlation with statistical significance between this ratio and the BMI.

Conclusions: Although the salivary levels of the aminotransferase did not correlate with the BMI, our data revealed that the transaminases have higher concentrations in the saliva of patients with chronic alcoholic hepatitis. This increase might be caused by liver cytolysis, but could also be influenced by the alterations that chronic alcohol consumption produces in salivary glands.

ID 107 Immunoglobulins A and G In Patients with Chronic Alcoholic Hepatitis: a Concise Evaluation of Salivary and Serum Levels

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Objective: Saliva is a valuable diagnosis and monitoring fluid for both oral and systemic diseases. This complex biological fluid can be collected non-invasively, hence providing an excellent collaboration with the patients. Meanwhile, chronic alcoholic hepatitis (CAH) is an inflammatory condition of the liver produced by long-lasting alcohol consumption. Prolonged, habitual ingestion of alcohol leads to liver steatosis, CAH and liver cirrhosis. Clinical signs in patients with CAH include jaundice, painful hepatomegaly and a systemic inflammatory response. Immunoglobulins are produced by activated B cells and represent the response of the humoral immune system. The aim of this study was to determine serum and salivary levels of immunoglobulins A (IgA) and G (IgG) in patients with CAH, thus evaluating the potential of saliva as an alternative monitoring fluid for liver disorders.

Method: This research included 20 patients diagnosed with chronic alcoholic hepatitis. 20 healthy subjects formed the control group. Ig A and IgG concentrations in the serum were determined by immunonephelometry assay, while the salivary levels were determined by simple radial immunodiffusion.

Results: Our results showed statistically increased serum levels for IgA in CAH patients. IgG was also found in higher concentration in patients with hepatitis compared to the healthy subjects, but without any statistical significance. Meanwhile, salivary levels of IgA and IgG in patients with CAH were statistically increased versus the control group. The IgA/IgG ratio was found to be increased both in the serum and the saliva of CAH patients.

Conclusions: These results reflected the possible role of IgA and IgG in chronic alcoholic hepatitis, taking into consideration that hypergammaglobulinemia is considered a important marker for liver fibrosis in the advanced stages of hepatic chronic disorders. Also, through the increased levels of these biomarkers in the saliva, this study highlights saliva as a reliable monitoring fluid for chronic alcoholic hepatitis.

ID 113 PCR, the Method of Choice in the Identification of Pathogens in Periodontal Disease

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Introduction: In this study we set out to identify periodontal pathogens using the PCR method. Furthermore we intend to analyze the frequency and intensity, as well as to highlight the connection between bacterial copy number and risc of periodontal disease. This data will be helpful in establishing an aimed treatment plan, both anti-inflammatory and antimicrobial, to prevent worsening or recurrence of periodontal disease.

Method: A protocol for harvesting bacterial strains was followed, using a kit called micro-IDENT, which identifies 12 strains of bacterial pathogens: Aa, Pg, Pi, Tf, Td, Ec, Cr, Fnp, Co, Cs, Cg, Pn.

Results: Depending on the intensity of the pathogens, the results were divided into 3 categories: intense, moderate and weak positive. The intensity in the subgingival biofilm is given by the increased number of pathogens affecting periodontal tissue. In time this can lead to irreversible alteration if not intervened with local anti-inflammatory and antimicrobial treatment.

The increased frequencies of the pathogens help us appreciate the growing risc of aggravating periodontal disease.

The results of this study are consistent with the results of other studies within the same specialty.

Conclusion: PCR allows identification of fine traces of pathogens unable to be cultivated, which determine a high risc of progression into agresive forms of periodontal disease. Additionally, PCR helps in the diagnosis of an early onset of periodontal disease and its association with other systemic diseases.

Abbreviations: PCR-polymerase chain reaction.

Aggregatibacter actinomycetemcomitans (Aa); Porphyromonas gingivalis (Pg); Prevotella intermedia (Pi); Tannerella fosythia (Tf); Treponema denticola (Td); Eikenella corrodens (Ec); Campylobacter rectus (Cr); Fusobacterium nucleatum/periodonticum (Fnp); Capnocythophaga ochrea (Co); Capnocythophaga sputigena (Cs); Capnocythophaga gingivalis (Cg); Prevotella nigrescens (Pn).

ID141 Accuracy of the Chaillet's Method for Assessing the Age in Subadults. A Meta-Analysis

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Introduction: Dental age based on stages of teeth mineralization can be assessed by using different methods, the most popular one being the Demirijan's method from 1973. Chaillet's method is a modified Demirijan's method. Regarding of the usefulness of dental age assessment in forensic medicine, we aimed to study to the applicability of Chaillet's method in subadults, a method less researched compared to the Demirijan's.

Materials and methods: We performed meta-analyses of observational studies. Descriptive statistics were applied: DerSimonian-Laird estimator and raw mean difference for effect size model measures. In order to evaluate significant statistical differences between chronological and dental age prediction intervals (at 95%) were used.

Results: Chaillet's method underestimated age with significant statistical difference between dental and chronological age: –1.15 years ± 0. 52 in girls and –1 year ± 0.6 in boys

Conclusion: We recommend using this method with a more accurate dental age method or together with another maturation method.

ID143 Screening of Antimicrobial Susceptibility of *S. Aureus* Strains Isolated from the Nose and Pharynx in Dental Students

Gabriela Bancescu[1], Teodora Ionescu[1], Carmen Defta1, Adrian Bancescu[1]

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Objective: The aim of the study was to investigate the antimicrobial susceptibility of *S. aureus* strains isolated from the nose and pharynx from healthy students at the Faculty of Dentistry, "Carol Davila" University of Medicine and Pharmacy (UMFCD), Bucharest.

Method: In the first semester of the 2017-2018 academic year, a number of 21 *S. aureus* strains were isolated from 83 students who followed the second year of study at the Faculty of Dentistry, UMFCD, and stated that they had not taken antibiotics in the last 6 months. The 14 nasal strains and the 7 pharyngeal strains of *S. aureus* were tested by disc-diffusimetric method for their antimicrobial susceptibility to the following antimicrobial agents: penicillin G, cefoxitin, erythromycin, clindamycin, gentamicin, tetracycline, trimethoprim-sulphamethoxazole, norfloxacin and linezolid (Oxoid, U.K.). Methicillin-resistant *S. aureus* phenotype (MRSA) was detected with the cefoxitin disc and by determining the minimum inhibitory concentration of oxacillin, using the E-test (BioMérieux, France). The macrolide - lincosamide - streptogramin B (MLSB) resistance phenotype was investigated by the D-test, using erythromycin and clindamycin discs.

Results: All isolates were resistant to penicillin G, but were susceptible to: trimethoprim-sulphamethoxazole, linezolid and norfloxacin (used to screen for fluoroquinolone resistance). Two pharyngeal isolates were MRSA, but they also showed the inducible MLSB phenotype, and one of them was also resistant to gentamicin and tetracycline. Nineteen *S. aureus* isolates were sensitive to methicillin (MSSA) and showed the penicillin-resistant + methicillin-sensitive (PeniR MetiS) phenotype, but 10 of them also developed the inducible MLSB phenotype, while 5 strains were tetracycline-resistant and one – gentamicin-resistant as well. The remaining 4 strains with PeniR MetiS phenotype were also tetracycline-resistant.

Conclusions: More than half of *S. aureus* strains isolated from these young carriers were multidrug resistant. Students should be informed about the risk of transmitting these bacteria from carriers in community and hospital environment.

ID33 Phytochemical Analysis and Antioxidant Activity of *Asparagus Officinalis L.* (Asparagus)

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Asparagus (*Asparagus officinalis L.*) has been widely used as a vegetable owing to its distinct flavor. Moreover, the aerial parts have a wide range of therapeutic properties (hypoglycemic, hypolipidemic, antiinflamatory etc).

Objectives: The aim of our study was the phytochemical analysis and evaluation of antioxidant activity of asparagus aerial parts.

Material and methods: As a material we have used the aerial parts both as fresh (AF) and freeze-dried (AL) herbal products. Phytochemical analysis was determined by means of qualitative (specific chemical reactions) and quantitative methods. Spectrophotometric assays have been used for evaluation of total phenolic (expressed as tannic acid equivalents), flavones (expressed as rutin equivalents) and phenolcarboxylic acids (expressed as caffeic acid equivalents) contents. Antioxidant capacity was assessed by scavenger activity towards DPPH (2,2-diphenyl-1-picrylhydrazyl) free radical and ferric reducing properties. The antioxidant activity was expressed as EC50 (mg/ml). Antioxidant and quantitative assays were performed on aqueous and 50% methanolic solutions.

Results: Both samples have shown a similar phytochemical profile, still chemical reactions were much more obvious for AL. Quantitative assays reavealed that AL had a higher content of active substances compared to AF (0.58 g% polyphenols vs. 0.40 g%). However, AL showed a low content of flavones (0.17 g%) and phenolcarboxylic acids (0.11 g%). Regarding the antioxidant capacity, AL 50% methanolic solution had shown a better scavenger activity towards DPPH free radical (EC50 = 5.77 mg/mL) compared to the aqueous one (EC50 = 7.57 mg/mL). Similar results have been found regarding the ferric reducing power.

Conclusions: The solvent is a key factor that influences the phenolic content and the antioxidant capacity. According to our results asparagus aerial parts are a source of natural compounds and might be used in therapeutics for their antioxidant potential.

ID50 The Effect of Nutritional Interventions in Patients with Brain Tumours

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The number of patients diagnosed with different type of cancers is continuously increasing in the last years. The global incidence of the malignant brain tumours is estimated to 4.25 cases per 100,000 person-years. The disease is associated with significant mortality and morbidity. The treatment is complex and includes multidisciplinary teams and it is mainly based on radiotherapy, chemotherapy and surgical interventions. The nutritional balance is essential for the evolution of health status in patients during the treatment. In the last years, the ketogenic diet is increasingly more recommended for these patients, mainly due to a reducing effect on the blood glucose level.

Objective: The study aims to demonstrate the potential beneficial effects of the ketogenic diet (classical or modified) on patients diagnosed with brain tumours and monitored in a nutrition department of an oncology hospital.

Materials and methods: Patients diagnosed with different stages of glioblastoma were considered for the study. The ketogenic diet was specific for every patient considering the nutritional requirements according to the therapeutic interventions. Body mass index and several biochemical parameters were determined for monitoring the health status.

Results: The body mass index was influenced by the type of the ketogenic diet recommended. The classical keto-diet induced an increased ketosis status in comparison with the modified ketogenic diet. No effects were observed on the biochemical parameters correlated with the renal and hepatic functionality.

Conclusions: The ketogenic diet has potential beneficial effects on the patients with different stages of glioblastoma but the adherence to this diet was the main problem identified among the patients.

ID58 Synthesis, Crystal Structure and Acute Toxicity Evaluation of Metal Complexes with a Schiff Base Derived from 2-Hydroxy-4-Methoxybenzaldehyde

Gina Lupascu[1], Sergiu Shova[2], Stefania Felicia Barbuceanu[3], Mihaela Badea[4], Mihaela Dinu[5], Robert Viorel Ancuceanu[5], Doina Draganescu[6], Cristina Elena Dinu-Pirvu[7], Elena Pahontu[8]

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Objectives: Schiff bases are well-known compounds for their stability, structural variety and also, their numerous biological properties (as antibacterial, antifungal, antioxidant, antiproliferative). Due to coordination of a Schiff base ligand to metal ions, according to recent studies, pharmacological activity of these organic compounds is significantly increased. These properties, completed by the aromatic substituents that could influence the biological activity, transform complex combinations into proper candidates for the pharmaceutical industry.

The purpose of this research was to synthesize new metal complexes with a Schiff base derived from 2-hydroxy-4-methoxybenzaldehyde, to characterize them and to investigate their acute toxicity.

Methods: The Schiff base ligand was synthetized through the condensation reaction between 2-hydroxy-4-methoxybenzaldehyde and 2-chloro-5-(trifluoromethyl) aniline, in a 2:1 molar ratio. By its reaction with the corresponding metal salts, six complex combinations were obtained. In order to characterize the new compounds, spectral analyses, single-crystal X-ray diffraction, elemental and thermal analysis, magnetic susceptibility measurements and molar electric conductivity, were performed. Phytotoxicity was investigated on *Triticum aestivum L.* species for five concentrations. The acute toxicity on animal cell was assessed on brine shrimp (*Artemia franciscana Kellogg*).

Results: The newly synthetized compounds had their structure confirmed by the physical-chemical analysis carried out. The reaction of Schiff base with metallic salts of Cu(II), Co(II), Mn (II), Ni(II), Pd(II) and Pt(II), proved the coordination ability of the ligand. Hence, it acts as a mononegative bidentate, around the metallic ion in all the complexes. The acute toxicity investigated on Triticum, as well as on crustacean, were dose and metallic ion dependent.

Conclusions: New complex combinations containing an ON donor Schiff base have been synthesized and chemically and biologically characterized.

Acknowledgments: UMFCD_PFE_23/2018.

ID74 Synthesis and Evaluation of the Antimicrobial Activity of Dapsone-Like Compounds

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Objectives: Antibiotic resistance has driven a real global crisis, threatening the effective treatment of infectious diseases and urging the search for the discovery of new anti-infective agents, with new mechanisms of action or multi-target activity. Dapsone is an antibacterial and antiparasitic agent, also used in the treatment of non-infectious diseases. The aim of this paper was to obtain and evaluate the antimicrobial action of new structural analogues of dapsone.

Material and methods: The new dapsone like-compounds, 2-[(benzenesulfonyl)methyl)]benzoic acid derivatives, were obtained in a two-step synthesis. In the first step, substituted phenylthiomethylbenzoic acids were synthetized and afterwards oxidized to the target compounds, using 30% aqueous hydrogen peroxide in glacial acetic acid, as oxidant agent. The compounds structure was confirmed by NMR and IR spectra and by elemental analyses. The antimicrobial activity evaluation was performed on Gram negative, Gram positive and fungal strains using qualitative (disk diffusion) and quantitative (liquid medium serial microdilutions, allowing to establish the minimal inhibitory concentration -MIC, μg/mL) assays.

Results: New derivatives, structural analogues of dapsone were synthetized and physico-chemically characterized. The structure of the compounds was confirmed by spectral analysis and elemental analyses. The qualitative screening indicates a large spectrum of antimicrobial activity, while the MIC values indicate a moderate antimicrobial activity for the new dapsone like-compounds, both on Gram negative and Gram positive bacterial strains.

Conclusions: Taking into account the results of the antimicrobial screening suggesting a broad spectrum of activity for the new compounds, but only of moderate intensity, further structural modulation will be conducted in order to improve the antibacterial activity and to extend the overall activity spectrum for encompassing bacterial strains exhibiting clinically and epidemiologically relevant resistance phenotypes.

ID82 Major Chemical Compounds of Some Essential Oils with Antimicrobial Activity

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Research objectives: The aim of the study is to test the antimicrobial action of some essential oils on standardized microbial strains of Staphylococcus aureus, Escherichia coli and Candida albicans, to correlate the antimicrobial action with the active principles present in essential oils, and to highlight the main interactions between the active principles present in a mixture, which may have as finality phenomena of synergism, addition or antagonism.

Materials and methods: The tested samples were coded as follows: U1 Origanum vulgarae; U2 Melaleuca alternifolia; U4 Frankincense Serrata; U5 Ocimum basilicum; U6 Piper nigrum; U3 a blend of Citrus limon, Syzygium Aromaticum, Eucalyptus globulus, Cinnamomum cassia, and Rosmarinus officinalis essential oils.

Results: U4 does not show antimicrobial action on the Escherichia coli strain.

U6 has antimicrobial action only on Staphylococcus aureus.

The other oils showed antimicrobial action on all microbial species tested, diluted with dilution factors between 2 and 128.

Following the evaluation of the GC-MS certificates of the tested essential oils and the review of the specialized literature, we determined the compounds responsible for the antimicrobial action of the essential oils.

The antimicrobial action of the essential oil mixture is the result of the interactions between the compounds of the essential oils in the mixture.

Conclusions: Due to the structural and biological diversity of the compounds that are part of the composition of essential oils, and due to their antimicrobial potential, essential oils are researched among other strategies to combat bacterial resistance to antibiotics, but also as therapeutic alternatives with low toxicity against Candida albicans, having the advantage that Candida albicans will no longer develope resistance as easily as in the case of synthetic antifungal agents.

ID83 Comparative Reliance of Two Analytical Methods in the Quantitative Determination of Ibuprofen

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Objectives: The accuracy and reliability of the analytical results are critical in ensuring quality, safety, and efficacy of pharmaceutical products. However, to ensure these criteria, the choice of an appropriate analytical method is required. This study set forth to compare the efficacy of potentiometric titration and UV spectrophotometric methods in determining the quality of ibuprofen tablets and syrups.

Materials and methods: The equivalence volume was assesed using a Sl Titroline® 5000 Module automatic titrator, Germany, with a 50 mL dosing unit and a pH electrode. Absorbance measurements were performed on double beam Jasco V-530 UV-Visible spectrophotometer, Jasco Inc., Japan, with spectral band width of 0.5 nm and wavelength accuracy of ± 0.3 nm. All reagents and the analytical standard of ibuprofen were purchased from Sigma-Aldrich. The purified water was generated by a Elga Veolia Purelab Chorus 1 water system.

Results and discussions: The label claims of the various brands were assessed based on the different methods. All four different brands of ibuprofen products were within the compendial limits for the for the percent of the active principle using the potentiometric titration as well as the UV spectrophotometric method. The analyses were performed in triplicate. The calculated RSD values were less than 2%.

In the potentiometric titration, the interference of the excipients is avoided since the end point of the reaction is detected through the slope change of the electromotive force (EMF) or the pH versus the volume of the titrant. UV spectrophotometric method is suitable for the analysis of ibuprofen since it contains suitable chromophore that absorbs radiation in the UV region of the electromagnetic wavelength (λ = 262 ± 2 nm). The calibration curve for the reference standard ibuprofen was linear over a concentration range of 0.03 to 0.30 mg/mL with the regression line equation obtained as $y = 0.0881 + 1.6272x$.

Conclusions: It can be inferred from this study that the choice of analytical method is critical in ascertaining the quality of the pharmaceutical products.

ID94 Evaluation of *in Vitro* Release Kinetics and Flow Behaviour of Some Semi-Solid Dosage Forms with Ibuprofen

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Objectives: Ibuprofen is the most commonly used non-steroidal anti-inflammatory drug. The ibuprofen oral administration may induce a remarkable toxicity such as gastro-intestinal bleeding and side effects at hepatic and renal levels. In this situation, topical administration would be preferable to reduce systemic toxicity and to increase patient compliance. Thus, the goal of this work was to evaluate the in vitro release kinetics and flow behavior of some topical drug delivery systems such as hydrogels with carbopol and ibuprofen.

Methods: Four industrial hydrogels containing carbopol as gelling polymer and ibuprofen with 5, respectively 10% concentration were analyzed. The determination of the in vitro release kinetics from hydrogels was carried out using an immersion cell device adapted to dissolution equipment. Rheological analyzes were performed with a rotational viscometer, at 33°C and the rheograms shear stress versus shear rate were built.

Results: The rheological behavior was quantified through the Herschel-Bulkley model and the specific parameters such as yield stress, consistency index and flow index were set. The kinetic patterns were fitted with the Higuchi model and the diffusion coefficients and time-lag were evaluated.

Conclusions: All hydrogels presented a non-Newtonian pseudoplastic behavior, facilitating their flow and topical application. The drug release mechanism revealed a Fickian diffusion, the drug diffusion rate being much lower than the relaxation rate of the polymer. The kinetic and flow properties were markedly influenced by both concentration of ibuprofen and excipients from the industrial hydrogels.

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ID115 Effect of Probiotics on Anxiety Behavior Determined by Antibiotic-Induced Dysbiosis in Mice

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Objectives: The results of preclinical studies indicate that changes in early microbial composition through exposure to antibiotics, along with the influence of host genetics, modulate the long-term physiology and behavior associated with stress. Our objectives were obtaining a model of anxiety by administering a combination of antibiotics to mice and research of the anxiolytic effect of some probiotics, by administration to mice with dysbiosis after antibiotic therapy.

Methods: We first set out to create an animal model of anxiety by administering a mixture of 3 antibiotics: Clindamycin, Amikacin and Ceftazidime dissolved in the drinking water of mice, administered for 14 consecutive days ad libitum, in order to obtain a dysbiosis and implicitly altering the intestinal brain axis. We further investigated the anxiolytic effect induced by two different types of probiotics: *Lactobacillus casei* (Enterolactis®), compared to the administration of an association of sporulated species: *Bacillus lichenformis, B. indicus, B. subtilis, B. clausii* and *B. coagulans* (Megasporebiotic®). Both probiotics were orally administered daily for one month. We used alprazolam as a reference substance. During the six weeks of the study, we used the plus maze test and the motor activity test to assess anxiety.

Results: We obtained very high statistically significant results in the test of the plus suspended maze, after 14 days of probiotic treatment. Mice with induced dysbiosis treated with both Megasporebiotic® and Enterolactis® showed lower time values in the closed arms of the labyrinth compared to mice with dysbiosis treated with water, the reduction being 28.59% and 37.15%, respectively.

Conclusions: Probiotics can be an interesting and useful option for patients with certain forms of anxiety, which in addition to classic pharmacotherapeutic treatment with established anxiolytic drugs, could also benefit from a less explored therapeutic variant, but with possible long-term benefits.

ID124 Adherence to Antihypertensive Medication and Refill and Some of Its Predictors

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Objectives: The paper presents the results of the assessment of adherence to medication and refill and of its determinants, as obtained by interviewing hypertensive patients.

Method: We composed a questionnaire gathering sociodemographic data, medication regimen and different patient's habits involved in regulating high blood pressure. We used, with authors' permission, the Adherence to Medication and Refill Scale (ARMS). Statistical interpretations of the results were performed using Microsoft Excel for Mac, version 16.27 and IBM SPSS Statistics 23 for Windows, at a significance level of $p < 0,05$. The questionnaires were anonymous, and the patients were involved only after they were explained the nature and aims of the study. All ethical concerns were followed.

Results: We collected 3095 questionnaires. 55.8% of the respondents were women; most of the patients were integrated into a family (74.3%). The mean age of the patients was 62.08 ± 13.56 years. Most patients also had other cardiovascular and/or other conditions. On average, patients took 4.53 medications and 1.46 nutritional supplements daily. The average ARMS score was 19.18 ± 5.40; the median ARMS score was 18 (the ARMS score can take values from 12 to 48, the lower the score the better the adherence). Women were statistically significantly more adherent to medication and refill than men (ARMS score for women 18.96, ARMS score for men 19.44). Adherence score varied insignificantly with age. Family status was one of the most important determinants of adherence. Those who stated that they were single had a statistically significantly higher ARMS score (20.04) than those living within a family (18.88). Level of educations influenced the adherence score: university graduates had the lowest ARMS score (18.28), followed by college graduates (19.19), with medium school graduates being the least adherent (ARMS score 18.28) (statistically significant differences).

Conclusions: The general level of adherence to medication and refill of Romanian hypertensive patients was low, the median of ARMS score in our study being smaller than the one obtained in other similar studies. Some of the sociodemographic determinants of adherence were identified.

ID148 Microscopic Analysis and Toxicity Assay of Helianthus Tuberosus L. Leaves

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Objectives: The genus Helianthus (Asteraceae family) contains about 70 species of plants, including *Helianthus tuberosus L.* with its edible tubers, also known for its medicinal uses. We aimed to identify specific histo-anatomical elements through microscopic analysis and evaluate its toxicity, for future pharmaceutical research.

Materials and methods: The material which was harvested in August 2019, has been analysed macroscopically and microscopically (surface preparations, clarified with 5% NaOH and cross sections doubly-stained with iodine green and carmine alum, FABIL and calcofluor). The samples were analysed by digital, optical and fluorescence microscopy (Leica DMS 1000; Nikon Labophot-2 and Optika B-383FL, coupled to a Nikon digital camera).

The toxicity evaluation was assessed on aqueous and ethanolic extractive solutions obtained under reflux from fresh leaves, in a ratio plant: solvent of 1:10 (w/v). Two tests were realized: five solutions, with their concentrations ranging from 1 to 100 mg/mL were evaluated for their phytotoxicity with Constantinescu method (Triticum test) and other five dilutions, with their concentrations ranging from 3 to 50 mg/mL were used to assess their toxicity on Artemia franciscana Kellog.

Results: Numerous histo-anatomical elements have been identified: dorsiventral structure, anisocytic stomata, hydathodes, laticifers, uniseriate trichomes with a sharp tip, unicellular trichomes with their base composed of circularly arranged cells and multicellular glandular ones.

The investigated extracts possess a mitoinhibitory effect dependent on concentration ($p<0.01$) on the Triticum aestivum L. roots. The mitodepressant and statmokinetic effects were observed through optical microscopy. Moreover, the Artemia franciscana test proved that the leaf extracts were virtually devoid of toxicity.

Conclusions: The *H. tuberosus* leaves have specific elements allowing identification and differentiation from other Helianthus species. The extracts showed toxic activities for plant and animal cells. Though, these effects classify both aqueous and ethanolic extracts as low toxicity products.

ID149 Formulation and Evaluation of Some Chewable Tablets with Antioxidant and Anti-Inflammatory Action

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Objectives: This experimental study aimed to obtain chewable tablets with antioxidant, anti-inflammatory and immunostimulant action. A natural product has been produced to strengthen the body against the harmful action of pollution and daily stress due to the special functional qualities resulting from the association between turmeric and ginger powders and echinacea tincture.

Materials and methods: To facilitate compression, was used a mixture of diluent excipients, binders and directly compressible disaggregation (Flowlac, Avicel PH 102, mannitol). It was necessary to add lubricant (magnesium stearate) and glidant (Aerosil) to improve the flow of powders mixture and sweetener (isomalt and sodium saccharin) and flavouring (cinnamon) to mask the unpleasant taste of the active principles and to give a pleasant flavour in the oral cavity. The direct compression procedure was used for the preparation of chewable tablets, with the Korsch EK-O compressor. To characterize the tablets prepared a series of tests indicated by the literature and the rules in force were carried out: organoleptic characteristics, mass uniformity, hardness, friability.

Results: Organoleptic analysis of the prepared tablets led to the following results: uncoated, compact, disc-shaped tablets, flat, orange-yellow, glossy, 11 mm diameter, with a characteristic smell of active components and flavouring, with a sweet, slightly pungent taste, characteristic of the components. It was observed that these tablets correspond to the norms of individual mass (0.946–1.046 g) and friability (0.12-0.2%). Analysis of the physical parameters of chewable tablets showed that they didn't show large variations in size (diameter, height) and mechanical resistance, which corresponded to the quality conditions laid down by the literature. Tablets chewable with turmeric, ginger and echinacea tincture correspond to the official norms for disintegration (12,2-12,85 minutes).

Conclusions: Finally, these chewable tablets can be an alternative to conventional tablets with the same active principles or with medicinal substances that have numerous adverse effects existing on the pharmaceutical market.

ID161 *In Vivo* Artemia Franciscana Toxicity of Some 1,3,4-Oxadiazole Derivatives

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Introduction: The toxicity capacity of new carbazol derivatives was tested *in vivo,* by using Artemia franciscana nauplii lethality bioassay. This crustacean species can be used for experiments and applications in ecotoxicity, but also in pharmaco-toxicological screening, to monitor the effects of chemical or natural compounds on live organisms.

Methods: The brine shrimp lethality test was performed according to B.M. Meyer et al. and the T.W. Sam methods. Artificial sea water, obtained from a commercially available salt mixture, was used as a medium The salts were dissolved in distilled water using an ultrasound bath for 10 minutes, at a concentration of 30 g/L. The carbazol derivatives were suspended in medium, using sodium alginate (0.045%), to ensure the suspension stability. For each substance the following concentrations were used: 100, 50, 25, 12.5 and 6.2 μg/ mL, in triplicate.

Results: We tested three 1,3,4-oxadiazole derivatives and among the tested substances, two compounds didn't show any sign of toxicity at the evaluated concentrations. After 24 hours, all nauplii were alive and had normal movements. In the case of third compound, a slight toxicity was observed at the maximum concentration evaluated (100 μg/ml), as evidenced by a lethality of 16,67% (10% in one of the three replicas and 20% in the other two replicas).

Conclusions: Artemia franciscana nauplii lethality bioassay can be used to test chemical compounds toxicity, on live organisms. In the case of our derivatives, two of the analysed compounds have shown no toxicity, and the third one showed a slight toxicity. The results indicate a low level of toxicity for the examined compounds, but further studies are necessary to confirm their safety in humans.

ID3 Metabolic Risk Factors and Oxidative Stress in Subjects with Atherosclerosis

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Introduction: Both the aging process and cardiovascular diseases are associated with changes in metabolic parameters and oxidative stress. The study evaluated metabolic parameters, oxidative stress, carotid intima-media thickness(cIMT) and their correlation with atherosclerosis, in adult and elderly subjects.

Material and methods: We investigated 150 subjects, women, distributed as follows: 1) adults without atherosclerosis(control); 2) adults with atherosclerosis; 3) elderly without atherosclerosis(control); 4) elderly with atherosclerosis. Serum metabolic parameters: glucose, uric acid, total cholesterol, HDLcholesterol, LDLcholesterol, triglycerides(TG), and oxidative stress: oxidized LDL(LDLox) and total antioxidant status(TAS) were measured. Non-HDLcholesterol, cholesterol/HDLc, LDLc/HDLc, TG/HDLc, log TG/HDLc(AIP), non-HDLc/HDLc ratios and lipid accumulation product(LAP) were calculated. cIMT was measured by ultrasonography. The prevalence of atherogenic risk factors and the Pearson correlation coefficient between metabolic indicators, oxidative stress, cIMT and the presence of atherosclerosis were evaluated.

The results showed a significant increase in glucose, uric acid, TG, cholesterol/HDLc, TG/HDLc, LAP, LDLox and cIMT, and a significant reduction in HDLc in adult subjects with atherosclerosis compared to control. In elderly subjects with atherosclerosis there was a significant increase in glucose, uric acid, TG, non-HDLc, cholesterol/HDLc, LDLc/HDLc, TG/HDLc, LAP, LDLox, cIMT and a significant reduction in HDLc and TAS. The prevalence of atherogenic risk factors was 55%(cholesterol/HDLc), 33%(LDLc/HDLc) and 62%(TG/HDLc) in adults with atherosclerosis and 55%(cholesterol/HDLc), 56%(LDLc/HDLc) and 55%(TG/HDLc) in atherosclerotic elderly. In adult patients, glucose, uric acid, TG, TG/HDLc, AIP, LDLox, and cIMT correlated significantly positively, while HDLc correlated significantly negatively with atherosclerosis. In elderly subjects, glucose, uric acid, TG, cholesterol/HDLc, LDLc/HDLc, TG/HDLc, AIP, LAP, LDLox and cIMT correlated significantly positively, and HDLc and TAS correlated significantly negatively with atherosclerosis.

Conclusions: Changes in metabolic parameters, in lipoproteins ratios, and in oxidative stress may be involved in the increase of cIMT and the installation of the atherosclerotic process independent of the subjects age.

ID47 Virulence Factors Produced by Escherichia Coli Isolated in Recurrent Urinary Tract Infections

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Objectives: In urinary tract infections produced by Escherichia coli, although the treatment is applied according to the antibiotic susceptibility tests, recurrent episodes may occur. The aim of this study was to evaluate other bacterial factors responsible for recurrence of urinary tract infections.

Methods: We isolated strains of Escherichia coli from urinary tract infections in patients with more than two recurrent episodes in one year treated according to the recommendations. We evaluated the production of seven soluble virulence factors: haemolysins, lipase, amylase, gelatinase, esculinase, lecithinase, caseinase. We phenotypically assessed the soluble virulence profile by spot striking on the appropriate medium and evaluate them at 24, 48 and 72 hours of incubation.

Results: We assessed the soluble virulence factors profile for 55 strains of Escherichia coli. The most frequently produced virulence factors were lipase and gelatinase (52 strains), secreted factors for which other studies have underlined their importance in translocation and bacterial persistence. Most of the strains produced caseinase (44 strains) and more than half lecithinase (30 strains) and esculinase (25 strains). The less frequent produced factor was amylase (17 strains).

Conclusions: All the strains evaluated in this study produced at least one virulence factor, most of them secreted more than three. These characteristics may explain the difficulty in treating the infections and the recurrence, although the correct antibiotherapy was followed. These results underline the importance of an extended evaluation and a personalized approach.

ID51 Pathologist-Clinician Dialogue; the Requirement for the Patient Welfare; a Difficult Ovarian Malignancy Case Report

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Aim: Malignant epithelial tumors (carcinomas) are the most common ovarian cancers and also the most lethal gynecological malignancies. Ovarian cancer is the leading cause of death among all gynaecological cancers in developed countries, with most patients presenting with advanced stage tumours, as defined by the spread of the disease outside the pelvis [International Federation of Obstetrics and Gynecology (FIGO) stage III and IV].

For a successful specific treatment, reproducible histopathological diagnosis of the tumor cell type is critical and the role of the pathologist crucial.

We present the case of a 70 years old female patient in emergency admitted with presence of an 76/49 mm ovarian tumor, peritoneal carcinomatosis and ascites on CT scan; CA 125: 180 U/ml (0-35 U/ml).

Methods: The histopathology (hematoxilin eosin standard stain) of the specimen reveals a poorly differentiated pleomorphic, anaplastic carcinoma with solid masses, papillary and pseudoglandular structures, that was not sufficient for establish ovarian origin; so we did immunohistochemical tests for supporting or excluding that assumption. We used a relevant types of antibodies as: ER , CK 7,CK 20, AE1/AE3, calretinin, WT 49, PAX 8, p53.

Results: The markers strongly positive in tumors cells were WT 49, PAX8 and AE1/AE3 results that support the diagnosis of a high grade serous ovarian carcinoma with peritoneal metastasis.

Conclusions: The complex and daily molecular and genetic information concerning the malignant pathology leads to:

The immunohistochemistry is a "must-have" nowadays in the histopathology labs;

The morphology of the tumor cells has changed and the pathologists need more methods and tools for an accurate diagnosis;

The dialogue pathologist-clinician is a necessary step, aside the other tests, in protecting the patients from the risks;

Close rapport between the pathologist and clinician is a necessary step that minimizes the errors that inevitably arise from inadequate clinical information.

ID80 The Measurement of Central Corneal Thickness Using Ultrasound Pachymetry, Topography and Scheimpflug Imaging, Optical Coherence Tomography, Specular

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Purpose: We aim to compare the Central Corneal Thickness (CCT) obtained using devices with five different technics: Ultrasound Pachymetry, Topography and Scheimpflug Imaging, Optical Coherence Tomography, Specular Microscopy, Non-Contact Tonometry.

Methods: A comparative Cross-Sectional study was performed, enrolling sixty patients chosen randomly. A comprehensive ophthalmological examination including refraction, visual acuity, IOP, biomicroscopy, ophthalmoscopy was done. Exclusion criteria were: ocular pathologies, history of ocular surgery, topographic abnormalities, recent contact lens wear, systemic condition or medication that could have impact on the corneal thickness. Five measurements were done by the same operator,for each instrument. The CCT was measured with US, AS-OCT, Topography and Scheimpflug Imaging, Optical Coherence Tomography, Specular Microscopy, Non-contact Tonometry. Ultrasound pachymetry measurements needed topical anesthetic instillation. The patients were asked to evaluate the instruments based on their experience using the Likert Scale. The results were tested statistically using ANOVA, linear regression, and Pearson correlation. Agreement among the devices was analyzed using Bland-Altman analysis with 95% limits of agreement (LoA).

Results: Means of CCT obtain were: US (554.51±29.849) OCT (548.73±31.080) TOPO (544.88±30.224) MS (564.36±32.637) Nc-TONO (538.90±35.657). Pearson Correlation for US-OCT 0.949, US-TOPO 0.971 US-MS 0.896. US-TONO 0.856. OCT-TOPO 0.942. OCT-MS 0.843. OCT-TONO 0.788. TOPO-MS0.919 TOPO-TONO 0.846 MS-TONO 0.802. Considering US as Golden Standard technic for acquiring CCT, we compared the mean differences for various corneal thickness. Classifying Very Thin <510 μm, (US-OCT-3 μm,US-TOPO 4 μm, US-MS 6 μm,US- TONO -14 μm) Thin 510-540 μm (-6 μm,US-TOPO 4 μm,US-MS 6 μm,US-TONO -14 μm), Normal 541-560 μm (US-OCT-8 μm,US-TOPO -3 μm,US-MS 21 μm,US-TONO-21 μm) Thick 561-600 μm(US-OCT-4 μm,US-TOPO-2 μm, US-MS 10 μm,US-TONO 2 μm), Very Thick >600 μm (US-OCT-10 μm, US-TOPO-6 μm, US-MS -1 μm, US- TONO -21 μm). The patients choose Topography as the most likable technic.

Conclusions: We have found a strong correlation between all five devices.

ID84 The Public Health and Management Undergraduate Curriculum Upgrade – Friend or Foe? A Qualitative Analysis of Current and Future Topics of Interest

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Curricula and syllabi of all medical disciplines are constantly updated and occasionally upgraded. Prior to an upgrade a range of evaluations take place. Consulting students is not new. Engaging with groups of students to query opinions in detail has known new developments in recent years in many European universities.

Aim: to assess and evaluate the levels of extent with which the 5th year medical student engages with the PHM curriculum content, to query opinions for new study topics and to explore the differences between the current content and future topics of interest from a student perspective.

Objectives: to assess/evaluate the degree of interest for current subjects included in the PHM curriculum; to query students' opinion on new subjects of interest; to explore and describe observed differences between current PHM curriculum topics (lecture and practical contents); to discuss new proposals.

Methodology: mixed research methodology predominantly qualitative. Eighty-six students were selected from ten series attending five PHM Modules. Meetings took place during the first semester (Oct 2019 – January 2020). Design: ten lecturer led sessions of brain writing, group brain storming and priority setting exercises. Outcome assessments: one at the beginning and one at the end of the Module. Quantitative methods: analyses of self-reported opinions (kappa-statistics) on current lecture (n=16) and practical (n=16) topics.

Results: kappa-statistics gives substantial (above 60%) or moderate (40-60%) lecture/practical concordance for Epidemiology subjects; Health Technology Assessment marked lower after 5 modules (36%) and this topic was a subject of dynamic fluctuations in opinions; Management scored from 15% at Module 3 to 35% after Module 5. Newly proposed topics are few. Strengths and limitations are discussed.

Conclusion: this is the first Discipline to carry out structured consultation sessions with students using formal qualitative research methods. Given the overall positive experience we recommend such exercises for all curricula upgrades.

ID86 Patterns of Oral and Maxillofacial Lesions in Victims of Domestic Violence: a Medico-Legal and Clinical Insight

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Objective: To identify the patterns of oral and maxillofacial injuries and their medico-legal and clinical insight in victims of domestic violence.

Materials: We performed a retrospective study based on medico-legal certificates of 500 victims of interpersonal violence who came to the National Institute of Legal Medicine during 2017-2020 and that have mentioned the traumatic context of their lesions.

Results: The 500 subjects were divided in two groups: group 1: victims of domestic violence – 188 subjects, group 2: victims of other aggressive events (except road traffic injuries): 312 subjects. From the first group, 59 subjects (31%) had oro-maxillo-facial injuries, of which 47 were women (80%) and 12 were men (20%). From the second group, 124 subjects (40%) had oro-maxillo-facial injuries, of which 25 were women (20%) and 99 were men (80%).

In the first group we found zygomatic injuries in 8% - frequently observed in women. Dental lesions were only observed in women – 5%; perioral lesions (lips, mouth and genian region) were present in 44% of the cases, with the majority in women.

In subjects from the second group, zygomatic injuries were observed in 37%, dental lesions in 14%, and perioral lesions in 77%, and all of them were mostly affecting men.

None of them needed over 90 days of medical or other consequences from the 194 article of the Penal Code. Hospitalized women accounted 24% of the subjects from the first group, and hospitalized men accounted for 48% of the second group.

Conclusion: Most cases of domestic violence affect women, even though in most traumatic events men are the victims. The topography and clinical consequences of the lesions shows some differences, but without reaching statistical significance.

ID89 Effect of Silver Nanoparticles on Multidrug Resistant Gram Negative Bacterial Strains Evaluated by Determination of Minimum Inhibitory Concentration

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Objectives: Silver nanoparticles (AgNPs) are emerging as new antimicrobial agents, since the prevalence of multidrug resistant bacteria is rising, especially for gram-negative strains. To assess the antibacterial effect of AgNPs we determined the minimum inhibitory concentrations (MIC) required to inhibit bacterial growth in vitro.

Methods: We selected 30 clinical strains of multidrug resistant gram-negative bacteria pertaining to *Escherichia coli, Klebsiella pneumoniae* and *Pseudomonas aeruginosa* species. To determine MIC in the presence of 4 types of polymer-functionalized AgNPs we used a broth microdilution method. Serial binary dilutions were performed for each type of AgNP, ranging from 0.5 mg/mL to 0.0039 mg/mL in 96-well plates. Afterwards, we added 15 microL of bacterial strain with a concentration of 0.5 McFarland in each well. After 24 hours of incubation at 37°C MIC was determined for each type of AgNP, both visually and spectrophotometrically at 620 nm.

Results: We determined the mediane, MIC50, MIC90, mode and range for each type of AgNP by species and evaluated the potency of each nanosystem. All parameters investigated were lowest for nanoparticles functionalised with ethylene glycol and polyvinylpyrrolidone (Ag@EG/PVP) for all gram-negative bacteria, with MIC being lower or equal to a concentration of 0.03125 mg/mL for 29 strains (96,67%). The investigated parameters were lower for the *Pseudomonas aeruginosa* group than for *Escherichia coli* and *Klebsiella pneumoniae* strains. In the presence of Ag@EG/PVP, MIC90 were lower than 0.0039 mg/mL for *Pseudomonas aeruginosa* species, compared with 0.03125 mg/mL for Escherichia coli strains and 0,0156 mg/mL for the Klebsiella pneumoniae group.

Conclusions: The most potent silver nanoparticle was Ag@EG/PVP proving efficient bacterial growth inhibition for all strains tested. *Pseudomonas aeruginosa* strains were most susceptible to AgNPs with lowest MIC90 values. These findings show that nanosystems could be promising antimicrobial agents for highly antibiotic-resistant bacteria, such as gram-negative strains, especially *Pseudomonas aeruginosa*.

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ID92 Transaminases Are Markers of Liver Destruction in Hypoxia

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Introduction: Hypoxia could have an effect on various organs of the body, such as the liver. The release of transaminases (ALT/AST) after induced hypoxia shows a non-specific impairment of membranous integrity and permeability. Many studies in the medical literature indicate that alanine aminotransferase (ALT) and aspartate aminotransferase (AST) alterations levels are tissue damage markers after induced hypoxia. In the liver was found the hepatocite necrosis with later necrosis of the organ. However, the degree of liver damage under hypoxic conditions depends on the duration at which deprivation is induced.

Material and methods: The study included two groups: Control group (five immature Wistar rats) and Hypoxia 6 hours group (five immature Wistar rats). We determined the serum transaminases by spectrophotometric methods. The results are expressed in U/l.

Results: The results indicate a significant increase of ALT Hypoxia 6 hours group (45.0 ±2.07) compared with ALT Control group (20.20±1,±39) and AST Hypoxia 6 hours group (91.0±1.22) compared with AST Control group (24±1.52).

Conclusion: The two transaminases (ALT/AST) vary in tandem, in the sense of significantly increasing their activity compared to the Control group. The study confirms liver damage after induction of hypoxia. Measurement of ALT and AST as parameters of hepatocellular destruction also indicates changes in cell permeability. Hepatic necrosis with subsequent sclerosis of the organ was also found in the liver. The same cellular pathological processes are detected in other parenchymal organs. Expansion of hypoxic injury can be correlated with increased serum transaminases.

ID101 New Perspectives of Claustrum Role on Anesthesia in Adult Rats

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Introduction: Claustrum is considered to be an important player in consciousness according to recent studies in humans and animals but little is known about claustrum role on anesthesia. The aim of this study was to investigate the impact of claustrum electrical stimulation (using different type of stimuli) on the anesthetic depth during isoflurane and chloral hydrate anesthesia in adult rats.

Material and methods: In this study we used two lots of five adult rats each. Electrocorticogram (ECoG) electrodes were placed on the left frontal lobe and olfactory cortex under anesthesia. A bipolar tungsten electrode was stereotaxically inserted into the left claustrum. After obtaining a stabilized slow-wave anesthesia, claustrum was electrically stimulated by applying 20 stimuli of 1 second duration each, at interstimulus interval of 10 seconds during isoflurane anesthesia and using trains of 10 stimuli of 0.1 ms duration each during chloral hydrate anesthesia. ECoG analysis using median frequency, spectral edge frequency and burst count were performed for the assessment of anesthesia depth changes during claustrum stimulation.

Results: Our results revealed that burst suppression (BS) pattern appeared on ECoG following claustrum electrical stimulation on both anesthetics. The onset of BS and its duration depend of the type of electric stimulation.

Conclusion: In this work we have shown that electrical stimulation of claustrum during slow-wave anesthesia induces the appearance of burst-suppression ECoG pattern, suggestive for a deepening of anesthesia.

ID112 Learning Health Care System in Treatment for COVID-19 Pandemic: Ethical Considerations

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Introduction: A newly identified infectious agent, SARS-CoV-2, has been the cause of the 2020's pandemic. We aim to review data concerning COVID-19 clinical studies and discuss their ethical framework.

Methods: We have chosen to discuss the scientific literature regarding the emerging pathogen SARS-CoV-2 as a „study" conducted by the research community around the world, respectively identifying the infectious agent observational studies that described the clinical characteristics of the disease, interventional studies for treatment and/or prevention through vaccination. We have reviewed data from the beginning of the pandemic to the present time, respectively when safety measures have begun to relax in Europe. World Health Organization, PubMed, ClinicalTrials.gov were searched from beginning until 12 June 2020. The search terms used in various combinations were: „chloroquine", „hydroxychloroquine", „CQ", „HCQ", „coronavirus disease-19", „COVID-19", „SARS-CoV-2".

Discussions: The ethical considerations of the evaluated studies will be discussed with the framework for the Learning Health Care System, all seven obligations are applicable for the search of treatment for COVID-19. The strongest argument against a Learning Health Care System in outbreaks would be that unethical practices will be carried out in the name of public health or emergency response efforts.

Conclusions: From the very beginning of this pandemic, information came from the medical practice and not necessarily from declared researchers so the line between practice and research became blurred. When it comes to new drugs, very few studies showed the enrollment of healthy volunteers. IRB or another form of research ethical oversight has to be provided to ensure respect for persons, scientific validity and social value with the reasonable risk-benefit ratio. We do not consider that providing only symptomatic medical care until a course of treatment had been checked and double checked on a relatively small number of patients, would have brought beneficence and social value.

ID119 Malpractice and a Future Specialization among the Students of the Faculty of Medicine

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Malpractice is the professional error committed in the exercise of the medical or medico-pharmaceutical act, generating damages on the patient, involving the civil liability of medical staff and provider of medical, sanitary and pharmaceutical products and services.

Medical personnel is civilly liable for damages caused by error, negligence, imprudence, insufficient medical knowledge or exceeding the limits of competence, through individual acts in the procedures of prevention, diagnosis or treatment (Law no. 95/2006).

Objectives: The aim of the study is to evaluate the relationship between the danger of malpractice and the choice of a future specialization that the students of the Faculty of Medicine should make. The specific objectives are: a) Assessing the level of information on malpractice among students; b) Analysis of the degree to which students are influenced by the risk of malpractice in choosing the specialization; c) Assessing students' attitudes towards the risk of malpractice associated with medical profession.

Methods: An observational descriptive study, in transversal approach was performed. Target population was represented by a sample of 693 students from the 5th academic year, with median age of 23 years for both genders, 72.9% female and 27.1% male ($p=0.0204$, Kruskal-Wallis test). Data were collected in 2018-2019 academic year based on a self-administered questionnaire, created in accordance with the proposed objectives.

Results: 48.8% of students correctly identified the definition of "malpractice", 66.8% consider surgical specialties with the highest risk and 49.2% consider medical specialties with the lowest risk of malpractice. 35.8% of respondents will change their option in choosing the specialization to find out the risk of malpractice. 16.5% of students who faced a situation in which a patient threatened a doctor with malpractice, were worried that it might happen to them.

Conclusion: 89.5% of students believe that the faculty should focus on the risk posed to health professionals by profession.

ID123 Dystonia Is a Movement Disorder with Unclear Pathophysiology that Lacks a Curative Treatment

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This study aims to characterize the electrocorticographic (ECoG) activity of the motor cortex in parallel with the evaluation of electromyographic (EMG) activity in four different conditions: active wake and quiet wake in the pre-kainate state, dystonic posture, and dystonic movement.

We inserted ECoG electrodes for the left and right motor cortices, EMG electrodes for the nuchal region, and a cannula was utilized for performing kainic acid injections on the left cerebellar lobule (0.5 $\pm$0.2 μl, 200μg/ml). The mice were videotaped, and four different behavioral epochs lasting for 30-45 s each were visually selected for analysis. The signal was processed in MATLAB for Power Spectral Density, interhemispheric coherence, corticomuscular coherence, EMG mean and median frequency, ARV and RMS parameters.

In the motor cortex, there was an increase in the spectral density power in delta and gamma bands during movements, both in active wake and dystonic movements, compared to quiet wake conditions. During dystonic postures, there was a decrease in delta and beta bands, and an increase in gamma bands of the motor cortex power spectral density, when compared to quiet wake. Another feature of dystonic postures was the increase in the mean and median EMG frequencies, compared to quiet states.

The abnormal cortical oscillations associated with dystonic postures, as well as the changes in power spectral density of motor cortex activity, observed during dystonic movements and active wake could be used as biomarkers for deep brain stimulation therapies in dystonia.

ID125 Investigating Lymph - a New Challenge and Perspective in Breast Cancer

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Background: Worldwide breast cancer represents the most common type of cancer. Mortality from this disease is declining due to new therapies, but many patients face the side effects of cancer and treatment. Most common side effect is: ipsilateral upper limb lymphedema.

Objectives: Postoperatively, the amount of drained lymph differs, as does the healing time. Although the incidence of lymphedema secondary to breast cancer after sentinel lymph node dissection / biopsy is 63.4%, there are few studies on the immune mechanisms responsible for lymphedema and healing.

The objectives of this study are: to investigate the quality and quantity of lymph, inflammatory and tumor markers pre and postoperatively, in serum and lymph, in dynamics, in order to establish correlations that allow: estimating drainage and individual healing time, improving quality of life and the discovery of therapeutic targets for the prevention of lymphedema.

Methods: Patients diagnosed preoperatively clinically and histopathologically with breast cancer, operated at the Bucharest Oncology Institute.

Mesurment of the drainage time and amount of lymph drained postoperatively. Counting the number of lymphocyte from lymph in the counting chamber. After centrifugation: reading leukocyte formula from smear sediment colored May-Grunwald Giemsa. Biochemical analysis of lymph. Testing biomarkers from lymph supernatant and serum by ELISA method.

Results: Studies demonstrate the active participation of lymphatic vessels in modulating the immune response. VEGF signaling involves a cascade of signals triggered by ligand-receptor coupling. VEGFR-3 and 2 contribute to the process of lymphoangiogenesis. The chemokine pair CCL21 / CCR7 is involved in the proliferation and metastasis of many types of tumors.

Conclusions: These results reveal that CCR7 and VEGF-C display a significant crosstalk and suggest a

novel role of the CCL21/CCR7 chemokine in the promotion of breast cancer induced lymphangiogenesis.

ID127 Distinct Variations of Interhemispheric Motor Coherence after Cerebellar Disruption

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The transfer of information between the two hemispheres is fundamental for establishing adequate functional connectivity in the brain. The communication between brain networks is highly dependent on the oscillatory neuronal activity. The objective of our study was to reveal the interhemispheric cortical coherence between the left and right motor areas when disrupting the cerebellum control over the motor networks. The experiments were performed in mice, for five consecutive days, by stereotactically applying kainic acid on top of the cerebellar vermis and recording the electrical activity (ECoG) from the left and right motor cortices. We examined the ECoG coherence between motor areas in day 1 and day 5 of the experiment, for 10 minutes before and 30 min after the perturbation of the cerebellum by the kainic acid. The correlation between the distinct areas was evaluated by examining the reciprocal relationship between their ECoG signals across frequency bands. The synchronous activation of neurons was detected to determine the similarities and the degree of functional connectivity between the brain motor networks. We found no statistical difference between the pre- and post-kainic acid states in all the recorded populations of neurons in both days 1 and 5. However, we observed different variations of coherence between the pre- and post-kainic acid states. An important increase in coherence was observed for one mouse in all frequency bands on day 1. This coherence decreased in day 5 for low-frequency bands and remained increased in high-gamma bands. Other populations of neurons remained stable during day 1 and/or showed an increase in connectivity in day 5 in low-frequency bands. In conclusion, we found different patterns of oscillatory neuronal behavior in the motor cortices, indicating a compensatory mechanism for the lack of cerebellar coordination.

ID129 Doctor-Patient Ethical Models Relationship in Legal Medicine: a Comparison

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Introduction: In Romania legal medicine suppose professional activities as forensic pathologist and legal doctor facing victims that request documenting traumatic lesions if any or sexual abuses, prejudices, working capacity, malpraxis, etc.

Objective: The objective of our work is to determine the special kind of doctor-patient relationship in clinical legal medicine and to analyze the ethical influences.

Material and methods: More than 1500 cases of medico-legal examinations are performed in the National Institute of Legal Medicine Mina Minovici in Bucharest each year. Most of them are domestic violence requestes or car accidents.

Discussions: In the late 30 years (Ezechiel JE, Linda LE, JAMA 1992) found out 4 different relationship models that may be applied in medical practice; the paternalistic model (the patient accepts his doctor as his legal and moral representative), informative model (the patient expresses his autonomy), interpretative model (the doctor is a good friend in need) and the deliberative model of selfconstruction of the knowledge that the patient must have in order to have a voluntary decission.

Conclusions: In clinical legal medicine the patient is not only a patient but a victim also. Therefore the relationship is double folded. With his patient the legal doctor develops initially an informative model, then an interpretative model. With his victim the doctor develops initially a paternalistic approach (passive character type) or an informative one (active character type), usually an interpretative model as most highly requested (What would you do if you were I?) or the deliberative model when evaluating prejudices, etc.

ID131 An Analyze of the Suicidal Phenomenon in Romania Using the Cadaveric Population in a 20 Years Series, 1998-2018: a Comparison with Data Before WW II

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Introduction: From 1998 to 2018, there was a median reduction in suicide mortality of 22.7%, ranging from a 46% reduction in Estonia to a 26.2% increase in Romania. We are trying to assess the incidence of suicide in a medico-legal population in Romania and to determine several statistical traits such as sex distribution, season distribution, methods used for suicide, etc.

Methods: Each year „Mina Minovici" National Institute of Legal Medicine from Bucharest reports centralized medico-legal data at the national scale. We performed a critical analyze of these data on a 20 years series during 1998-2018. We used several items such as total number cases, national statistical media, sex distribution, methods of suicide applied. We compared with similar data reported by the Institute before WW II.

Results: The general number of cases 2005-2018 is higher than in the previous decade 1998-2005 with a peak in 2006 and 2010. Male-female ratio is usually 3-4 fold. Hanging is by far the most frequent method used. Other data are also presented. A comparison is provided with Romania before WW II.

Discussion: If we analyze the motivation we may found out from the family that psychiatric causes and chronic alcoholism might be important causes. In rare cases were left notes usually indicate depression, familial conflicts, extra familial conflicts. Social and psychological issues are presented.

Conclusion: Suicide is a complex phenomenon, highly intricated with individual causes, social and economic causes. In Romania all suicides are forensic cases and receive a full autopsy. There was not homicide confirmed between suicide cases (diadic deaths). Incidence is higher in the last decade than before with a national regional distribution and a high prevalence of males.

ID134 Cerebellar Stimulation Through Local Kainate-Microinjection May Induce Both Dystonic Behavior and Epileptic Attacks, in Mice

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Cerebellum modulates cortical activity, especially within the motor cortex. Stimulation of the cerebellar cortex by local kainic acid administration induces motor abnormalities, varying from dystonic attacks to epileptic episodes. This work describes the behavioral and electrocorticographic (ECoG) patterns during dystonic and epileptic attacks induced by cerebellar kainic acid-injection, in mice. Mice were recorded while freely moving, both with video-monitoring and ECoG recordings of motor cortices activity, before and after kainic acid administration. At kainic acid doses of 0.09 (±0.007) μg, mice displayed dystonic behavior. An increased dose of 0.14 (±0.003) μg kainic acid induced epileptic attacks in some mice. The epileptic seizures appeared as high amplitude repetitive waves on the ECoG. There were no ECoG specific findings corresponding to dystonic behavior at visual inspection. The ECoGs were further analyzed for signal amplitude, power spectral density, and coherence between the motor cortices during dystonic and epileptic behavior. Our results support the importance of cerebellar output for the excitation-inhibition balance within the motor cortices. Recently, dystonia and epilepsy were both described as brain network diseases. As the dystonic behavior may look like epilepsy during a seizure, the ECoG pattern is a useful tool in differentiating the two motor abnormalities.

ID140 Cerebellar Kainate Application Induces Co-Activation of Agonist-Antagonist Muscles

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The neural impulse responsible for generating the movement sequence originates in the primary motor cortices. To perform a movement comprising of multiple muscle contractions, the thalamocortical loop has to be modulated by the cerebellum. Previous studies indicate that abnormal cerebellar activation via AMPA receptor agonists such as the kainic acid alters the motor modulation pathway, thus limiting the agonist-antagonist muscle inhibition. Such abnormal inhibition leads to the involuntary twisting muscle contractions which define dystonia.

This research aims to validate the kainate-induced dystonia model in rodents from an electromyographic (EMG)-based perspective by demonstrating the co-activation of antagonist muscles after kainate injection.

Male Albino mice were surgically implanted with two EMG electrodes, in the quadriceps femoris and the rectus femoris muscles, respectively. The recordings were organized in daily non-kainate and kainate sessions for two consecutive days. Each recording comprised of EMG and video reports with a length of 30 minutes each. The kainate sessions consisted of low doses of kainic acid injected through a cannula in the cerebellar vermis at a depth of 1 mm.

The results showed significant increases in the amplified rectified value (ARV) and root mean square (RMS) in the post-kainate functional state compared to baseline. These results are preliminary and may suggest an increased EMG activity in both the agonist and antagonist muscles following the kainate injection. Also, the ARV and RMS values are backed up by the analysis of the video recordings, which reveals spontaneous muscular contractions corresponding to dystonic postures.

Our work led us to conclude that the model of altering antagonist muscles inhibition by administering kainic acid in the cerebellar vermis, thus inducing dystonia, is a robust animal model that resembles to clinical settings.

ID152 Cerebellum Modulates the Neuronal Responses of the Mediodorsal Thalamus During Fear Extinction

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The extinction of the fear memory represents a process that does not erase the initial fear memory, but creates a new memory that supresses its expression. The role of the thalamus and prefrontal cortex in this form of learning is well established, but recent data indicate also the involvement of the cerebellum in emotional disorders. The objective of our study was to examine the role of the cerebellum, mediodorsal thalamus (MD), infralimbic (IL) and prelimbic (PL) cortices in the extinction of the fear memory.

We virally expressed inhibitory or excitatory DREADDs in the fastigial nucleus of the cerebellum, combined with the injection of retrograde CAV2-Cre in the MD thalamus and we examined their effects on the extinction of the fear memory (acquired using a fear conditioning paradigm) after clozapine-N-oxide (CNO) injection in mice. We also examined the cellular activity in MD-IL-PL pathway using extracellular recordings during behaviour.

Results showed that transient silencing and excitation of the fastigial nucleus projections to the MD thalamus during extinction induced increased freezing and induced two types of responses in the MD during the conditioned stimulus administration: one population of neurons decreased its firing rate, while the other increased it at the onset of the stimulus, but returned to baseline after a couple of seconds. Similar patterns of response were found in IL and PL.

We found that cerebellar projections to the MD modulate the fear extinction: activation or inhibition of the pathway supress the extinction by changing the neuronal firing pattern in the MD thalamus and prefrontal cortex (IL, PL).

ID2 Retroperitoneal Fibrosis: a Case Report

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Retroperitoneal fibrosis (RPF) is a rare disease characterized by inflammatory fibrotic processes affecting the retroperitoneal structures. To date, there are no guidelines for the diagnosis of or therapy for the disease. The presence of autoantibodies and histological similarities with vasculitis support the hypothesis of some autoimmune processes which plays a role in causing the disease. If untreated, the disease may be fatal. The diagnosis becomes easier only at a later stage, when both the ureters are affected by fibrosis with the consequent development of symptoms of urinary obstruction or renal failure. Initial therapy aims at restoring the function of the affected hollow organs through the application of (ureteric) stents, followed by immunosuppressive therapy. Life-long observation of the patients is necessary, as the disease may be chronic and relapsing. Interdisciplinary and nationwide cooperation is of crucial importance to further investigate this disease.

We describe the case of a 46yr-old patient with 5 years long history of untreated hypercholesterolemia who was admitted in the Internal Medicine Service with fever 38.6 C, oliguria, diffuse abdominal pain and de novo arterial hypertension (190/90mmHg). Diagnosis representative blood analysis were: serum urea 153.97 mg/dl, serum creatinine 13.88 mg/dl, without proteinuria, serum potassium 6.48 mmol/l. serum cholesterol 313. 24 mg/dl, acid uric 10.57 mg/dl, hematocrit 29.50%, hemoglobin 9,2 g/dl , white cells 7,40 / mm3, erythrocyte sedimentation rate (ESR) 63mm/1 h, C-reactive protein (CRP) 103.6 mg/l .Sonography reported a bilateral ureteral hydronephrosis (right stage III and left stage II) with proximal hydroureter and, abdominal-pelvic scan showed a periaortic retroperitoneal mass which included both ureters and appeared to trigger the obstruction. Into the Urology Service a right percutaneous nephrostomy tube was inserted as an emergency and it was implanted a bilateral «double J» catheter, while diagnostic laparoscopic biopsy was perfected into the surgery service The biopsy and immunohistochemical staining showed a specific type of retroperitoneal fibrosis .Due to the failure of the previous measures and as a last therapeutic recourse when one year had passed from the diagnosis, a continuous regimen with prednisone in dose of 40 mg/day initially from 3 month and after 5-7,5mg/day since 12 months was started, which began a progressive remission in the size of the observed mass by scan (CT) and magnetic resonance (MR). The treatment was completed with high dose of statins Atorvastatin 80 mg/day during 12 months and, in this time, the levels of blood cholesterol, urea nitrogen and creatinine were reduced gradually too. Finally, at the end of the treatment with Atorvastatin and Prednisone and no more immunosuppressive treatment, the magnetic resonance demonstrates the complete disappearance of the fibrosis and one question enforces: is retroperitoneal fibrosis a consequence of a local autoimmune reaction against atherosclerotic plaque antigens?

ID10 Global Longitudinal Strain and Mechanical Dispersion in Relation to EKG Repolarization Parameters and Myocardial Injury Markers in Patients on Antiand

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Purpose: To evaluate the cardiac effects of the androgen deprivation therapy (ADT) and subsequent hypogonadism in patients (pts) with advanced prostate cancer

Method: We included 31 pts 69.7 ± 7.3 years old in sinus rhythm and stable cardiac condition under ADT. We assessed before (M0) and after 6 months of treatment (M1): echocardiography: left ventricular ejection fraction (LVEF), global longitudinal strain (GLS), mechanical dispersion using standard deviation (SD) of time intervals (MDSD) and the difference between the longest and shortest time to peak strain intervals (MDdelta); ECG: QTc interval corrected (Fridericia formula), mean and max Tpe interval, mean and max Tpe/QT ratio; 24 hours Holter ECG: bigeminy, trigeminy, couplets or unsustained ventricular tachycardia; high sensitivity troponine I (hs-cTnI), N-terminal pro-brain natriuretic peptide (NTproBNP). We used STATISICA 8.0.

Results: Between M0 and M1 we noted: statistically significant reduction of GLS (-16.93 ±3.89 at M0, -14.43 ± 3.57 at M1, p=0.0002), prolongation of MDSD (77.39±21.43 ms at M0, 89.09 ± 26.99 ms at M1, p=0.004), MDdelta (225.32 ± 78.29 ms at M0, 259.92 ± 108.37 ms, p=0.02) QTc, (458.8±43.41ms at M0, 485.59±45.08 ms, at M1, p=0.01), max Tpe/QT (0.246 ±0.04 at M0, 0.268±0.04 at M1, p=0.01), max Tpe (105.4±23.2 ms at M0, 119.5±26.4 at M1, p=0.01), mean Tpe (83.3±16.8 ms at M0, 90.7±19.3 ms,p=0.02), elevation of hs-cTnI (4.64±5.37 ng/mL at M0, 5.4 ±6.35 ng/mL at M1, p=0.01). NTproBNP and

LVEF had no significant changes. 3 (10%) patients presented an aggravation from non-complex to complex ventricular premature beats between M0 and M1. All pts had low serum testosterone level at M1.

Conclusions: ADT and subsequent hypogonadism induce in the first months of therapy alteration of GLS, mechanical dispersion, QTc, max and meanTpe, max Tpe/QT and elevation of hs-cTnI without clinical consequences during this period.

ID19 Drug Induced Extrapyramidal Syndromes - a Study on 34 Cases

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Objectives: Drug induced exptrpyramidal syndroms can appear often, especially in patients treated with antipsychotics, antiepileptics, antiarrythmics, antidepressives, antiemetics, antiasthmatics. This syndroms are often underdiagnosed or misdiagnosed. We should consider them before thinking at a severe neurological disease.

Methods: We realised a prospective study on 34 patients, 10 women and 24 men, aged 18-83 years, who were evaluated using a specially created questionnaire and scale, a clinical neurological examination and if needed a brain imaging, as they developed extrapyramidal signs and symptoms like parkinsonian syndrome, tremor, dystonia, neuroleptic malignant syndrome, tardive dyskinesia and akathisia. The mentioned extrapyramidal syndroms in our patients were induced by the following drugs: Zuclopentixol, Sertralinum, Rivastigminum, Risperidone, Olanzapine, Metoclopramide, Levetiracetam, Haloperidol, Escitalopram, Clozapine, Aripiprazol, Amiodarone, Valproic acid, Amitriptiline.

Results: Every decade was affected, but in our study most of the patients, 29%, were in the decade 20-29 years, followed by 15% 30-39 years and 70-79 years. For the young patients signs and symptoms appeared in most of the cases in the first 10 days of treatment. Sex ratio men:women 2,4:1. Haloperidol, Risperidone and Sertralinum were the drugs which asociated more frequently extrapyramidal syndroms in our study. Parkinsonian syndrome was seen in 12 cases, tremor in 10, neuroleptic malignant syndrome in 7, dystonia in 3, tardive dyskinesia in 1and akathisia in 1 patient. Only one patient had a family history of extrapyramidal disease (tics). They received symptomatic therapy and the drug which induced the extrapyramidal syndrome was stopped and replaced with another drug.

Conclusion: When prescribing a drug, the possible adverse effects like drug induced extrapyramidal syndromes should be considered. The patient should be strictly monitored at the beginning of a new treatment and also in time, as some signs and symptoms may develop later and can be a pitfall, suggesting a false neurological diagnosis.

ID34 Multidisciplinary Approach in a Patient with Tophaceous Gout, Psoriasis and Severe Cardio-Cerebrovascular Complications

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Gout is a risk factor for multiple pathologies including cardiovascular disease, being the equivalent of diabetes on vascular pathology.

An increased prevalence of psoriasis has been observed in patients with gout, especially between 41 and 50 years.

A nationwide study found 1.83 the standardized incidence ratio for hemorrhagic stroke after 1-5 years of evolution in psoriasis.

A 48-year-old male was referred to neurorehabilitation, in subacute stage after resolution of capsulothalamic hemorrhagic stroke. Medical history: heavy smoker for over three decades, longstanding gout arthropathy (since 1988, treated with colchicine and allopurinol), psoriasis (since 2015). Subsequently he developed moderate kidney disease, and arterial hypertension.

Local physical examination revealed inflammatory arthritis, multiarticular tophaceous deposits at the right medius and elbow, bilaterally at the metatarsophalangeal joint, and a calcaneal ulcerated tophus that exuded creamy granular material. Patches of psoriatic lesions were noticed mainly on the lower limbs.

Neurological examination depicted a depressive subject, with left hemiplegia, hemihypoesthesia and homonymous hemianopsia.

Laboratory testing: uric acid 9.1mg/dl, ESR 70 mm/h, WBC 4.8x103/µl, neurophils 42.5%, plasma fibrinogen 586 mg/dl, C-reactive protein 12.1 mg/l, serum creatinine 1.69 mg/dl (glomerular filtration rate 55.19 ml/min per 1,73 m2), cholesterol 164 mg/dl, triglyceride 112 mg/dl, glycemia 95 mg/dl, and moderate hepatocytolysis (ALT/GPT 57; AST/GOT 30, and GGT 87 U/dl).

He received a complex rehabilitative program: diet and the metabolic medication, neurotrophic factors, antidepressants, antihypertensives, kinetotherapy.

The calcaneal ulcerated tophus was healed with local antibiotics and calcium alginate dressing. At discharge he had a moderate disability (mRS 3), being able to walk with a tetrapod stick.

Multidisciplinary approach represents the gold standard of management for this patient with multiple comorbidities and severe complications (chronic tobacco poisoning, gout, psoriasis, high blood pressure and stroke) to reduce disability and dependency in daily activities and to improve quality of his life.

ID35 Prevention of Vertical Transmission of SARS-CoV-2 at Birth

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Objective: COVID-19 is determined by SARS-CoV-2 and is declared by WHO as the current pandemic. In pregnant women this disease increases the risk of complications such as severe pneumonia or premature birth. Because the disease is highly transmissible it is essential to recognize the symptoms. Our objective was to describe the symptoms in pregnant women infected with SARS-CoV-2.

Method: We analyzed seven pregnant women infected with SARS-CoV-2 who gave birth at Ploiesti Hospital during 30th of June and 5th of August 2020.

Results: The age of pregnancy was 38 weeks. The most frequent SARS-CoV-2 encountered symptoms were: fever (14.28%, 1/7) and cough (28.57%, 2/7).

57.2% (4/7) patients did not present symptoms. There were no maternal deaths. From the seven patients, one gave birth premature, four presented rupture membrane at hospital admission.

The majority gave birth by C-section, 71.42% (5/7).

The Apgar score was APGAR 8 for three new-born and APGAR 9 for the rest. The new-born were tested for SARS-CoV-2 and turned out negative. The following prevention measures were implied: the new-born were fed with artificial milk; there was no contact with the infected mothers, no delayed clamping of umbilical cord, no skin to skin contact. Also early isolation, oxygen therapy, avoidance of fluid overload, antibiotic therapy, RT-PCR identification of SARS-Co-V-2, fetal monitoring and individualized birth planning approach based on multidisciplinary team were performed.

Conclusions: The women infected with SARS-Co-V 2 had a good evolution, vertical transmission of the virus did not occur, measures to prevent vertical transmission were applied. Appling C-section as a method of birth did not influence vertical transmission. There is no evidence if is necessary to anticipate the time of birth. We believe it is recommended to individualize each case according to the experience of the obstetrician and the severity of the maternal infection.

ID37 Body Size and Right Heart Chamber Volumes Are the Main Determinants of Tricuspid Annulus Geometry in Healthy Volunteers. A 3D Echo Study

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Background: Tricuspid annulus (TA) sizing is essential to refer patients for percutaneous and surgical procedures. Current guidelines recommend to assess the size of TA using linear dimension obtained by 2D echocardiography (2DE). However, the TA is a complex 3D structure.

Aim: To identify the physiological determinants of TA geometry parameters and their reference values using 3D echocardiography (3DE) and a novel, commercially-available, dedicated software package in healthy volunteers.

Methods: 254 healthy volunteers (113 men, mean age 47±11 years) were enrolled and evaluated using both 2D and 3DE. TA analysis by 3DE was feasible in 228 of them (feasibility=90%). TA 3DE area, perimeter, diameters, sfericity index and co-aptation were assessed at mid-systole using a dedicated software package (Figure, 4D AutoTVQ, GE Healthcare, Horten, N). Right atrial (RA) and ventricular (RV) volumes were measured using 3DE.

Results: Normal values of 3D TA geometry parameters, RV and RA volumes are presented in table. 3D TA area, perimeter and diameters correlated with BSA ($r=0.33$ to $r=0.5$, $p<0.001$) and were significantly larger in men than in women, independently of BSA ($p<0.0001$). Conversely, there were no age-related changes in TA parameters ($r<0.25$, $p=0.0001$). 2D TA diameters measured in apical 4-chamber (4ch) and RV focused views were significantly smaller than the corresponding 3DE apical 4ch diameter (16±2 and 16±3 vs 17±3, respectively, $p<0.0001$). RA maximal volumes had the strongest correlation with 3D TA area ($r=0.65$), compared with RV end-diastolic ($r=0.55$) and end-systolic ($r=0.51$) volumes ($p<0.0001$). At multivariable linear regression analysis, RA maximal volume, sex and BSA, but not RV volumes, were independent predictors of 3D TA area ($R2=0.46$, $p<0.0001$).

Conclusions: Reference values for TA metrics should be sex-specific and indexed to BSA. 2DE underestimates actual TA dimensions. Even if both RA and RV volumes correlate significantly with TA area, only RA maximum volume was an independent predictor of its size at mid-systole in our study.

ID44 Complete Spontaneous Recanalization Following Bilateral Internal Carotid Artery Dissection with Right Internal Carotid Artery Occlusion

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Objectives: Carotid artery dissections (CADs) undergo recanalization (61% of the cases) in 3-12 months after symptoms onset, the mean time to complete recanalization being of 11.2 months.

This case was chosen to be presented due to its particularities regarding the clinical course and management.

Method: Case report of a 54-year-old male with medical history of arterial hypertension and cervical traumatic injuries who was referred to our Neurology Department for further investigations regarding a potential bilateral internal carotid artery (ICA) dissection.

Results: The patient presented to a day clinic for intense headache and blurry vision. Cerebral computed tomography (CT) and CT angiography (CTA) scans were performed. The latter revealed hemodynamically significant narrowing of both ICAs associated with bilateral intramural hematomas (right C1-C5 and left C1-C2 segments).

Our neurological examination established the presence of left-sided Horner's syndrome.

Few days later the cervical-cerebral arteries ultrasonography showed an occluded right ICA with dissection fold and thrombosis as well as low diastolic velocities in the left ICA.

The cerebral MRI scan was normal but the cervical region MRI scan pinpointed semilunar-shaped T2-weighted hyperintensity (even in DWI-sequences) in the C1-C5 right ICA and left ICA C1-C2 segments (suggestive for intramural hematomas).

The patient was diagnosed with bilateral ICA dissection and treated with antiplatelet therapy for primary prevention of ischaemic events.

The follow-up at 7 months revealed by means of CTA complete recanalization of both ICAs.

Conclusions: This case report highlights conservative management of extracranial CADs being an effective option in the light of their high rate of recanalization.

ID45 Ocrelizumab Treatment in Patients with Multiple Sclerosis: an Unicentric Experience

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Objectives: Ocrelizumab is a humanized monoclonal antibody that was recently approved by the European Medicines Agency (EMA) for the treatment of adults with relapsing-remitting (RRMS) or primary progressive multiple sclerosis (PPMS).

The aim of this case series is to present the demographic, clinical, paraclinical and disease course features of MS patients treated with Ocrelizumab in our clinic.

Method: Case series of 10 patients admitted to our Department of Neurology during 2018-2020. All patients were diagnosed with RRMS or PPMS based on the 2017 reviewed McDonald diagnostic criteria. They received treatment with Ocrelizumab as to the EMA approved drug leaflets.

Results: Five patients were male and five female, mean age being 33 y.o. (21-40). At their first presentation in our clinic nine patients had RRMS and one patient PPMS. The EDSS score varied between 1 and 6.5 points, nine patients scoring the same before and after Ocrelizumab administration (three patients – 1 point, two – 6 points and five – 2 points, 4 points, 4.5 points, 5 points and 6.5 points respectively). Only one patient scored less after Ocrelizumab treatment. All patients had supratentorial lesions on the cerebral-spinal MRI scans, seven had infratentorial lesions and five had spinal cord lesions. 9% of the patients had received no disease-modifying treatment before Ocrelizumab, 9% had received teriflunomide, 46% beta-interferon and 27% glatiramer acetate. The time between diagnosis and Ocrelizumab therapy was between 9 and 192 months (mean being 50.9 months). Up to this date one patient received three doses of Ocrelizumab, seven patients received two and one patient only one dose. The patients had no relapses or further neurological deterioration during Ocrelizumab treatment.

Conclusions: Our unicentric experience highlights Ocrelizumab as being efficient and safe in reducing the number of relapses and neurological worsening in patients with RRMS and PPMS that were carefully selected through extensive screening.

ID55 Metabolic Changes in Very Old People

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The aim of the study is to highlight the dynamics of metabolic parameters, to calculate the prevalence of atherogenic risk factors and the correlation of metabolic parameters with age in very old people.

Material and methods: We investigated 110 patients, grouped according to age: a) between 80 and 84 years (control); b) between 85 and 89 years and c) over 90 years. Serum metabolic parameters were evaluated: glucose, creatinine, urea, uric acid, total cholesterol (CT), HDL-cholesterol, non-HDL-cholesterol, LDL-cholesterol, triglycerides (TG), aspartate aminotransferase (AST), alanine aminotransferase (ALT), total protein. Were calculated: ratios CT/HDLc, LDLc/HDLc, non-HDLc/HDLc, TG/HDLc; prevalence of atherogenic risk factors and correlation of metabolic parameters with the age of the subjects.

Results: The very old people aged 85-89 years showed a significant reduction in CT ($p < 0.001$), LDLc ($p < 0.001$), non-HDLc ($p < 0.001$), triglycerides ($p < 0.034$), CT/HDLc ($p < 0.046$), LDLc/HDLC ($p < 0.005$) and non-HDLc/HDLc ($p < 0.046$) compared to subjects aged 80-85 years. Subjects over 90 years showed a significant increase in creatinine ($p < 0.02$) compared to subjects aged 80-85 years and 85-89 years. They had a significant decrease in CT ($p < 0.009$), LDLc($p < 0.01$), non-HDLc ($p < 0.019$), triglycerides ($P < 0.011$), AST and ALT ($p < 0.01$) compared to 80-85 year olds. Significant reductions were in non-HDLc($p < 0.038$), AST and ALT ($p < 0.01$) compared to 85-89 year olds. The prevalence of atherogenic risk factors decreases with increasing age of the subjects. The elderly aged 85-89 have the lowest prevalence of CT/HDLc (10.52%), LDLc/HDLc (5.26%) and TG/HDLc (2.04%). Significantly positive correlations of serum creatinine and urea and significant negative correlations of CT, LDLc, non-HDLc, CT/HDLc, AST and ALT with the age of the subjects were evidenced.

Conclusions: Metabolic parameters undergo significant changes in very old subjects. Reduction of transaminase activities, and some lipid parameters, within the reference range considered normal, in subjects over 85 years may illustrate an apparently healthy aging due to a healthy lifestyle adoption and/or adherence to an appropriate medication strategy.

ID56 The Complex Geriatric Evaluation – a Method for Diagnosis and Interventions in Severe Deconditioning Syndrome – Case Presentation

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Introduction: An 81 years old patient, smoker, having multiple cardio-vascular risk factors, is hospitalized for worsening of the general state, experiencing severe loss of weight (20 kg in the last year), chest pain of medium intensity and rest dyspnea for about 1 month, with physical and functional deconditioning.

Methods: Physical examination: cachexia, HR=67/min, regular, BP=120/70mmHg, weak dorsalis pedis pulses, RR=18/min., SpO2=70%, abolished vezicular murmur in 2/3 inf.right hemithorax; nocturia, good temporo-spatial orientation, depression, irrascibility; walking with difficulty/needs support.

Results: Electrocardiogram: NSR, HR=67/min, QRS axis=+150Ţ, Q waves in V1-V4, negative T waves in inferior and anteroseptal territories. Laboratory: polyglobulia (HGB=19.20g/dl; HCT=58.7%), GFR=56mL/min/1.73m2, PSA=5.5ng/ml. Chest X-ray: opacity of 2/3 right hemithorax of liquid intensity, cardiomegaly.

Thoracic CT scan/native: right pleural effusion, RIL collapse, bilateral diffuse emphysema, alveolar condensation,spiculated lesions in the left pulmonary basis, mediastinal adenopathia, degenerative bone changes, calcification of aorta and carotid artery walls. Thoracentesis: 800ml. pleural fluid evacuated, complicated by right hydropneumothorax after 3 days. Pleural fluid examination Microbiological: lymphocites (~98%); no microbial flora; no visible acid-fast stain organisms; Cell pathology rare mezotelial cells, isolated and in small groups; relatively frequent red cells; relatively rare lymphocites; Biochemical examination: proteins around 500 mg/dl; red cells: 300/microlitre; glucose 50 mg/dl.; ph=9; no white cells.

Abdominopelvic ultrasound: enlarged prostate; 5.12/4.5/5.3cm, volume=80cm^3, hypodense images, calcifications about 4mm, intense peripheral vascularization. Carotid artery ultrasound: bilateral carotid atherosclerosis, permeable right ICA stent; jugular veins of increased caliber.

Nutritional status: BMI=17kg/m^2, MNA=7.1/28 points (malnutrition); Geronto-psychological examination: MMSE=24/30points, GDS=13/15points (depression); Functional capacity: ADL=3/6points, IADL=3/8points, ECOG=3points, GAFS=40/100poins (limited self-care, needs special care and help).

Conclusions: A complex geriatric evaluation is necessary for the management of an elderly with associated diseases (cardiovascular, respiratory, urology, depression), malnutrition and a severe functional deconditioning syndrome, both for diagnosis and for the use of the most appropriate interventions.

ID59 The Role of Microbiota Modulation in the Allergic Asthmatic Children

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Introduction: Asthma represents a chronic respiratory inflammatory disease with a growing incidence in the last decade affecting one in ten children in westernized countries. Recent studies suggest that allergic asthma and other allergic diseases are related to an abnormal maturation of the intestinal microbiome of children. The development of the microbiome can be influenced by many factors, such as the mode of delivery, breast feeding or formula feeding, close contact with large animals or the number of siblings, especially older siblings.

Objectives: The aim of our study is to identify factors that can modify the child's microbiome and, subsequently, lead to allergic asthma or other allergies in these patients.

Methods: We realized a retrospective, observational, cohort study by reviewing the case records of 114 patients diagnosed with allergic asthma from the Department of Pediatrics at Marie Curie Emergency Children`s Hospital Bucharest since January 2017 until May 2020. The variables included were gender, age, mode of delivery, type of feeding, existence of older siblings and the presence of other allergies.

Results: Of these children, 60% were boys, 62% were delivered by C-section, 56% were breast-fed, 38% had older siblings and 29% had other allergies. The mean age was 6.66 and the mode 4. From those delivered by C-section 52.2% were breast-fed and 16% formula-fed. From those with vaginal delivery 62.8% were breast-fed and 16.28% formula-fed. Our data shows that the patients delivered by C-section were more predisposed to other allergies (36.23%) than those with vaginal delivery (18.6%). The patients with the smallest risk of other allergies were those with vaginal delivery and breast fed.

Conclusions: The inadequate maturation of the gut microbiome caused by C-section delivery or formula feeding can play a role in developing allergic asthma or other allergic illnesses.

ID60 Challenges of the Rehabilitation Program for a Patient with Cervical Pain after Right Maxillary Sinus Tumor Resection

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Objectives: The rehabilitation program particularities of a patient with oncological pathological history are represented by the patient's age, the type of tumor and its level of invasion, the type of surgery performed. The main objectives of the rehabilitation program are the improvement in functionality, increasing the quality of life and social reintegration.

Method: The subject is a 41-year-old patient with high intensity mixed pain in the cervical spine and right scapular belt and chronic postoperative pain following a tumor resection in the right maxillary sinus (2015) concerning the Vth mandibular branch nerve and reconstruction with osteosynthesis material. The patient also complains of swallowing disorders begun in May 2019, resulting in weight loss (17 kg in 3-4 months), followed by a gastrostomy. The right hemicrania (the innervation territory of the trigeminal nerve) is slightly relieved by morphine administration. Clinically, the patient presents: dysphagia for solids, right peripheral paresis, right eyelid ptosis, partial edentation (right maxillary branch), right superficial hemihypoaesthesia; dextroscoliosis and an antalgic position consisting of the lateral deviation of the head on the right side accompanied by the ascension of the right shoulder and a paravertebral muscle contracture on the right side.

Results: The rehabilitation program performed consisted of physical therapy, therapeutic massage, TECAR therapy and psychological counseling. To relieve neck pain and contractures, the patient performed stretching techniques on the upper, middle and lower trapezius and neck muscles, improving the neck, cervical spine and scapular belt range of motion.

Conclusions: The rehabilitation program in oncology includes useful elements in terms of analgesia and functional improvement and plays a key role in maintaining and improving range of motion, muscle contractions and finally, the quality of life.

ID62 Challenges in Elderly Rehabilitation with Knee Replacement

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Objectives: Fall injuries represent a challenge in elders' pathology requiring a custom rehabilitation program with a multidisciplinary approach with the following targets: improvement of painful symptoms, comorbidities treatment, prevention of complications, improvement of functional status, which may increase the quality of life and social reintegration.

Material and method: A non-smoking 80years-old woman from the urban region, known with thyroidectomy, permanent pacemaker, high blood pressure, left plateau and pilon fracture caused by falling trauma, consolidated with screw plate (2018), without clinical and functional improvement has suffered a total knee replacement (July 2020). She started the rehabilitation program just after the surgical intervention accusing low intensity mechanical pain of the left knee and ankle, with functional limitation at the same level and medium intensity low back pain. Clinically, the patient's knee has slight signs of local inflammation, with a range of motion of 82° flexion and -15° extension, a 3/5 muscular force on quadriceps and hamstrings muscles; absence of the left ankle dorsal flexion and movement control; gait is performed with assistive devices.

Results: In order to achieve the rehabilitation goals after a complete physical and paraclinical assessment, the patient was administered pain relief medication and performed a personalized rehabilitation program with electrostimulation, TENS, LASER and kinetotherapy.

Conclusion: The proper rehabilitation program offered significant improvement of the functionality and quality of life, despite the patient's age and her comorbidities. The complication caused by the paralysis of the external popliteal sciatic nerve represented a real challenge.

ID63 Symmetric Dimethylarginine (SDMA) – a Potential Biomarker of Oxidative Stress in Lichen Planus

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Background: Under oxidative stress conditions proteins suffer post-translational modifications. Symmetric dimethylarginine (SDMA) is produced intracellularly through post-translational modifications of arginine. For a long time, SDMA was considered an inactive compound, however recent studies have revealed its involvement in various physiological and pathological events such as cell apoptosis, inflammation and oxidative stress. In addition, recent research suggests the role of oxidative stress in the pathogenesis of lichen planus. The aim of our study was to evaluate the role of SDMA in patients with lichen planus.

Material and method: We have enrolled 31 patients with lichen planus and 26 healthy subjects. The serum levels of SDMA were determined by competitive ELISA method.

Results: We have found statistically significantly higher serum levels of SDMA in patients with lichen planus compared to healthy subjects (0.84 ± 0.19 μmol/L vs. 0.50 ± 0.06 μmol/L, $p<0.01$).

Conclusion: SDMA may represent a potential biomarker of oxidative stress in patients with lichen planus. To the best of our knowledge this is the first study which has investigated the serum levels of SDMA in lichen planus.

ID64 Thiol Disulfide Homeostasis in Patients with Warts

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Background: The pathogenesis of HPV infection is complex and recent studies have revealed the role of oxidative stress. An important consequence of oxidative stress is the imbalance between thiols and disulfides. Altered thiol disulfide homeostasis has been observed in several cutaneous diseases. The aim of our study was to investigate markers of thiol disulfide homeostasis in patients with warts.

Material and method: We included in the study 26 patients with palmoplantar warts and 28 healthy subjects. The markers of thiol disulfide homeostasis that we determined were total thiol (TT), native thiol (NT), disulfides (DS), disulfide / native thiol ratio (DS / NT) and disulfide / total thiol ratio (DS / TT). The serum levels of the investigated markers were measured using a spectrophotometric method recently developed by Erel and Neselioglu.

Results: We determined higher serum levels of NT (401.23 ± 10.18 μmol/L vs 399.85 ± 7.03 μmol/L, p> 0.05), TT (444.34 ± 8.63 μmol/L vs 438.67 ± 7.35 μmol/L, p <0.05) and DS (21.55 ± 1.28 μmol/L vs 19.41 ± 0.93 μmol/L, p < 0.01) in patients with palmoplantar warts compared to the control group. In addition, the values of DS / NT ratio (5.38 ± 0.42 vs 4.85 ± 0.24, p <0.01) and DS / TT ratio (4.85 ± 0.34 vs 4.42 ± 0.20, p <0.01) were higher in patients with palmoplantar warts compared to the control group.

Conclusion: Our results show that thiol disulfide homeostasis is altered in patients with warts, suggesting an imbalance between oxidants and antioxidants. Thus, in the case of these patients, antioxidant therapies could be useful.

ID66 Nurse's Role in the Diagnosis, Care and Treatment of Cervical Dysplasia of HPV Etiology

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Objectives: Cervical dysplasia of HPV etiology is a common pathology in the female population which can be prevented and treated if diagnosed in time. The aim of this study is to highlight the major role of the nurse in the diagnosis, care and treatment of these patients with dysplastic cervical lesions in whom HPV co-infection has become chronic.

Methods: We designed a prospective case-control study and collected data from the clinic's records for 49 female patients with HPV infection and cervical lesions who presented to the clinic for thorough investigation and treatment. We evaluated age, environment, number of pregnancies, contraception, smoking, clinical presentation, dysplastic lesion type and number and types of HPV viral strains.

Results: The highest incidence of cases with HPV viral infection is observed after the age of 30 years; in the 30-35 age-group were 15 cases of CIN 2 dysplastic lesions of HPV etiology. 39 cases are from urban areas. Depending on the number of pregnancies, multiparous patients had an increased risk of HPV infection and dysplastic lesions. Oral contraception has proven to be the most frequently used method by these patients, which reveals a decrease in local immunity through estrogen content and HPV infection. Smoking is the dominant risk factor in HPV infection, in 38 patients being smokers. The most common clinical signs were: leukorrhea, bleeding on contact and pelvic pain. HPV 16+ strain (high-risk) was responsible for most of the dysplastic lesions.

Conclusions: Cervical lesions of HPV etiology are frequent in gynecological departments, which underlines the important role of the medical nurse in promoting HPV vaccination for girls and adolescents with annual cytological screening; improving health education through information and training on the risks to which they are exposed; smoking cessation; condom use and avoiding multiple sexual partners; healthy eating and active lifestyle.

ID67 Knowledge, Attitudes and Practices of Parents Whose Children Enter the First Time in Communities

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Objectives: Hepatitis A is an extremely common infectious disease, with a potentially severe outcome, which occurs frequently in unvaccinated children from communities with inappropriate hygiene rules. The aim of this paper is to establish the level of general knowledge, attitudes and practices regarding hepatitis A virus (HAV) infection and HAV vaccine of parents who have children in communities.

Methods: A questionnaire was applied to 64 couples of parents with children aged 3-8 years. The questionnaire is structured in two sections; one focused on general data and the other on information about HAV and the HAV vaccine, and was applied in two kindergartens and a pediatric hospital in the urban area, Comarnic and Sinaia, Prahova county.

Results: The interviewed couples have as main source of information the family doctor (89.06%), understand the importance of frequent hand washing as a means of prevention (96.75%) and acknowledge the existence of the HAV vaccine knowing the existence of a vaccination scheme (87.5%). However, there were 5 couples (7.81%) who have not heard of the HAV vaccine. Most mothers know the mean of transmission for HAV, the main symptoms such as asthenia, nausea and vomiting and understand the importance of preventing HAV. However, only 35.93% had the correct knowledge about the vaccination schedule and the protective titre of anti-HAV antibodies. Moreover, only 21.87% had vaccinated their children against HAV. Among the reasons for not vaccinating are the fear of side effects, distrust regarding vaccination and the use of "natural" alternatives methods to prevent hepatitis A.

Conclusions: Couples with preschool or school children need medical education to better understand the importance of hepatitis A vaccination. Therefore, free courses with access to as many people as possible can help the population to enrich and improve current information on HAV infection, but also on other infections in children.

ID70 The Usefulness of Hepatic Steatosis Markers in Patients with Type 2 Diabetes

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Introduction: The prevalence of diabetes mellitus in 2019 was 9.3% (463 million people) of the entire world population. International Diabetes Federation estimates that by 2045 approximately 700 million people will be diagnosed with diabetes. In addition to cardiovascular, renal and ophthalmic complications, people with diabetes may also have impaired liver function. Hepatogenous diabetes, liver disease occurring coincidentally with diabetes and non-alcoholic fatty liver have been described as the most common liver condition associated with diabetes.

The aim of this study is to evaluate common laboratory tests (evidence of liver damage on a background of subclinical inflammation determined by impaired carbohydrate metabolism) in patients with T2DM who were assessed in the outpatient clinic.

Method: After obtaining their informed consent, 40 patients with type 2 diabetes mellitus have been enlisted (the study group) with an additional 20 non-diabetic patients without glucoregulatory disorders. The variables used in the study were represented by clinical data and biological parameters (age, body mass index, waist circumference, data from complete blood count- red cell count, RBC indices, platelet count; level of AST, ALT, GGT, blood glucose level, triglycerides, serum albumin, ESR). We also took into consideration predictive steatosis biomarkers such as Fatty liver index-FLI, TyG index, Hepatic Steatosis index-HSI and ALD/NAFLD Index-ANI.

Results: In the study group we observed a correlation between inadequate glycemic control and predictive markers of liver damage, the prevalence of NAFLS being significantly higher along with the increased levels of triglycerides and transaminases.

Conclusions: All the markers used represent simple and effective ways to assess the risk of liver steatosis and insulin resistance. By using them we can manage the screening for hepatic malfunctioning diabetic patients and to choose those who need further investigations through imagistic methods.

Acknowledgement: The work is carried out within the Medical Research education project.

ID73 Rehabilitation Management of a Patient with Neglected Rheumatoid Arthritis after Surgery for Dorso-Lumbar Scoliosis and L3 Lateral Listhesis

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Objectives: Although many patients with rheumatoid arthritis (RA) experience low back pain (LBP), the characteristics of lumbar spine pathology in RA patients has been less investigated compared to the cervical segment. The cause of LBP can be misdiagnosed especially if the patient presents additional structural change of the spinal column, such as scoliosis or segmental instability, which may require surgical treatment. A study concluded that "long spinal fusion in patients with RA is associated with higher rates of major complications and secondary procedures than in patients without RA"*.

Materials and methods: A 67 years old patience known with therapeutically neglected RA, cardiovascular disease, axial and peripheral degenerative pathology, lumbar spine stenosis (L3-L5), surgical interventions for L3-L4 herniated disk (2017), L3 laterolisthesis and dorso-lombar scoliosis (2020) is admitted in our department for persistent and intense lumbar and right hip pain with moderate functional impairment. Clinical examination shows "S" shaped dorso-lombar scoliosis, limited mobility on all axes of movement of the lumbar segment, bilateral algo-paresthetic syndrome in L5-S1 territory, marked limitation of abduction and external rotation of the right hip, with a modified walking pattern. Paraclinical investigations revealed important inflammatory syndrome, osteoporosis, important structural changes of the dorso-lumbar spine.

Results: The rehabilitation program consists of physiotherapy, therapeutic massage, ultrasound, LASER therapy, antialgic electrostimulation to combat pain syndrome, and reduce inflammation. The patient was referred to the rheumatology department for further investigations and proper therapeutic management.

Conclusion: Bone fragility and static changes due to the long duration and poor control of disease activity is possibly related to its progression. The characteristics of LBP in RA patients differ from those of degenerative causes. The causes of LBP must be established before initiating any type of treatment for a more efficient approach, taking into account the particularities of each case for favorable outcome.

ID76 Chromogranin A Values in Non-Functional Adrenocortical Tumors

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Objectives: Non-functional adrenocortical tumors present an increased prevalence in the population. Their imagistic localization is very easy nowadays, but biochemical evaluation includes a complete hormonal profile, as well as the measurement of new biomarkers, such as chromogranin A.

Methods: The purpose of the study was to study clinical particularities in a group of patients with non-functional adrenocortical tumors compared to a group of healthy volunteers. We analyzed statistical correlations using IBM SPSS Statistics 20 between a study group of 38 patients diagnosed with non-functional adrenocortical tumors and a control group of 36 healthy volunteers without adrenal pathology.

Results: The mean chromogranin A value in the study group was 74±22.62 ng/ml compared to the control group with chromogranin A values of 36.93±5.17 ng/ml.

Conclusions: We have identified statistically significant differences regarding chromogranin A values between the study groups, indicating a possible role of chromogranin A in the pathophysiology of non-functional adrenal tumors.

ID78 Interference with Thyroid Function in the Context of Antiepileptic Treatment with Oxcarbazepine in a Child - a Clinical Case Report

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Objectives: The change in thyroid parameters is described in the case of antiepileptic treatment in the pediatric population, due to interferences within the hypothalamo-pituitary-thyroid axis and due to the increase in the rate of hepatic metabolism of thyroid hormones.

Methods: We present the case of a 10-year-old boy who addressed our outpatient pediatric department of endocrinology for endocrine evaluation in the context of weight growth about 10 kilograms, dry skin , poor growth velocity and low school performance, that developed progressively over the last 3 months. The patient associated a history of partial seizures and motor tics controlled with treatment with oxcarbazepine 900 miligrams per day for 1 year. The parents denied daily administration of biotin, corticosteroids, etc.

Results: On physical examination the child was overweight (87 percentile body mass index), had a normal height for his age (+0.16 sd) without active stretch marks, without hirsutism and with Tanner I prepubertal status. Thyroid hormone profile indicated central hypothyroidism with low levels of thyroid stimulating hormone of 0.56 microUi / ml (normal range 0.6-4.5 microUi/ml) and decreased values for free thyroxine (FT4) and free triiodothyronine(T3) of 0.82 pmol/l and 75ng/dl (normal range 0.89-1.34 pmol/l, respectively 80-200 ng/dl) . The patient had normal laboratory evaluation, including liver and kidney function, complete blood count, prolactin and cortisol levels. The thyroid ultrasound indicated a homogenous structure, normal dimensions of thyroid gland and a normal vascularization. The magnetic resonance of the brain and the hypothalamo-pituitary region was within normal limits. The patient was started on levothyroxine therapy and clinical symptoms have improved together with the increase of free thyroxine values.

Conclusions: In conclusion, we present the case of a child diagnosed with a hormonal profile of central hypothyroidism associated with oxcarbazepine treatment.

ID85 Etiopathogenic Considerations for a Case with Palindromic Rheumatism (Case Report)

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Palindromic rheumatism is a rare form of arthritis characterized by episodes of joint inflammation sequentially involving one to several joint areas for hours to days, with symptom-free periods that may last from days to months.

A 43-year-old Caucasian female with a history of Dengue fever in 2010, from when she worked in Maldive, who presented three episodes of arthralgia (one in 2011 and two in 2019) which involved 2 to 4 joints– was coming for elbows and right hand pain (including the first MCP and first CMC in the right hand). She was diagnosed with palindromic rheumatism. There is no specific test for this condition and the diagnosis of palindromic rheumatism was based on symptoms, medical history, physical examination, imaging tests and blood tests.

Palindromic rheumatism could involve the following factors or triggers: genetics or family history, trauma, infections, allergic reactions. About 30-50% of the people who have palindromic rheumatism will go on to develop rheumatoid arthritis. The link between viruses and articular pathology is complex. Mosquito-borne infections– Dengue and Chikungunya– can lead to rheumatoid arthritis. These viruses affect the immune system and this aspect has consequences on the development of rheumatoid arthritis. The most widely accepted mechanism for viral-induced autoimmune diseases is related to the molecular mimicry between viral and host antigens, which triggers an altered peptide recognition by the antigen-specific T lymphocytes.

Palindromic rheumatism is a controversial diagnosis with conflicting data supporting its status as a separate disease entity and as a preclinical form of rheumatoid arthritis. For this case we consider a possible link between Dengue fever and the onset of palindromic rheumatism.

ID88 Surgical Approach in a Case of Extended Chest Wall Osteoradionecrosis

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Introduction: Radiotherapy is an important component of the multimodal cancer therapy. The toxicity of the treatment and the risk of complications must be weighed against the risk of recurrence of the disease. Due to the increased survival of cancer patients, we encounter more late onset complications of the performed treatments. Osteoradionecrosis is one of the most serious and difficult to treat complications.

Material and method: We present a clinical case of severe osteoradionecrosis of the anterior thoracic wall. The particularity of the case consisted in the size of the defect, the long evolution time and the method of surgical treatment. A female patient known with right breast cancer treated by means of surgery, chemotherapy and radiotherapy, presented with a large area of necrosis at the level of the anterior right thoracic wall, with the destruction of soft tissues and exposure of the underlying, necrotic, fractured ribs and parietal pleura. The ulceration of the chest wall had appeared two years before the presentation in our clinic and was treated with local dressings with the gradual worsening of the lesions.

Results: Necrectomy was performed with the removal of the damaged tissues up to the level of the parietal pleura, with the resection of the anterior costal arches 2-6. The defect was covered with a pedicled flap of the greater omentum, which was covered with a split free skin graft. The postoperative evolution was favorable, without paradoxical breathing.

Conclusions: Synthetic materials are not recommended in the surgical treatment of radionecrosis due to the increased risk of infection. In the case of fixation of the thorax by soft tissue fibrosis, the musculocutaneous and / or greater omentum flaps are the preferred solution, allowing the defect to be covered while maintaining the stability of the chest wall.

ID93 The Dynamic of the Prevalence of Myopia In Children – a Three Years Study

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Introduction: The frequency of myopia has jumped exponentially worldwide. In our day's children spend a lot of their time with smartphones and digital devices. There is an increasing concern about the potential harm that can cause to their visual development.

The purpose of this paper is to evaluate if the of myopia in children is increasing from one year to another, in last three years 2018-2020.

Material and methods: We have designed a cross-sectional study that included children with ages that vary from 3 to 18 years old, from Oftapro Ophthalmology Clinic, Bucharest, Romania. All the patients underwent a full ophthalmological exam including Visual acuity, Refraction with cycloplegia, Biomicroscopy and Ophthalmoscopy. The topical cycloplegic agent used was Cyclopentolate 1% two times, and the Refraction was measured after 30 minutes from the last administration.

Results: From our study we observed that the percentage of myopia increased in 2018-2019 with 8.36%, 2019-2020 with 8% in ages between 3to 6 year. We find a similar result in the category 6 to 9 years. In children with ages between 10 to 13 years the percentage of myops were 44% (2018) to 57% (2019) to 66.66% in 2020. The highest incidence was found in ages between 14-18 years. Groups are significantly different for $p<0.05$.

Conclusions: We have seen a significant increment of the number of myops among children through the years. It is not clear if myopia in children is increasing because of too much screen time or that children are spending less time playing outside, but asthenopia, irritated eyes, eyelid tics, headaches, fatigue, transient or permanent diplopia are symptoms more frequently seen in children with prolonged screen time.

ID97 What Is Important to Know about MRI Aspects in Pseudotumoral Multiple Sclerosis

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Objectives: The purpose of this paper is to present MRI characteristics of pseudotumoral/tumefactive forms of multiple sclerosis (MS).

Method: After a retrospective analysis of brain MRI exams performed in our clinic in patients with demyelinating pathology, with suspicion/diagnosis of MS, we selected cases that presented tumefactive forms of demyelinating lesions.

Results: Tumefactive forms of MS are rare and may present as the initial manifestation of the disease or relapse of known MS. They generally appear as „tumor-like" lesions, single or multiple, with a dominant lesion over 2 cm, centered in the hemispherical white matter, which may associate perilesional edema, mass effect, and ring enhancement, similar to neoplasms. Postcontrast T1 weighted images in Balo sclerosis can depict several concentric enhancing rings. A decrease in lesion size and edema may be seen during follow-up MRI exams after specific therapy.

Conclusions: Pseudotumoral demyelinating lesions can be a real diagnostic challenge for neurologists, neurosurgeons, and radiologists. Knowledge and careful study of the particular MRI aspects in these lesions can lead to a definitive diagnosis while avoiding risky and debilitating procedures or treatment.

ID100 The Rotavirus Infection Beyond the Spectrum of Enterocolitis - Case Report

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Background: Rotavirus is the leading cause of enterocolitis in children under 5 years. Most of the studies available are focused on the gastrointestinal symptoms of the rotaviral infection, but there is growing evidence showing important extradigestive features, such as benign convulsions. Furthermore, recent studies suggest that diseases like type I diabetes and Kawasaki's disease are associated with rotaviral enterocolitis.

Case presentation: We present the case of a 21-month-old male patient with an unremarkable medical history, unimmunized with a rotavirus vaccine, brought to the Emergency Department after a single tonic-clonic seizure accompanied by perioral cyanosis and spontaneous return of consciousness after about

1.5 minutes. The symptoms begun 3 days prior to the presentation: fever (max. 39.1°C), diarrhea and vomiting.

Clinical exam showed no significant abnormalities. The neurologic exam was normal and the electroencephalogram had no pathological findings. Blood test results were within normal range, except for the ASTRUP, which was showing metabolic acidosis with normal ionogram. The rapid stool antigen detection tests were intensely positive for rotavirus.

Rehydration and antipyretic therapies were administered with good results. The patient had no other seizures and was discharged 5 days after admission.

Conclusion: We presented a case of rotaviral enterocolitis associated with a singular afebrile seizure. Even though these cases are rare, it is important to remember that the patient with a rotaviral enterocolitis may present neurologic symptoms. Given so, these patients have to be thoroughly examined and cared for in order to identify and correctly treat some extradigestive features of the infection. Spreading awareness about some possible long-term effects of the Rotavirus infection should increase the prevention through vaccination.

ID110 Related Factors for Sedentarism and Waist Circumference in NAFLD

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Objective: Sedentarism and high caloric food intake increase the obesity risk. Obesity is associated with non-alcoholic fatty liver disease (NAFLD). It is hard to change the lifestyle, but practicing sports and losing weight represent the main stones for NAFLD management. The aim of this study is to find correlations ($p<0.05$) for the waist circumference and for the activity rate with different cardiovascular risk factors, in NAFLD patients.

Methods: NAFLD patients (n=43, mean age 54 years) were compared with 15 control subjects. Anthropometric markers, glycosylated haemoglobin, the lipid profile and inflammation parameters were measured. Activity rate was obtained by using a questioner.

Results: The NAFLD patients versus control had higher anthropometric markers, blood pressure, glycemia, fibrinogen, ALT, ALP activity and lower HDLc. The weight, the direct bilirubin and the inflammatory markers were positively correlated with the waist circumference (r between 0.33 and 0.83) and negatively with the activity rate (r between -0.33 and -0.38). HDLc had opposite correlations, positive with practicing sports (r= 0.33) and negative with waist circumference (r= -0.37).

Conclusions: In conclusion, practicing sports and lower waist circumference improves HDLc levels and lowers inflammatory markers. These are strong arguments for a healthy lifestyle change in NAFLD.

ID117 The Impact of Cervical Disorders on the Connections between the Oral Cavity and Postural System in a 67-Year-Old Patient

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Objectives: Myofascial pain syndrome is an underestimated and underdiagnosed condition and the vicious postures frequently developed as a result of antalgic positions are frequently ignored by the patient, so in order to solve these cases we suggest a multidisciplinary approach. The stabilometric platform is the objective examination that investigates the connections between the oral cavity and posture and how this connection can be altered by the presence of cervical disorders.

Material and method: A 62-year-old patient, known with sleep disorders and osteoporosis, presents to the clinic with high intensity mixed cervical pain, predominantly mechanical. The patient is assessed clinical, biological and paraclinical (radiography and musculoskeletal ultrasonography). Using the stabilometric and baropodometric platform, we analyze the muscle tone in different hypostases (closed eyes/ open eyes, closed mouth/open mouth), thus evaluating the entire postural system and the impact that sensorial stimuli from the oral cavity can have on the body posture in the context of the actual patients' cervical disorders.

Results: The first results obtained after performing the medical rehabilitation program consisted in the relief of pain and hypertonic contractions. From the postural analysis point of view, we can identify the improvement of postural parameters such as: ellipse surface and oscillation surface of the center of gravity.

Conclusions: We highlight the impact that cervical proprioception and oral cavity disorders have on muscle tone throughout the body. By evaluating the clinical response following the specific procedures of the medical rehabilitation specialty it is observed the impact of these treatments on the restoration of the physiological pathways of the central nervous system. We can also say that a muscle contracture of the cervical area can be a barrier to the efficient functioning of postural reflexes, including those with a starting point in the oral cavity.

ID128 Modulation of Gut Microbiome May Predispose to the Development of Cow's-Milk Protein Allergy

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Introduction: Growing evidence suggests a dramatic increase in the prevalence of cow's-milk protein allergy (CMPA), especially in Western countries. The cause of this rise is yet to be elucidated, but recent studies suggest that a putative factor could be the perturbation of the human gut microbiota. Factors that could modulate the child's intestinal flora are numerous and include the type of childbirth, gestational age, formula or breastfeeding, number of older siblings, antibiotic use, and others.

Objective: The aim of this study is to identify a potential link between factors that impact the gut microbiota during infancy and the development of CMPA.

Materials and methods: We conducted a retrospective, observational study by reviewing the case records of 328 children younger than 3 years diagnosed with CMPA from the Department of Pediatrics at Marie Curie Children's Clinical Hospital within the time frame of January 2017 and June 2020. We included variables such as age, sex, weeks of gestation, birth weight, delivery method and, feeding type, number of siblings, and antibiotic use. We defined prematurity, cesarean section, formula or mixed feeding, first-born child, and antibiotic use as risk factors.

Results: Among the children hospitalized 56.5% (186 patients) were male. The included patients had an average age of 4 months. 82.6% of patients diagnosed with CMPA had more than one defined risk factor. We encountered a lack of risk factors in less than 5% of our patients.

Conclusions: Our findings may contribute to a better understanding of the factors that impact microbiome and predispose to allergy. A causality relation needs to be further investigated in order to initiate microbiome modulation strategies. A thorough understanding of the interaction between gut microbiota and food allergy has the potential to advance our knowledge about these diseases and help identify new target therapies via modulation of the microbiome.

ID133 Profiles of Ischemic Heart Disease Patients in Romania: the Chronic Ischemic Cardiovascular Disease Long-Term (CICD-LT) Registry

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Introduction: Ischemic heart disease (IHD) is the main cause of death worldwide, including Romania. Globally, patients with IHD are a very high-risk group, but the distribution of IHD burden differs across Europe.

Objectives: To describe the profiles of chronic IHD patients assessed in hospitals in Romania compared with other ESC countries.

Methods: The CICD-LT Registry included chronic IHD high-risk patients (history of ST elevation myocardial infarction, non-ST elevation acute coronary syndromes, percutaneous coronary intervention or stable coronary artery disease) from 154 centers in 20 European Society of Cardiology (ESC) countries.

Results: Between May 2015 and July 2018, 1128 patients were enrolled in 17 centers in Romania and 8046 patients in other ESC countries. Mean patient age was 66.80 ± 10.34 years in Romania compared to 67.37 ± 10.70 years in the ESC group ($p>0.05$). Significantly more female patients were enrolled in Romania (31.3% vs 26.4%, $p<0.001$). Heart failure (57.4% vs 44.8%, $p<0.001$), diabetes (33.2% vs 30.2%, p 0.04), former or active smoking (53.4% vs 51.9%, $p<0.001$), peripheral artery disease (11.8% vs 7.6%, $p<0.001$), stroke history (8.3% vs 6.3%, p 0.009) and chronic kidney disease (9.9% vs 7.3%, p 0.002) were more frequent in Romanian patients. Uncontrolled hypertension (25.4% vs 24.6%), atrial fibrillation (17.4% vs 15.7%), malignancy (4.5% vs 5.0%), significant liver disease (2.0% vs 1.4%) and chronic obstructive pulmonary disease or asthma (5.8% vs 7.8%) rates were similar ($p>0.05$) between the two groups. Sleep apnea was more frequently diagnosed in other ESC countries (1.8% vs 3.6%, p 0.003).

Conclusions: Romania contributed with a large number of patients in the CICD-LT Registry. Compared to other ESC countries, IHD patients in Romania had higher rates of active or former smoking, heart failure, chronic kidney disease, peripheral and cerebrovascular disease. These characteristics can partly explain the excess mortality of Romanian IHD patients.

Acknowledgement: On behalf of the CICD-LT Registry Investigators, The EURObservational Research Programme.

ID135 Dual Antiplatelet Strategies in Non-ST Elevation Acute Coronary Syndrome Patients without an Indication for Oral Anticoagulation in Romania

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Introduction: Dual antiplatelet therapy (DAPT) is essential in the management of non-ST elevation acute coronary syndromes (NSTE-ACS). Real-world data regarding the usage of P2Y12 inhibitors within DAPT in Romania is limited.

Objectives: To evaluate the rates of usage and factors that influence P2Y12 inhibitor choice in invasively managed NSTE-ACS patients without an indication for oral anticoagulation.

Methods: The Romanian National NSTE-ACS Registry is a multicentric, prospective, observational, longitudinal registry, that allows the consecutive enrollment of NSTE-ACS patients.

Results: 1418 invasively managed NSTE-ACS patients in 9 centers were enrolled between May 2016 and November 2019. Of 1176 patients without a need for oral anticoagulation, 1050 received DAPT at discharge. 71.2% were male and 28.8% female. Male patients were significantly younger (61.72 ± 10.27 years vs 66.47 ± 9.82 years, $p<0.001$). Clopidogrel was recommended in 49.6%, prasugrel in 0.4% and ticagrelor in 50% of cases. Ticagrelor prescriptions increased from 26.1% (2016), 22.5% (2017), 50.6% (2018) to 58.1% (2019). Ticagrelor usage was associated with younger age (mean 60.71 ± 10.43 years vs 65.08 ± 9.58 years, $p<0.001$), male gender (p 0.002), anterior ACS ($p<0.001$) and percutaneous coronary interventions (PCI) ($p<0.001$). Clopidogrel use was higher in female patients (p 0.002), those with prior diagnosed ischemic heart disease (p 0.001), multivessel coronary artery disease (p 0.005) or chronic kidney disease (CKD) (p 0.004).

Conclusions: Most invasively managed NSTE-ACS patients in Romania receive DAPT. The most used P2Y12 inhibitors are clopidogrel and ticagrelor. The full reimbursement of ticagrelor for ACS PCI patients since November 2017 doubled its year-to-year usage. Several factors influence P2Y12 inhibitor choice, such as the male gender, anterior ACS or PCI in favor of ticagrelor and older age, female gender, the presence of CKD and a higher atherosclerotic burden for clopidogrel. The clinical judgement, financial and reimbursement aspects seem to influence this decision.

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ID137 Characteristics of Obstructive Sleep Apnea Patients with a Low Body Mass Index

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Objective: To identify if the obstructive sleep apnea (OSA) can affect subjects with normal weight (BMI<25kg/m^2), as well as their epidemiological characteristics and their response to prescribed therapy.

Methods: Retrospective, observational study of participants with normal weight and suspected OSA (apnea-hypopnea index >5 events/h sleep) referred to the sleep laboratory from January 2010 to December 2018.

Results: We studied 254 patients with mean age=52±16.3years (range:16-92), most of them were men 67% (170). The demographic characteristics were: 82% (209) snorers, average daytime hypersomnolence measured using the Epworth scale was 5.5 points, neck circumference of 37.7±4.8cm, waist circumference of 88.2±13.6cm. With respect to toxic habits: no differences regarding smoking status (never smokers / smokers) and 57%(145) did not drink alcohol regularly. OSA was diagnosed in 52.7% (134) subjects with normal weight and the severity of OSA was mostly mild. Metabolic Syndrome (MS) was diagnosed as follows: 94 cases had dyslipidemia, 81-HTA, 11-DZ. There was no relationship between OSA and MS, or between otorhinolaryngological malformations and OSA in normal weight patients. 25.6% (65) normal weight patients with OSA were treated with continuous positive airway pressure (CPAP) therapy. There is a need to determine, if the other key non-anatomical traits are systematically impaired in non-obese patients with OSA.

Conclusions: In normal weight patients, age and gender were predictive factors for OSA, but OSA and MS were not related. Non-obese patients with OSA are a challenging group to treat with existing therapies; these patients are less adherent and compliant with CPAP therapy. In order to optimize and develop tailored therapeutic approaches for non-obese patients with OSA, improved understanding of the causes of OSA in the absence of obesity is required.

ID139 Educational Intervention to Improve Bronchodilator Treatment Adherence - INSPIRO Project

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Background: Adherence is crucial for optimizing clinical outcomes in Asthma or COPD, with non-adherence resulting in a significant health and economic burden. Lack of medication adherence needs to be identified and addressed by using simplified treatment regimens, increasing patient knowledge about self-management, and enhancing provider skills in patient education, communication, and adherence counseling.

Material and method: The purpose was to increase adherence to treatment through the development of educational intervention (EI) for asthma and COPD, addressed to patients and general practitioners (GP).

The educational program was carried out in five Romanian hospitals and includes educational session groups and educational materials. The results were assessed through TAI (Test of Adherence to Inhalers) questionnaire.

Results: An individualized education program was used for 347 GP and 435 patients. Taking into account the importance to explore behaviours and attitudes of patients, 76% GPs consider the most relevant aspects related to the non-adherence in patients with asthma or COPD are: difficulty of using inhaled medication, illness perceptions, fear of adverse effects, financial nature (20%). Only 44% GPs discuss with pulmonologist about their patient's disease. On the other hand, 57% GPs check the inhalation technique of their patients.

We have designed an audiovisual presentation to inform the patients about the most important issues of their illness and its treatment and a COPD or asthma brochure which will be given to the patient.

Before the EI, only 32% of patients had a good adherence score to therapy; this percentage increases to 57% after EI. The most common reasons for non-adherence were: patient forgets to administer daily his inhalation medication (49%), fear of adverse effects (33%), belief that medication is useless (26%) and fear that inhalation medication affects daily life patient (24%).

Conclusions: As efforts to improve adherence are recommended to check the inhaler technique at every visit and involving patients in treatment decisions and individualising or tailoring educational support.

To conclude, addressing specific adherence barriers such as poor inhaler technique or medication beliefs could favor adherence.

ID156 Assessment of Disabilities in Patients with Vertebro-Medulary Lesions with Neurological Sequelae

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The increase of the incidence of the vertebro-medulary trauma is linked to the intense traffic and the big number of traffic accidents. The efficient therapy of the vertebro-medulary trauma includes, after the emergency situation has passed, complex rehabilitation procedures, in a program which is better if it is done earlier.

Patients and methods: We examined 11 patients (7 men and 4 women), aged 20-75 years old (50±20y), with the diagnosis of paraparesis, paraplegia (paraplegic group, PG), tetraparesis or tetraplegia (tetraplegic group, TG). Patients were evaluated during admission in the National Institute of Rehabilitation and Balneoclimatology. All patients signed the informed consent. The ethics committee of the "C. Davila" University of Medicine and Pharmacy approved the study protocol.

Assessment of the disabilities was performed using the following tests: Barthel scale, The Scandinavian scale for neurological assessment (SSNA), Activities of daily living (ADL) score, Ashworth scale for assessment of the muscular tonus, ASIA (American Spinal Injury Association), the scale for segmentary muscle force FMS and hand grip test with the dynamometer. The tests were applied between 7-72 months from accident (26.7±20.52m). The patients did specific mio-artrokinetic rehabilitation procedures.

Results: paraplegia was diagnosed in 9 cases (lesion between T3-L2) and 2 had high lesion, at C4-C6 (TG). Barthel score was 60.5 in PG (quasi-independence) and 42.5 in TG (assisted-independence); ADL score=5.78 in PG and 1.5 in TG (dependence). Similar data were obtained for SSNA, 50.67 in PG and 32 in TG. Evaluation using these scales during patients follow-up is in progress.

In conclusion, the disability scales are an useful instrument for the measure of the patients' recovery. Maximum recovery potential is in the first few months after the trauma.

ID162 Measuring the Impact of the COVID-19 Pandemic on Medical Students' Mental Health

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Introduction and objectives: The current COVID-19 pandemic has great psychological implications. The medical students have coped differently with this sudden change in their lives, depending on their personality profile, life experiences, the interaction with patients and their emotional needs. Our study aims to measure the level of stress, anxiety and depression in medical students during the pandemic, correlated with their individual personality types.

Materials and methods: During May-August 2020, 50 preclinical and 50 clinical students from Faculty of Medicine, „Carol Davila" University of Medicine and Pharmacy have answered both the Big-Five Questionnaire-2 personality test (BFQ) and the Depression, Anxiety and Stress Scale (DASS-21R). The results from the two tests have been analyzed and correlated.

Results: The tests showed that 30 out of the 100 students have experienced elevated stress, depression and/or anxiety levels, while the majority of the participants lack emotional stability. We have found many statistically significant ($p<0.01$) correlations between the student's mental health and their psychological profiles, such as: stress – emotional stability (-0.725 Pearson's coefficient), stress – control of emotions (-0.704 Pearson's coefficient), anxiety – control of emotions (-0.562 Pearson's coefficient) etc. Stress represented a significant cause of the students' anxiety. There were no statistically significant differences found between the pandemic's impact on preclinical versus clinical students.

Conclusions: The current pandemic has many negative psychological implications in each of our lives. The future doctors have experienced various degrees of stress, depression and anxiety during these uncertain times, according to their personality structure and past experiences. The more vulnerable students have been contacted for counseling.

ID6 Predisposing Factors for Retroperitoneal Tumors

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Despite the impressive dimensions and aggressiveness of retroperitoneal tumors, only limited progress in the understanding of their biological behavior and therapeutic approach was made in the last years. In the past, no clear risk factors for the development of these neoplasias have been identified. However, a few recent studies suggested that diabetes mellitus could predispose towards the development of retroperitoneal liposarcomas.

The aim of our current study was to identify putative risk factors for the development of primary retroperitoneal tumors and to analyze the prognostic significance of various patient comorbidities, including diabetes mellitus on patient survival.

Patients and methods: A group of 62 patients with primitive retroperitoneal tumors was at the basis of our study; the patients, operated on in our Clinic over a period of 15 years, were followed-up for a long period of time postoperatively. We conducted an extensive survival analysis trying to identify significant prognostic factors. Among the tested prognostic factors, patient comorbidities, such as diabetes mellitus were included.

Results: 72.7% of the operated retroperitoneal tumors patients had various comorbidities. Only 7.5% of the patients had diabetes mellitus, arterial hypertension being the most frequent comorbidity. None of the patient comorbidities was a prognostic factor in the survival analysis. However, diabetes mellitus was only associated to lipoma and liposarcoma tumor types of all retroperitoneal tumor histopathologic subtypes. When comparing the retroperitoneal tumor patient group with a group of patients with other types of tumors, no significant association was found between diabetes mellitus and retroperitoneal neoplasias.

Conclusions: Although diabetes mellitus was not found to be a prognostic factor in retroperitoneal tumor patient survival analysis, its apparent association with lipomatous tumors (lipoma and liposarcoma) should be taken in consideration. A careful control of glycaemia after the operation of liposarcoma tumor patients should become an important part of patient follow-up.

ID7 Retroperitoneal Liposarcoma Histopathologic Type – Prognostic Significance

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Retroperitoneal tumors represent a very heterogeneous group of neoplasias, liposarcoma being found to be the most frequent histopathologic subtype. It is also considered to be associated with an overall better prognostic for the operated on patients. In this background, the aim of our study was to evaluate the significance of the liposarcoma histopathologic subtype on the therapeutic approach and results as well as on operated patient prognostic.

Patients and methods: In the current study, we included a group of 62 patients with primitive retroperitoneal tumors, operated on in our Clinic during a period of 15 years. We evaluated the frequency and the prognostic significance of various histopathologic retroperitoneal tumor types for the overall and disease-free patient survival.

Results: Sarcomas were the most frequent type of malignant retroperitoneal tumors (48.8%). Interestingly, liposarcoma was not the most frequent histopathologic subtype, representing only 6.3% of all sarcomas, undifferentiated sarcoma being the most frequent subtype. In the survival analysis sarcoma histopathologic subtype had no statistical prognostic significance. In contrast with other reports, liposarcoma tumor subtype was not associated to a better overall patient survival. However, it was associated to an important local recurrence rate and therefore lower disease-free survival rate. From the benign tumor group, retroperitoneal lipomas expressed an interesting behavior in time: malignant transformation and dedifferentiation with subsequent re-operations of the local tumor recurrences.

Conclusions: In contrast with other reports, in our study liposarcoma was not found to be the most frequent histopathologic type of retroperitoneal sarcoma, but undifferentiated sarcomas were the most prevalent. Although liposarcoma histopathologic subtype was not found to be a prognostic factor for a better patient survival its pronounced tendency towards subsequent local recurrences after radical surgery and dedifferentiation in time must be acknowledged and carefully considered for an improved and personalized patient therapy.

ID8 Retroperitoneal Tumor Characteristics – Are They an Indicator of Aggressiveness?

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Currently, the mainstay of retroperitoneal tumor patient treatment is represented by surgery of radical extent. However, even after R0 surgery, the disease-free and overall survival of operated on patients can be dismal. In this context, in the current study we aimed to evaluate several tumor characteristics as potential predictors for the tumor behavior, therapeutic results and overall patient survival.

Patients and methods: We performed an extensive study on a group of 133 patients with various types of retroperitoneal tumors that have been operated on in our Clinic and followed the recommended oncological treatments in our Institute. We recorded tumor characteristics, such as the necrotic area and presence of calcifications from the surgically removed tumor specimens, as well as from the preoperative imagistic findings. We analyzed the significance of the presence of these tumor characteristics for the tumors behavior, therapeutic results and patient survival.

Results: 14.3% of the retroperitoneal tumor cases associated calcifications, that were significantly associated to malignancy and to a higher metastasizing rate after radical surgery (p=0.02). Also, tumors that presented necrotic areas were associated to malignant types of retroperitoneal tumors. However, these tumors characteristics had no significance in patient overall survival analysis.

Conclusions: Tumor calcifications and necrosis are indicative factors for malignancy of retroperitoneal tumors, similar to other neoplasias. The association between tumor calcifications and a higher rate of tumor metastasis highlights that calcified retroperitoneal tumors are a subgroup of neoplasias exhibiting a more aggressive biological behavior. Therefore, the patients with calcified retroperitoneal tumors should be even more attentively followed-up for long periods after surgery of radical intent screening for distant metastases, in order to diagnose and treat them precociously.

ID20 Involuntary Ingestion of Foreign Body (Fish Bone), a Rare Cause of Generalized Peritonitis

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Background: Foreign bodies, located in different anatomical segments of the human body, are a special field in medicine. Countless foreign bodies can reach the gastrointestinal tract. Of these, most pass spontaneously, but a small part can stop at different levels, producing the manifestations of an occlusion and even a perforation.

Materials and methods: We present the case of a 72-year-old patient, partially edentulous, who was hospitalized for diffuse abdominal pain and generalized abdominal muscle contracture, stating regular consumption of fish products. At admission, the patient presented leukocytosis and inflammatory syndrome. Abdominal CT reveals the presence of a foreign body of 2.5 centimeters long, located in the lumen of a jejunal loop, with its wall overhanging and the appearance of peritonitis.

Emergency surgery was performed and jejunal perforation was found through the foreign body (fish bone), accompanied by generalized purulent peritonitis. The extraction of the foreign body was performed by enterotomy, enteroraphy, lavage and peritoneal drainage.

The postoperative evolution was favorable. The symptoms subsided and the intestinal transit resumed early.

Conclusions: Involuntary ingestion of foreign bodies can cause complications that require complex and sustained treatment.

Also, the patient's quality of life can be deeply affected as a result of these complications.

ID21 Enterocutaneous Fistula – a Severe Complication of Crohn's Disease

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Introduction: Crohn's disease is a chronic inflammatory disease, with unknown etiology and slow progressive evolution, with periods of exacerbation that can involve all segments of the digestive tract, most commonly affecting the terminal ileum and colon.

Material and method: We present the case of a 22-year-old patient, who had three months of confinement after birth, with a history of right quadrants abdominal pain, started in the second trimester of pregnancy. Postpartum, the patient developed a parietal abscess in the right iliac and right lumbar regions, for which an incision was made with purulent discharge. The subsequent evolution was dragging, with the persistence of purulent secretion, which after a month became fecal in appearance. At the admission in our Clinic, the patient had low intensity right iliac and right lumbar abdominal pain, a fistulous orifice situated in the right lumbar region, with a diameter of about one centimeter and leakage of intestinal content, moderate anemia and inflammatory syndrome. Abdominal computed tomography showed an intraparietal fistulous tract in the right abdominal quadrants, with no evidence of intraperitoneal damage. Fistulography showed a communication between the skin and a segment of the digestive tract. Surgery was performed and a bulky perforated tumor of the cecum was found along with a complex parietal fistula between the cecum and the skin and absence of coalescence of the Toldt I fascia. Right hemicolectomy was performed with ileocolonic anastomosis, debridement and drainage of the fistulous tract.

Results: The postoperative course was uneventful. Pathological examination of the excision piece revealed ileocolonic Crohn's disease. The patient subsequently followed specific treatment, without any exacerbations of inflammatory bowel disease.

Conclusions: Intestinal perforation is a formidable complication of Crohn's disease that requires prompt treatment and careful postoperative monitoring. In this patient, pregnancy-associated immunosuppression may have been the trigger for acute bowel inflammation.

ID22 Avulsion Wound on the Left Calf from Contact with an Agricultural Machinery – Case Presentation

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Objectives: Even from the early days of mankind agriculture based accidents with different mechanisms of production have sometimes had an important effect on the human organism, from light wounds to disabilities and even death.

Method: We present the case of a patient, 68 years old, known with type II Diabetes and Ischemic heart disease for which he's under chronic treatment with oral anticoagulant, who suffered a traumatism after coming in contact with an agriculture machinery (tiller blade from a two-wheel tractor), which determined an avulsion wound on the left calf, with the metallic object still remaining in the tissues. After the extraction of the foreign object it was highlighted the massive destruction of the tibialis anterior muscle and the peroneus muscles, without injury on the bone structures. During the operation it was practiced large debridement, lavage and drainage of the wound.

Results: The post-surgery evolution was favorable, with daily strict dressings and antibiotic treatment. The patient recovered with complete motility on the left leg.

Conclusions: Agricultural based accident can produce serious injuries, especially to patients with comorbidities and chronic anticoagulant treatment, with important morphofunctional sequelae which requires intensive treatment an long recovery.

ID23 Triple Sleeve Bronchial Resection for a Bronchus Intermedius Carcinoid Tumor

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Objectives: Segmental resections of the bronchial tree without resection of lung parenchyma are used commonly for the surgical treatment of benign or low-grade malignant neoplasms as a means of sparing healthy lung parenchyma.

We present the clinical and surgical data of a 49 years women patient who underwent a very rare surgical procedure, called "triple sleeve bronchial resection," without any pulmonary resection for a typical carcinoid tumor of the bronchus intermedius.

Methods: We performed a triple bronchial resection of the main axis of the right bronchial tree (right main bronchus, right upper lobe bronchus and bron-

chus intermedius) with edge to edge triple bronchial anastomosis using a single layer of interrupted 4-0 monofilament absorbable sutures (polydioxanone).

Results: The anastomosis was made completely free of tension, avoiding kinking and stenosis.

The postoperative course was uneventful from pulmonary point of view with complete expansion of the pulmonary parenchyma without air leaks or atelectasis. In the third postoperative day was necessary to make an emergency classical appendectomy under general anesthesia with endotracheal intubation for an acute appendicitis.

Conclusions: Segmental bronchial sleeve resection is a complex technique and may have an increased risk of complications compared to a standard sleeve resection, but it is an effective and safe technique for selected patients with benign or low-grade malignant bronchial tumors when performed carefully by an experienced surgeon.

The main advantage of these interventions is preserving the entirely healthy lung parenchyma, avoiding bilobectomy or even pneumonectomy.

ID24 Minimal Invasive Approach in Pleuro-Pericardial Effusions

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Objectives: The authors share a part of their surgical experience with pleuro-pericardial effusions addressed through a minimally invasive approach.

Methods: In these cases, the authors have performed a minimally invasive surgical technique under endoscopic control. We realized a pericardial window through both video-assisted thoracoscopy or subxiphoid approach under pericardoscopy. These techniques allowed multiple biopsy of the pericardium and a pericardial window by hybrid method using both electric scalpel and endostapler endoGIA.

For pleurodesis we have utilized medical talcum powder or a hybrid method (pleural abrasion associated with a chemical agent - betadine).

Results: We present a comparison between preoperative aspects (chest X-Rays and computed tomography), intraoperative endoscopic aspects and postoperative results for the pleuro-pericardial effusions included in our study.

Conclusions: Minimally invasive thoracic surgery is the best approach for pleuro-pericardial effusions, having the following advantages: this procedure leads to a correct diagnosis, an adequate treatment, and has lower mortality and morbidity rates when compared with open surgery.

ID38 Diagnostic Procedures in Lung Cancer

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Objectives: The authors present the updated diagnostic procedures in lung cancer.

Method: Bronchoscopy, Video-Assisted Thoracic Surgery VATS, CT-guided biopsy, mediastinoscopy and peripheral adenopathy biopsy are the most used for pathological diagnostic.

Results: Each procedure is described and exemplified from the authors' practical experience.

Conclusions: The diagnostic in lung cancer becomes more and more minimally invasive in order to provide quick biopsy and accurate staging, followed by adequate treatment.

ID40 Thoracic Oncology and Video-Assisted Thoracic Surgery (VATS)

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Objectives: Thoracic oncology patients benefit from minimally invasive thoracic surgery.

Method: Both diagnostic and therapeutic procedures can be performed through Video-Assisted Thoracic Surgery VATS, in thoracic oncology.

Results: Patients with lymphadenectomy without lung resections, mediastinal masses excised or biopsied, extramucosal esophageal tumor excised and thoracic duct ligation for chylothorax are some of the cases presented.

Conclusions: Thoracic oncology benefits both for diagnostic and treatment by Video-Assisted Thoracic Surgery VATS.

ID41 „Hard-to-Get" Diagnosis in Thoracic Oncology

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Objectives: Presenting thoracic oncological cases in which the necessary diagnosis is difficult to obtain and multidisciplinary collaboration is essential.

Method: The oncological context may be simple or quite complex. Associated pathology can also block some classical ways for obtaining diagnosis.

Results: Central lung tumors with mediastinal invasion, intrapulmonary pathologic adenopathy, endobronchial hemoragic tumors or lung tumors with symptomatic brain metastases are some examples of the presented and discussed cases.

Conclusions: Each thoracic oncologic patient needs personalised approach and many times the pathological diagnosis is much more difficult to obtain then establishing the oncological management afterwards.

ID61 Osteonecrosis of the Knee

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Introduction: Osteonecrosis of the knee is a debilitating disease, which may lead to the destruction of the joint. There are three types of knee osteonecrosis: spontaneous (SPONK), secondary (SONK) and post-arthroscopic (PAOK). The conservative management currently consists of nonsteroidal anti-inflammatory medication, analgesics and protected weight-bearing. The surgical treatment includes high tibial osteotomy (HTO), unicompartimental knee arthroplasty (UKA) or total knee arthroplasty (TKA).

Materials and methods: An extensive literature review (from 2016 to 2019) was carried out. We included recent studies about knee osteonecrosis. The final selection comprises of nine articles.

Results: The magnetic resonance imaging (MRI) has proven to be crucial in detecting early stages of SPONK. Recent non-surgical treatment options are therapies through electromagnetic pulse and hyperbaric oxygen, lateral wedge insole or intra-articular hyaluronic injection, indicated in cases of small lesions (less than 3,5 cm^2) and incipient stages (according to Aglietti classification for SPONK and Ficat classification for SONK and PAOK). For lesions larger than 5cm^2 and for the latest stages according to the aforementioned classifications, surgical treatment is preferred. Also, the surgical treatment is chosen in accordance with the severity of the lesions and the timing of the diagnosis of PAOK. If the osteonecrosis of the knee is discovered before collapse - artrhroscopic debridement, decompressive drilling and HTO must be considered. If the diagnosis is made after collapse, the preferred choices are osteochondral grafts, UKA or TKA.

Conclusions: Early stages of all types of knee osteonecrosis were proven to have good functional outcomes with conservative treatment. In an early stage MRI is the preferred choice for diagnosing osteonecrosis. In order to predict successful clinical results for SPONK the most important factor is the lesion's size, for SONK the presence or absence of symptoms, and for PAOK the timing of the diagnosis.

ID79 Obesity - from Physiology to Surgery

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Introduction: Matrix metalloproteinases (MMPs) are known enzymes involved in the modulation of extracellular matrix(ECM) and adipocyte and preadipocytes differentiation. Obesity implies a more or less rapid but generalized increase in adipose tissue (adipocyte and preadipocytes),and this processes generate abnormal ECM metabolism.

Aim: This paper proposes a thorough study of literature with focus on the important roles of matrix metalloproteinases in the pathophysiology of obesity and the result of a pilot study

Materials and methods: The experimental study used 20 obese wistar rats (10 in control group and 10 in Study group).The study group had gastric by-pass for obesity, and there were analyzed the pre and post-operative MMP-2 and MMP-9.The review is based a thorough study of literature with focus on the important roles of matrix metalloproteinases (MMPs) in the pathophysiology of obesity

Results: The MMP-2 and MMP-9 activities were detectable, but MMP-2 activity was significantly higher than MMP-9.MMP-9 was strongly correlated with body weight parameters before surgery, as well as after significant body weight reduction as a result of bariatric

surgery. Concerning MMP-2 and MMP-9 they are also involved in the turnover of basement membranes both those of adipose tissue and endothelial.MMP-9 levels were moderately correlated with HDL cholesterol levels.

Conclusions: MMP-2 and MMP-9 are the two most important proteins of ECM involved in adipose tissue remodeling after bariatric surgery. It is then tempting to speculate that the adipocyte-derived MMPs might represent a new target for the inhibition of adipose tissue growth by inhibiting adipose differentiation, but it requires more thorough studies to support this.

ID99 Near Work Effort Impact on Ocular Surface in 6th Year Medical Students

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Background and aims: The aim of this study was to establish whether near work effort damages the ocular surface, which is the anatomical, physiological and immunological barrier between the environment and the eye, leading to the development of dry eye disease.

Materials and method: This observational, retrospective study evaluated 92 6th year medical students at the Carol Davila University of Medicine and Pharmacy, faculty of medicine, for dry eye disease, using two types of questionnaires: OSDI Test and Life Quality Questionnaire. Participants were divided regarding their sex, smoking status and hours spent on near working.

Results: The results showed that students that spent more than 3-4 hours using different devices that require near work scored higher than their colleagues at the OSDI test and that there is a gender based predisposition towards developing dry eye symptoms as female students tend to score higher. It was also noticed that non-smoker students performed better at the OSDI test.

Conclusion: The amount of time spent performing activities that require near effort for the eyes along with gender and known risk factors such as smoking have a significant impact on the development of dry eye disease among young people.

ID102 A 3D Virtual Representation of Enteric Nervous Cells and Telocytes in Hirschsprung Disease

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Objective: Hirschsprung's disease (HD) is characterized by the lack of ganglionic cells in the distal part of the gastrointestinal system. In order to build the premises for cellular therapy, our study aims at describing the spatial relationship between telocytes and the enteric nervous system in patients with HD.

Methods: Four specimens of colon from patients with HD were used for the analysis. The samples were taken from the aganglionic part of the colon, from the transitional region and from the proximal, short, ganglionic portion of the resected segment. The specimens were fixed in buffered formalin overnight and embedded in paraffin. Five micrometer sections were deparaffinized and stained in haematoxylin & eosin. Immunohistochemical analysis were performed using rabbit monoclonal antiserum to human c-Kit (CD117), mouse monoclonal antibody against human CD34 and polyclonal antibody to bovine brain S100 markers. Two-dimensional images of each sections were taken and the sections were loaded and then stacked using ImageJ® software and the Volume Builder® plug-in. Semi-automated morphometric measurements were performed at each step, in order to quantify the area, diameter and volume of the two cell types, as well as the spatial relationship between enteric nervous cells and telocytes.

Results: Preliminary results show that, in the ganglionic colonic segment, telocytes form a sheath at the inner surface of the ganglia, oriented towards the circular muscle. Telopodes enter the myenteric ganglia and follow the larger nerve fascicles. The morphologic parameters and the spatial relationship between telocytes and enteric nervous cells are different in the transitional colonic region.

Conclusions: This innovative approach of image compilation and data analysis allows for a better understanding of the histopathology of HD. Thus, it sets the grounds for individualized medical approaches, such as autologous, homologous cell transplantation therapy.

ID104 Incidence and Risk Factors of Periprosthetic Infection after Total Reverse Shoulder Arthroplasty: a Systematic Review

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Objectives: The purpose of this systematic review is to determine the incidence of periprosthetic joint infection after a primary reverse total shoulder arthroplasty (rTSA) regardless of the indication for surgery and to determine the risk factors associated with a periprosthetic joint infection after an rTSA.

Methods: For this study, a literature search was conducted using PubMed and Google Scholar for studies published in English between January 2008 and December 2019 regarding primary reverse total shoulder arthroplasty for all indications. We excluded case reports, small sample-sized studies (<10 cases), review articles, systematic reviews, meta-analyses, registry studies and studies including patients who underwent rTSA after previous shoulder infection.

Results: The rate of infection after primary rTSA remains higher compared to the reported rates for anatomic total shoulder arthroplasty (aTSA). The most frequent factors associated with increased rates of infection in rTSA include patient specific factors (younger age, male patients, higher BMI), implant-related factors (larger dead space, increased implant surface) and surgeon-related factors (surgeon experience).

Conclusions: As the concept and design of the reverse shoulder are evolving, the rate of infection may change over time. The indications for rTSA have expanded and the number of procedures performed annually is expected to rise in the future, leading to a further change in the rates of infection after rTSA.

ID108 Neglected Bicycle-Spoke Pediatric Injuries – Impact on Wound Healing and Hospitalization

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Objective: Riding bicycles is one of children's favorite outdoor activities, sometimes associated with accidents and injuries. A common situation is the child's foot or ankle getting caught in the wheel's spokes, with subsequent lacerations, abrasions and even fractures. The initial aspect of the injury is often misleading, leading parents and unexperienced healthcare professionals to minimize the severity of the situation, thus delaying the initiation of proper treatment. The aim of this paper is to emphasize the importance of rapid and correct assessment and management of these injuries.

Material and method: We report the case of a 3 years 8 months old girl, referred to our plastic surgery department from a district hospital, five days after she had suffered a traumatic injury to the lateral malleolus of her left leg by getting trapped between bicycle spokes. Initially the wound was considered insignificant and did not receive any specific treatment. At presentation, the wound showed signs of intensive local infection, perilesional edema and inflammation. Also, the skin defect of 5/6 cm was covered by necrotic tissues and had a partially avulsed skin flap based posteriorly, with intense formation of fibrotic granulation tissue and partial bone exposure underneath.

Results: The wound was first cleaned and debrided for several days, with foot and ankle splinting. Due to the fact that the wound was initially neglected, it could not be closed directly. Instead, five days after admission, we covered the exposed bone using the existing flap, and the remaining defect was covered with split thickness skin graft, under general anesthesia. Two weeks later, the patient was discharged with complete graft take and healed wound.

Conclusions: Bicycle-spoke leg injuries are long healing wounds that need thorough assessment and care. Delaying the treatment initiation has a negative impact on wound healing, requiring more complex covering techniques and longer hospitalization time.

ID121 Obstetric Outcome in Women Who Underwent Conservative Cervical Procedures

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Introduction: During the past few years numerous studies started to alarm the population regarding the obstetric prognostic of pregnant women who suffered cervical procedures, which thus lead to the reevaluation of some protocols used in the precancerous pathology of the cervix.

Materials and methods: We retrospectively studied 214 pregnant women who gave birth in the Obstetrics and Gynecology Clinic at the University Emergency Hospital Bucharest (2007-2019) after previously having a cervical procedure. The procedures were as follows: cervical biopsy (74 patients), loop electrosurgical excision of the transformation zone (104 patients) and cold-knife conisation (36 patients). All the patients of this group received individualized obstetrical care and were explained the high risk of a possible premature

birth. Recurrent clinical and ultrasound examinations (internal cervical os, cervical canal) were performed.

Results: The general rate of premature births in our clinic is about 15%, which is explained by the fact that there a lot of patients who arrive at the hospital with either intricate medical issues or without having an adequate follow-up of their pregnancy. In the population we studied the prematurity risk was: 8.1% for patients who underwent a cervical biopsy 9.3% for the LEEP subgroup and 10.5% for the cold-knife biopsy subgroup. Out of the 36 patients who suffered a cold-knife biopsy, 14 had to undergo a cerclage and delivered at term.

Conclusions: It has been pinpointed that with a proper pregnancy follow-up there is no higher risk of prematurity in the case of the patients who underwent a cervical procedure before getting pregnant.

MEDICAL SPECIALITIES IN MEMORIAM PROF. OVIDIU BAJENARU

ID 18 Detection of Lymph Node Invasion Using Deep Learning Algorithms on Quantitative Phase Images of Unstained Colonic Adenocarcinoma

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Objective: Advancements in automated image segmentation and analysis brought artificial intelligence in clinical pathology. Quantitative phase microscopy gives, through the phase shift value in each pixel, information about the distribution of protein content and the 3D characteristics of cells and tissues. Artificial intelligence is an efficient tool in processing the large quantities of information embedded in quantitative phase images (QPIs). Moreover, it unveils subtle tissue alterations induced by progression to malignancy. The aim of this study is to automate the detection of metastatic invasion of lymph nodes using QPIs of unstained colonic mucosae samples originating from surgically removed adenocarcinoma.

Materials and methods: QPIs containing normal and metastatic lymph nodes were selected from HoloPath, an extensive collection of colonic mucosae images recorded with a LyncéeTec DHM®-R1000. 150 images were cut into 12080 samples and downsized to 128x128 pixels. The grey level co-occurrence matrix was computed and texture parameters: contrast, homogeneity, energy, correlation and dissimilarity were calculated. A modified U-Net with fewer filters, three contraction/expansive layers, ReLU activation function and Adam optimizer with a 0.01 learning rate, was trained for ten epochs on 9664 images using only CPU power. Then, the U-Net was tested on the rest of 2416 images.

Results and conclusions: The parameters indicated that pixels from normal and metastatic images were belonging to different texture distributions. Areas containing metastatic invasion were identified with a 96.8% accuracy rate with 0.09 loss. The processing time for a single image was 7 ms, leading to 10 min processing time for an entire pathology slide.

Compared to other available neural networks that require heavy and costly infrastructure, our network runs within acceptable timeframe and uses an ordinary computer, available in every medical clinic. This approach is a good candidate for computer-assisted diagnostic in pathology, as a faster and accurate procedure of unstained tissue analysis.

ID 52 Self-Medication – Public Health Issue

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Aim: The self-medication, considered a current public health problem, is defined as using medication to treat various symptoms or conditions, by own decision, without physician's advice or supervision. The aim of this research was to assess the frequency and identify the particularities, the factors that influence it and the attitude towards self-medication in a group of Romanian adults.

Methods: Observational, descriptive, cross-sectional study in a group of 484 adults, selected by the snowball method. Data regarding personal characteristics and about self-medication was collected using a 37 items questionnaire, applied through the Google Forms system and analyzed with Microsoft Excel Office 2016, by methods used in descriptive statistics.

Results: In the studied group, mostly female, young, 60% with higher education, without chronic diseases, the frequency of self-medication was 97.11%, with a week positive correlation with the education level (r=0.1846), the main reasons being the lack of time and difficult access to physician. The medicines choice depends mainly on their previous experience, previous doctors' prescriptions, or the pharmacist's recommendation. About 30% of subjects did not consult a physician, even when adverse effects occur. The most common symptoms for which self-medication was used were pain (headache – 74.2%, throat ache 68.8%), cough (44.6%), fever (40.7%), and the most utilized drugs were the painkillers (77.9%), NSAIDs and antipyretics. Drugs that should be released only with a prescription were frequently mentioned, such as antibiotics (22.3%), antivirals (13.2%) antifungals (11%), contraceptives (4.5%), sedatives and diuretics, over 46% of the subjects freely purchasing them from community pharmacies.

Conclusions: The results could be suggestive for the behavior of young and educated women, who can influence people around them. A number of measures could be proposed for the practice of responsible self-medication, such as health education campaigns, measures to improve access to health services, penalizing unethical practices in community pharmacies.

ID 68 Lung Cancer: a Study of Genetic Variants in the Romanian Population

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Objectives: Lung cancer is one of most frequent types of cancer worldwide, while in Romania it ranks third. Genome-Wide Association Studies (GWASs) on lung cancer have been setting a milestone in understanding the individual's genetic risk and its impact on population.

The purpose of the study is to identify variants associated with lung cancer in Romanian population by performing a GWAS, finding previously unreported variants and searching information on the resulting Single Nucleotide Polymorphisms (SNP) in databases.

Methods: A GWAS was conducted on data obtained from patients admitted between 2014 and 2018 to 4 clinics in Bucharest, 1386 cases and 1437 controls, all of them self-reported European descent. DNA was extracted from whole blood at deCODE Genetics (Reykjavik, Iceland) and genotyped using Infinium OmniExpress-24 bead chips (Illumina). A total of 716.503 SNPs were genotyped and after data quality control, 91.897 variants entered data processing, performed in R Studio. PLINK tool was used for the association analysis. Information about the significant variants was searched in dbSNP, GWAS Catalog, PubMed, ClinVar and Tumor Portal.

Results: After applying statistical and genetic filters to the data, 69 SNPs with a p value smaller than 10-5 were identified. Four of them have a p value lower than 10-8 (rs10493170, rs17741574, rs16915833, rs4445762). After literature review, 16 of them were highlighted as possible clinically relevant SNPs for lung cancer pathology, as risk or protective factors. Some of the genes linked to the significant SNPs are: DRAM2, PROX1, RBM47, TIAM1, CXCL16, MAGI2. PLAG1.

Conclusions: The GWAS resulted in 69 SNP with a $p < 10\text{-}5$ and after a thorough literature review, multiple leads to lung cancer in Romanian population were found. Further research should be conducted in order to determine the complex involvement of these polymorphisms in lung cancer pathology.

ID 90 Alteration of Protein Glycosylation in Renal Cell Carcinoma

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Aim: Genetic and epigenetic alterations are considered primary causes in cancer development, while phenotipic characteristics define cancer progression and invasion due to postrtanslational changes.

The aim of the study was the evaluation of some soluble biomarkers protein glicosylation associated in renal cell carcinoma (RCC).

Material and method: We developed a prospective study that included 55 patients with primary renal cell carcinoma (age 58,6±11.3 years old, women: men ratio 1:1.25) and 33 healthy subject in the control group (age 57.8±9.5 years old, women: men ratio 1:1). Glycosylation was evaluated by assessment of serum levels of orosomucoids (g/L serum) and sialic acid (mg/dL serum).

Results: In RCC group, orosomucoids (50.13±3.66 vs 114.50±22.05, $p<0.001$) and sialic acid (0,86±0,14 vs 5.72±0.47, $p<0.001$) had significantly increased levels, compared with control group. Using Kolmogorov Smirnov test, we determined a normal distribution of orosomucoid and sialic acid levels in the RCC and control group. Using Anova test, we observed statistical significant differences between the two groups regarding orosomucoids and sialic acid.

The regression analysis showed statistically significant correlations between orosomucoids, sialic acid and inflammatory status (C reactive protein, fibrinogen, albumin, interlukin 6 and 8), respectively renal function (eGFR, albumin/creatinine ratio).

Conclusions: Serum variation of orosomucoids and sialic acid in the studied groups sustain the idea that renal oncogenesis is associated with aberrant glycosylation of proteins. Protein glycosylation status in patients with RCC compared with control group is an early alteration in renal cancer, a glycosignature of RCC. The model of proteic glycoforms could be used in diagnosis and management of nephro-oncologic patients.

ID 91 Myocardial Work, Vascular Ultrasound and Cardiac Biomarkers in Early Diagnosis and Prediction of Cardiotoxicity in Non-Hodgkin Lymphoma

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RCHOP (rituximab, cyclophosphamide, doxorubicin, oncovin, prednisone) use in patients with non-Hodgkin lymphoma (NHL) is limited by risk of cardiotoxicity, increasing morbidity and mortality.

Aim: To define new parameters of LV myocardial work, arterial stiffness and biomarkers, for early diagnosis and prediction of cardiotoxicity.

Methods: 81 patients (34men, 57±11years), with NHL, with LVEF >50%, scheduled for RCHOP, were assessed at baseline, after 4th and 8th cycle (doxorubicin cumulative dose 367±59mg). 2D STE was used to calculate longitudinal strain (LS) and myocardial work parameters: global constructive work (GCW), global wasted work (GWW); global work efficiency (GWE) and global work index (GWI). Echo-tracking evaluated pulse wave velocity (PWV), augmentation index (AIX) and β index. Troponin I and NTproBNP were measured.

Results: After 8th cycle, 19 patients (23%) (group I) developed cardiotoxicity (LVEF decrease<50%, with >10% from baseline), while 62 patients (group II) did not. There was a significant reduction of LS, GCW and GWE and increased GWW and arterial stiffness starting with 4th cycle; group I had greater changes than group II ($p<0.001$). LVEF decrease had significant correlation with decrease of LS, GCW, GWE and increased GWW, PWV, β index and troponin level after 4th cycle ($r=0.35$ to 0.66, $p<0.05$). GCW reduction after 4th cycle was the best independent predictor for LVEF decrease after 8th cycle ($R2=0.48$, $p=0.001$). Moreover, a decrease of GCW with>27% after 4th cycle predicted the occurrence of cardiotoxicity after 8th cycle of RCHOP (Sb of 84%; Sp of 87%).

Conclusion: Assessment of myocardial work, arterial stiffness parameters and biomarkers are able to detect early chemotherapy-induced cardiotoxicity and to predict further LVEF decline in patients with non-Hodgkin lymphoma. Further studies are needed to assess if these parameters can be used into routine clinical practice.

ID 96 Spondyloarthritis Hotspot: Ultrasound Detected Asymptomatic Enthesitis

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Background and aims: Despite being a hallmark feature in spondyloarthritis (SpA), enthesitis remains underdiagnosed in everyday practice. A clinical evaluation alone can overlook signs of enthesitis, ultrasound being a useful bedside tool for detecting and monitoring it.

This study aims to determine to what extent clinical entheseal pain covers the detection of enthesitis.

Methods: The study included high disease activity, biological disease-modifying antirheumatic drug (bDMARD) naive SpA patients, in the random order of presentation to the Departments of Internal Medicine and Rheumatology of the "Sfânta Maria" Clinical Hospital or "Dr. I. Cantacuzino" Clinical Hospital, in Bucharest. For each patient, a detailed medical history was conducted, regarding entheseal pain. Then, a physical examination including pain upon digital pressure and an ultrasound evaluation were directed to 16 entheseal sites (tendon insertions: Achilles, plantar fascia, qvadriceps, proximal and distal patellar tendon, triceps, extensors and flexors of the hand). All patients were evaluated by the same clinician/ultrasonographer, using Esaote machines, with 6-12/8-18 MHz linear probes.

Results: From a total of 880 evaluated entheses (55 peripheral/axial SpA patients), 65.56% were clinically asymptomatic.

Of the 577 asymptomatic entheses, 45.06% were affected in gray scale (GS), in 11.78% power Doppler (PD) signal was detected, while only 52.33% had no ultrasound abnormalities.

72.15% of all evaluated entheses had GS abnormalities, 64.56% of which were asymptomatic.

PD signal was detected in 28.06% of all evaluated entheses, 28.74% of them being asymptomatic.

From a total of 16.02% ultrasound normal entheses, 9.92% were declared symptomatic.

Conclusions: The correlation between clinical pain and imaging signs of enthesitis in SpA is low, active enthesitis, with PD signal determining pain more often than GS abnormalities.

Therefore, this proves the value of ultrasound in determining the full extent of the disease, in order to personalise the therapy accordingly and monitor the response.

SURGICAL SPECIALITIES

ID 12 Actual Role of PET-CT in Gastric Cancer

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Objective: Gastric cancer remains one of the most common malignancies and a leading cause of cancer death worldwide. Although using of 18-FDG PET-CT in gastric cancer evaluation remains a matter of debate and is not consistently recommended by international guidelines, our descriptive review aims to highlight its actual role in the diagnostic accuracy, staging, therapeutic management and relapse monitoring of this malignancy.

Method: We used notable databases such as PubMed or Scopus comprising useful science journals, references and abstracts on the topic we had interest in, hence, we made our research on articles published between 2009-2020, by typing "PET-CT" and "gastric cancer (GC)" as keywords.

Results: Complete resection of gastric cancer (radical gastrectomy) is the only potentially curative treatment, early diagnosis being needed. Regarding surgical planning and patient management, it is of great importance an accurate staging of the malignancy, including the local invasion extent, lymph node involvement, and distant metastasis. Unlike the conventional imaging modalities which mainly reflect anatomical structure, PET reflects biological functions in tissue and allows noninvasive imaging of physiological parameters within the body. Specialty literature revealed some limitations of FDG-PET and PET-CT regarding gastric cancer, which mostly arise from the physiological properties of the stomach, the histological diversity in gastric cancer, or the spatial resolution of PET. Additionally, data reported limitations of 18F-FDG PET-CT in the detection of lymph node metastasis and in the early stage and signet ring cell carcinomas. However, it seems that the value of PET-CT has gained interest among clinicians due to its prognostic value and its powerful impact on monitoring tumor response to therapy and changing therapeutic strategies.

Conclusion: Therefore, 18-FDG PET-CT represents a promising method which, with further improvements, could make the diagnosis and evaluation of gastric cancer more approachable.

ID 15 Diagnostic Algorithm for Acute Colonic Pseudo-Obstruction Syndrome

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Objective: Acute colonic pseudo- obstruction syndrome (ACPO) consists in significant distension of the colon in the absence of an obstacle and has been equally associated with both medical and surgical pathologies. The objective of this paper is to develop a diagnostic algorithm that brings together and correlates all the factors that contribute to establishing the correct diagnosis and appropriate treatment.

Method: The present study represents an analysis of the literature published in English in the last 20 years on the topic of ACPO, corroborated with the authors' experience on this pathology. The diagnostic algorithm should first establish the epidemiological context (medical and surgical risk factors), continues with the analysis of the clinical presentation, respectively biological parameters and ends with the integration of imaging techniques. We highlighted and presented in parallel the characteristics that differentiate ACPO from mechanical intestinal occlusion.

Results: ACPO is more common in males in the sixth decade. A number of pharmacological substances, surgical and medical comorbidities have been associated with an increased risk of developing this syndrome. The diagnosis is guided by clinical features (non-colicative pain, silentium abdominale) and imaging investigations (plain radiography, barium enema and CT scan).

Conclusions: The differential diagnosis of this pathology is often a challenge for the clinician who is most often in front of a patient with multiple comorbidities and who, first of all, exclude a mechanical intestinal occlusion. The correct diagnosis saves the patient from a surgery with high anesthetic risks and without real benefits on the outcome.

ID 36 The Role of FGF-2 and VEGF in Benign Prostatic Hyperplasia and In Prostate Cancer Evolution

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Introduction: Prostate pathology, even if it is prostate cancer or adenoma, represents a major public health challenge, with a greater impact in men over 65 years. In this context, the aim of this study was to find new correlations between the common aetiologic parameters in BPH and PCa.

Material and methods: The study was prospective, multicentric and included a number of 70 patients, 35 diagnosed with BPH and 35 diagnosed with PCa, during January 2019 and January 2020. The study group was homogenous and the studied parameters were: CRP, FGF-2, VEGF, acid alpha-glycoprotein. The photometric evaluation of the samples was performed on the HumaStar 300 analyser and the evaluation of the ELISA plates was performed with the TECAN semi-automatic analyser.

Results: The inflammatory status in studied groups, revealed a statistically significant difference ($p<0.05$) between the level of CRP (1.11 ± 0.41 mg/dL versus 5.23±1.31 mg/dL) and the level of acid alpha glycoprotein (2.45± 0.51 g/L versus 11.69± 6.71 g/L) in patients with BPH versus PCa. Statistically significant ($p<0.05$) differences were observed for the studied angiogenesis markers, FGF-2 (28.96±6.12 pg/mL for BPH group versus 32.24 ± 5.53 pg/mL for PCa group) and VEGF (239.01± 31.21 pg/mL for BPH group versus 511.85± 131.41 pg/mL for PCa group).

Conclusions: The profile of studied biomarkers seems to be useful in clinical practice in order to anticipate the evolution of the prostate pathology and finding the best therapeutic approach.

ID 65 Pulmonary Nodules – Updates in Diagnostic and Treatment

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Objectives: The authors present the latest knowledge concerning diagnostic techniques and treatment procedures regarding pulmonary nodules.

Method: Pulmonary nodules represent a common pathology in thoracic surgery. Usually the diagnostic or treatment can prove challenging given the size of the nodule, number of the nodules, location, and history of the patient. Should pulmonary nodules be biopsied before surgery or considered for surgery right away? We establish what is available and feasible as diagnostic procedure and we indicate the treatment approach in each case.

Results: There is a wide range of procedures both for diagnostic and treatment regarding pulmonary nodules, but limitations are imposed by area, status of the patient, lack of training or resources.

Conclusions: All pulmonary nodules should be followed up and approached from "stand-by" to minimally invasive techniques and even open surgery.

ID 126 Multidrug Resistance in Bacteria in Patients Admitted to the Plastic Surgery Department - One Center Study

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Objective: Antibiotic resistance is one of the most challenging concerns that threat the global health system. Initially, multidrug-resistant (MDR) bacteria were associated with nosocomial infections, being found only in the hospital environment, but now, unfortunately, some of them have become prevalent causes of community-acquired infections.

The aim of this study is to emphasize the fact that a wide variety of MDR bacteria can be encountered in patients with acute or chronic wounds.

Method: We conducted a retrospective study on 127 patients admitted to the Plastic Surgery Department of the Clinical Emergency Hospital "Prof. Dr. Agrippa Ionescu", Bucharest, Romania, who presented infected wounds (January-December 2019). At admission, usual blood tests and bacterial wound cultures were performed.

Results: 33 of the 127 patients presented MDR bacteria. From the total of 127 subjects, 52 were suffering from diabetes mellitus, of which 23 had chronic wounds of the lower limb that were infected with MDR microbes.

The most common bacteria identified in the diabetic patients are the following: *Pseudomonas aeruginosa, Acinetobacter baumannii, Klebsiella pneumoniae Colistin-sensitive; Serratia marcescens, Providencia stuartii, Enterobacter cloacae* sensitive to Imipenem/Meropenem; Linezolid-sensitive *Enterococcus faecium*.

The subjects' wounds were infected with associations either of two-three MDR bacteria simultaneously, or of MDR bacteria and other antibiotic-sensitive strains of *Staphylococcus aureus, Streptococcus agalactiae, Escherichia coli, Staphylococcus haemolyticus, Morganella morganii* or fungi.

We encountered Carbapenem-resistant Acinetobacter in a patient who presented to our department with extensive vulvar squamous cell carcinoma.

Conclusions: Even though plastic surgeons' elective approach in performing reconstructive interventions should be in aseptic conditions, nowadays, patients infected with MDR bacteria have become more frequent. A multidisciplinary team must elaborate a proper treatment plan to be used in cases of MDR bacteria infections of surgical patients, as these germs cause life-threatening conditions and also pose a major public health threat.

PRECLINICAL SPECIALITIES

ID 46 Effect of Silver Nanoparticles on Biofilm Produced by Strains of *Pseudomonas Aeruginosa* Isolated from Difficult to Treated Infections

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Objectives: *Pseudomonas aeruginosa* is involved in nosocomial and difficult-to-treat infections, especially because of the high level of resistance to antimicrobials and its ability to produce biofilm. As such, new therapeutic alternatives are necessary. In this respect we evaluated the effect of silver nanoparticles (NPs) on biofilm production.

Methods: We selected 10 strains of *Pseudomonas aeruginosa* isolated from infected wounds with a prolonged evolution, unresponsive to appropriate antimicrobial treatment. We synthetized 4 different types of functionalized silver nanoparticles (Ag@PEG, Ag@EG, AG@PEG/PVP, Ag@EG/PVP) in concentration of 1 mg/mL. For each type of nanoparticle, we grown the strains in 96 well-plates, concentration 0.5 McFarland, and a dilution of 10% in 150 microL liquid Mueller Hinton, with 8 binary dilutions of nanoparticles from 0.5 mg/mL to 0.0039 mg/mL. The control strain was *Pseudomonas aeruginosa* ATCC 27853, the growth control was performed in similar conditions, in triplicate. After 24 hours of incubation at 37°C, the wells were fixed with cold methanol, stained with crystal violet 1%, observed at the inversed microscope and resuspended with acetic acid 33% to be spectrophotometrically read at 492 nm.

Results: We compared the optic density of biofilm production in the wells without nanoparticles with the ones from the wells with different nanoparticles in various dilutions and we noticed a reduction of the biofilm production with 0.01-0.05 for concentration of 0.5 mg/mL. The most important effect was noticed in the case of silver nanoparticles functionalised with ethylene glycol and polyvinylpyrrolidone

Conclusions: The properties of *Pseudomonas aeruginosa* enhance the risk of infections with a prolonged evolution and severe outcome. As new therapeutic alternatives are needed, we underline the efficiency of silver nanoparticles (NPs) in reducing biofilm production. NPs stand as efficient and versatile strategies to overcome severe microbial infections, since they are useful agents against genetically resistant pathogens and also biofilms.

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ID 54 Resistance Patterns of Mycobacterium Tuberculosis Strains Tested in a National Reference Laboratory

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Objectives: Tuberculosis remains a major public health concern in our country. The aim of this study was to assess the percentages of drug resistance patterns among the tuberculosis cases which have undergone drug sensibility testing in the national reference laboratory of the "Marius Nasta" Pneumophthisiology Institute between 2018 and 2019.

Methods: We have a conducted a retrospective study of 1.981 strains of M. tuberculosis from the drug susceptibility testing registries of the laboratory. The results for the following anti-TB drugs were available in the registries: isoniazid, rifampicin, ethambutol, streptomycin, amikacin, capreomycin, ofloxacin, kanamycin. Ethionamide testing results were only available for 107 strains.

Results: Of the 1.981 strains, 299 (15.09%) were detected as MDR-TB, 88 (4.44%) as XDR-TB, 116 (5.86%) were resistant to a single anti-TB drug, and 20 (1.01%) qualified as polyresistant.

27.09% of the MDR-TB strains (81 cases) were resistant to all 1st line anti-TB drugs, and 31.77% (95 strains) qualified as pre-XDR-TB (resistance to either ofloxacin or one of the second line injectable drugs – amikacin/capreomycin/kanamycin). Among the 88 XDR-TB cases, 34 (38.64%) proved to be resistant to all anti-TB drugs tested. Males were significantly more affected by MDRTB (OR=1.86, 95% CI: 1.38-2.51, p<0.001) and XDR-TB (OR=1.78, 95% CI: 1.05-3.02, p=0.017) than females. Those between 25 and 44 years of age were significantly more likely to be infected with an XDR-TB strain (OR=1.61, 95% CI: 1.05-2.49, p=0.02), the 45-64 group had significantly more cases of MDR-TB (OR=1.43, 95% CI: 1.12-1.83, p=0.003), and those over 65 had significantly fewer MDR (OR=0.68, 95% CI: 0.47-0.99, p=0.023) and XDR TB strains (OR=0.38, 95% CI: 0,17-0.88, p=0,009).

Conclusion: The resistance patterns of MDR and XDR-TB leave progressively fewer choices regarding treatment options, while affecting larger percentages of the tuberculosis patients.

ID 72 The impact of Hypoxia/ Ischemia on the Imature Hippocampus. An Experimental Approach

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Objective: Hypoxic-ischemic encephalopathy secondary to perinatal asphyxia (PA) represents a significant neurologic disorder with an important social and economic impact, causing neurocognitive disorders in adulthood. The aim of this study is to quantify the impact of oxygen deprivation on immature hippocampus in an experimental model of perinatal asphyxia in Wistar rats.

Materials and methods: Using ELISA, we assessed hippocampal interleukin 1 beta (IL-1b), tumour necrosis factor alpha (TNF□) and S-100B protein, at 24-48 hours after 90 min exposure to asphyxia in postnatal day 6 rats. The expression of microRNAs miR124, miR132, miR134, miR146, miR34 and miR15a was determined 24 hours post asphyxia, using qRT-PCR, as hippocampal epigenetic adaptive mechanism in this experimental paradigm. Additionally, we evaluated the neural early response to asphyxia quantifying in vitro the cell viability (resazurin test). At maturity, we evaluated asphyxia-related behavioural impairments with specific cognition tests: Open Field Test, Novel Object Recognition Test, T-Maze Test and Forced Swimming Test.

Results: Our results showed that PA causes a significant increase of neuroinflammation and injury, reducing the cell viability in the immature hippocampus. Moreover, the neural adaptation to PA is epigenetically controlled. At maturity, PA causes depressive-like behaviour and impairs the lucrative memory in rats.

Conclusion: Our data support the devastating impact of PA on immature brain structures like hippocampus, causing long-term disabilities and opening new epigenetic perspectives in diagnosing and treatment of this neurologic disorder.

ID 109 Higher Number of Platelets Related to Vitamin D Deficiency, in Childhood Obesity

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The consequence of vitamin D deficiency can be an inadequate mineralization of the bones, inadequate immune status, myopathy, increased risk of developing metabolic syndrome and cardiovascular diseases.

The aim of this study was to compare the serum level of 25-OH vitamin D in obese children versus control and find some correlations between the vitamin serum level and few cardiovascular risk factors.

25 overweight and obese children aged 8 to 17 years were compared with 12 normal weight ones. Antropometric markers, the lipid profile, uricemia, glycaemia and 25-OH vitamin D were measured.

In the obese children, the level of vitamin D was significantly ($p<0.04$) lower 20.6 ng/ml versus 25.6 ng/ml, dyslipidemia was present and uricemia was higher ($p<0.01$). There wasn't any correlation between the vitamin D serum level and the lipid markers, but we found negative correlations ($p<0.05$) between the vitamin level and the number of blood platelets ($r= -0.43$) and body mass fat ($r=-0.44$).

In conclusion, in childhood obesity higher number of platelets represents an adverse element on cardiovascular status, related to vitamin D deficiency.

ID 120 Electrocoticographic and Electromyographic Fingerprint in an Animal Model of Dystonia Induced by Kainate Application on the Surface of the Cerebellum

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This study aims to characterize the electrocorticographic (ECoG) activity of the motor cortex in parallel with the evaluation of electromyographic (EMG) activity in mice, in four different conditions: active wake and quiet wake in the pre-kainate state, dystonic posture, and dystonic movement.

We inserted ECoG electrodes for the left and right motor cortices, EMG electrodes for the nuchal region, and a cannula was utilized for performing kainic acid injections on the left cerebellar lobule (0.5 ± 0.2 μl, 200μg/ml). The mice were videotaped, and four differ-

ent behavioral epochs lasting for 30-45 s each were visually selected for analysis. The signal was processed in MATLAB 2016 for Power Spectral Density, interhemispheric coherence, cortico-muscular coherence, EMG mean/median frequency parameters.

In the motor cortex, there was an increase in the spectral density power in delta and gamma bands during movements, both in the active wake and dystonic movements, compared to quiet wake conditions. During dystonic postures, there was a decrease in delta and beta bands, and an increase in gamma bands of the motor cortex power spectral density, when compared to quiet wake. Another feature of dystonic postures was the increase in the mean and median EMG frequencies, compared to quiet states.

The abnormal cortical oscillations associated with dystonic postures, as well as the changes in power spectral density of motor cortex activity, observed during dystonic movements and active wake could be used as biomarkers for deep brain stimulation therapies in dystonia.

ID 142 The Role of Intracellular Chloride Modulation in a Model of Glutamate-Mediated Excitotoxicity

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Introduction: Excitotoxicity is a path of neuronal cell death resulting from prolonged exposure to glutamate. Cerebral excitotoxic injury is characterized by alterations in ionic homeostasis, representing the main cause of neuronal death in brain ischemia such as stroke. Modulating the intracellular Cl- concentration through cation–chloride cotransporters Na–K–Cl (NKCC1) could impact the neuronal excitability and the response to ischemic insult.

Aim: The present study aimed to validate the glutamate-mediated excitotoxicity (GME) model, and to quantify the effect of NKCC1 agonist, bumetanide, in mature primary hippocampal cultures exposed to GME.

Materials and methods: Hippocampal cultures were obtained from postnatal-day 0 Wistar rats. After 5 days-in-vitro (DIV), part of the medium was removed from each culture dish and replaced with fresh medium w/o glutamine. On DIV12, cultures were exposed to glutamate (100 μM) or control conditions for 24 h, with or without bumetanide (10 μM) treatment. The assessment of cellular metabolism/viability was performed using resazurin assay for 3h. We added MK-801, NMDA receptor noncompetitive antagonist, to quantify if changing the medium during the assessment could induce further excitotoxicity

Results: GME attained a severity threshold that triggered a significant decrease in metabolism when compared to control cultures ($p<0.05$). The survival of hippocampal neurons exposed to GME was enhanced by the addition of bumetanide ($p<0.05$). Using a medium with glutamine until DIV13 had a detrimental effect upon cellular viability in control cultures, effect probably mediated through the NMDA receptor. Changing the medium during the assessment did not alter cellular metabolism.

Conclusions: Glutamate treatment of cultured hippocampal neurons could serve as a useful tool for studying the mechanisms of excitotoxic neuronal injury, such as alteration of ionic gradients. Future studies could exploit the chloride cotransporters' modulation in neuroprotection studies, considering the high social impact of stroke and the lack of an efficient treatment.